Legacies of Matter: The Reception and Remediation of Material Traditions in Roman Sculpture

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ABSTRACT

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Roman sculpture of the late republic and empire is characterized by wide-ranging practices of formal imitation and replication of earlier figurative traditions, particularly those of the Hellenized Eastern Mediterranean. Works that exhibit this retrospective character may be replicas of famous statues, adaptations of familiar compositions, or inventive creations based on established styles and features. The links of subject and style that these works created in the Roman context engendered systems of mutual reference and evaluation that helped articulate the socio-political, ideological, religious, and other aims of the representations. As sculptural types or even loosely related images were produced in a rich variety of materials, their proliferation enmeshed bronze, marble, colored stones, terracotta, and plaster into formal, technical, visual, and historical relationships. This dissertation investigates the materials of Roman sculpture as both agents and products of a transformative reception of earlier local and foreign traditions.

The inquiry focuses on the nexus of Roman formal replication and material manipulation, investigating diverse choices of material and technique against the common background of a type's subject, style, composition, and deployment in the Roman world. The project's focus is circumscribed around sculptural types whose large-scale replicas are extant in more than one material; the survey in Chapter 2 is intentionally broad and includes replicas of famous Greek works, *Idealplastik*, and works related to Egyptian archetypes, as well as the large-scale, positive plaster casts from Baia. In this way, it sets out on a broad investigation of the nature of the reception of media practices in Roman sculpture, studying technical processes as much as formal connections and treating the reproductive interest in Greek, Egyptian, and even recently invented forms as complementary parts of a single retrospective approach to sculpture.

This project proposes a methodology for investigating historically contextualized materialities that marries the approaches of historical reception, reception aesthetics, and remediation. The case studies apply this methodology in a four-part examination of Roman contexts of material reception, including production, display, and recontextualization. These chapters articulate the impact of techniques of formal reproduction on material selection and manipulation, assess the relevance of the medium of the formal archetype, demonstrate the plurality of contextualized material relationships that constitute materiality, clarify the nature of material mimesis as a selective and partial illusion, account for changing tastes in material *decorum*, and highlight ongoing engagement with the materiality of physically present antiques.

The project illustrates that the Roman material context within which the selection, manipulation, and evaluation of sculptural materials must be situated is predicated upon both simple and sophisticated engagements with historical material traditions, both local and exotic. It shows that investigating the ways in which material traditions were available for reception in the Roman world – by the dissemination of plaster casts or by the importation of antiques, whose surfaces might be altered by age or later intervention – can reveal scholarly misconceptions and can realign modern interpretations with ancient practices. Engaging with the multiple, co-existing relationships that define a work's materiality, this dissertation suggests that this plurality of references could be valued in much the same way that the recombination of distinct period styles could articulate new meanings in a Roman context. In the process of tracing these numerous material relationships, this dissertation's analyses point to further avenues of research, indicating the relevance of Egyptian and North African material traditions for Roman uses of colored stones, calling attention to sophisticated engagements with issues of representation, and demonstrating that lack of coherence (in material references and in display) could be exploited as a means of enriching artworks that were conservative in their form and subject matter.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

ABBREVIATIONS

This text uses the abbreviations specified by the American Journal of Archaeology for journal titles and standard reference works. In addition, it uses the following abbreviations.

I marmi colorati	De Nuccio, M., and L. Ungaro, eds. 2002. *I marmi colorati della Roma imperiale*. Venice: Marsilio.
Polyklet	*Polyklet : der Bildhauer der griechischen Klassik : Ausstellung im Liebieghaus, Museum alter Plastik, Frankfurt am Main*. Mainz am Rhein: P. von Zabern.
Power and Pathos	Daehner, J., and K. Lapatin, eds. 2015. *Power and Pathos: Bronze Sculpture of the Hellenistic World.* Florence: Giunti Editore, S.p.A. (*Power and Pathos*[a] refers to the pagination of the English text; *Power and Pathos*[b] to the pagination of the Italian text: *Potere e Pathos: Bronzi del mondo ellenistico*)
Augusto	La Rocca, E., C. Parisi Presicce, A. Lo Monaco, C. Giroire, and D. Roger, eds. 2013. *Augusto.* Milano: Electa.
Radiance in Stone	Anderson, M., and L. Nista, eds. 1989. *Radiance in stone: sculptures in colored marble from the Museo Nazionale Romano.* Rome: De Luca.
Serial/portable classic	Settis, S., and A. Anguissola, eds. 2015. *Serial/portable classic : the Greek canon and its mutations.* Milan: Fondazione Prada.
Small bronze sculpture	*Small bronze sculpture from the ancient world*. 1990. Malibu, CA: J. Paul Getty Museum.

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Portions of this research have been presented in colloquia with the Department of Art History and Archaeology at Columbia, at a graduate student conference at the University of Pennsylvania, at the 2016 and 2017 Annual Meetings of the Archaeological Institute of America, and at a 2017 conference in Pisa co-organized by the J. Paul Getty Museum in Los Angeles, the Scuola Normale Superiore in Pisa, and the Opificio delle Pietre Dure in Florence. I am grateful to the organizers of each of these events and to the participants, who offered insightful questions and helpful suggestions, some of which I have had the opportunity to incorporate here.

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access to study a sculpture in the site's storerooms. Dr. Alessandra Mercantini of the Archivio Doria Pamphilj provided access to numerous documents in the historical archive, assisted with gaining access to search the family's modern archive, and consulted with curators on my behalf. Dr. Jan Østergaard and Dr. Mette Moltesen generously shared their knowledge of the Ny Carlsberg Glyptothek's scientific study of the polychromy that might have adorned the head of Agrippina and discussed their opinions regarding the surface coloring that might have been applied to lapis basanites sculpture more generally. I am especially indebted to Dr. PierFrancesco Talamo, Funzionario Responsabile of the Museo Archeologico dei Campi Flegrei, who facilitated my three days of studying the plaster casts from Baia; our close examinations and discussion of their craftsmanship formed the foundation of my observations about their materiality discussed in Chapter 3.

This project would never have been completed without the unfailing support I received from so many groups of people. The graduate community at Columbia University – across the art history, history, classical studies, and classics departments – as well as colleagues from the Institute of Fine Arts, the Institute for Study of the Ancient World (especially those of the short-lived but ambitious-minded NYSSA), and La Sapienza provided intellectual stimulus and comradery for this project from its nascent phases. Friends and family have listened to my discourses with patience and provided every encouragement, often exactly when I needed it most. Stephanie Shiau deserves special mention for being a kind but firm deadline-accountability coach. With the completion of this dissertation, I honor the innumerable sacrifices made by my parents, Linda and Henry Cook, in their sustained and hard-won effort to launch their children into a realm of higher education and greater opportunity. Lastly, I am forever grateful to my husband, Scott Decker, for everything from financial assistance to his willingness to chase me and my research across continents, but, most of all, for his unfailing faith in me.

DEDICATION

This thesis is dedicated to the exceptional women in my family: Lenna Hardy, Edith Lang, Julia Cook, Eleanor Cook, Jessica LePlatt, and Linda Cook. Your nuanced artistic sensibilities, your pioneering spirits, and your awesome strengths of character are my greatest source of inspiration.

Chapter 1

Introduction: Materials, Sculptures, and Legacies

In the midst of Pliny the Elder's list of Greek masters of bronze-casting, the author introduces the fourth-century BC sculptor Praxiteles with a caveat: although Praxiteles was more skilled and more famous for his marble creations, he "nevertheless also made some very beautiful works in bronze" (*NH* 34.69-71). Pliny goes on to enumerate these bronzes, beginning with several that could once be seen in Rome, where they had stood in front of the Temple of Felicitas on the Via Triumphalis until a fire destroyed the sanctuary in the reign of Claudius.[1] Among the lost works was an Aphrodite, Pliny writes, that was "equal (*parem*) to his marble one known throughout the world", that is, the renowned nude that stood in the goddess's sanctuary on the island of Knidos.[2] Praxiteles' bronze Aphrodite is one of the masterpieces of Greek art imported to the city as the result of conquest, a paradigmatic antique that might have inspired formal descendants of her own. Still, the statue's success is judged by comparison to an even more famous exemplum, in this case, a marble one by the same master. Pliny's brief passage leaves his reader ignorant of whether the bronze Aphrodite was in any way similar to the pose or dress of the Knidia, but there is no doubt that this mode of evaluating a sculpture was familiar to his audience. Technique and representation in two different materials are embedded in rich and meaningful comparative evaluation by their affiliation with, first, a particular subject and, second, an artistic and period style.

Roman ideal sculpture exploited these links of subject, style, and even replicated composition for a variety of purposes that ranged from the evocation of a specific, famous archetype to the expression of an

[1] The Temple of Felicitas on the Via Triumphalis built by L. Lucullus in 151 BC (Dio Cassius 43, 21, Strabo 8.6.23), destroyed under Claudius (r. AD 41-51). A number of Praxitelean work in bronze (Pliny, *NH* 34.69) and marble (*NH* 36.39), had apparently been gathered for display (Jex-Blake 1968, 55 n. 13 and 211 n. 11; *LTUR* II 1995, cf. *Felicitas aedes*, 244-45 (Palombi); Bravi 2012, 42-44; Corso 2013, 126-31).

[2] "… Veneremque, quae ipsa aedis incendio cremata est Claudii principatu, marmoreae illi suae per terras inclutae parem, …", *NH* 34.69-71.

atmosphere or a range of emotions.[3] Sculptural types or even loosely related images were produced in multiple sculptural materials, enmeshing bronze, marble, colored stones, terracotta, and other materials into relationships that belong to a specific cultural and historical context.[4] Today, there are nearly fifty sculptural types that remain extant in more than one material, but the connections between the materials of these co-existing representations have received relatively little attention. Instead, the Roman taste for marble, particularly for the reproduction of archetypes known by ancient authors to have originated in bronze, has often been an intellectual preoccupation.[5] Scholars have sought to understand the dramatic material substitution that seems to contradict the intensive, even reproductive, attention paid to the formal and stylistic models of Greek art. It is no coincidence that the most common material relationship that has been identified among ideal sculptures is a kind of competitive emulation that re-aligns the aims of the material with those of the form.[6] Yet this is far from the only kind of connection or comparison that could be made between materials, as the Plinian passage above clearly illustrates. There is no indication that the bronze Aphrodite imitated or emulated the marble masterpiece – in handling of the material or even in composition – but, still, craftsmanship and the success of the representation were compared across materials on the foundation of other connections.

The study of the materials of Roman sculpture, and especially those whose form or style is derived from Greek models, has always taken second place to the study of their formal repetition and the former's interpretation has been unduly influenced by its investigation within this framework.[7] Recognition of formal imitation has entailed the identification of material imitation, even faced with a multitude of sculptures that

[3] Zanker 1974; Hölscher 2004; Anguissola 2012; For recent surveys: Perry 2005 (with earlier bibliography); Anguissola 2015.

[4] This fact has been generally acknowledged in the literature that affiliates individual sculptures with replica series, but the phenomenon has not received direct attention.

[5] Andreae 1992; Gazda 2002; Claridge 2015.

[6] Gazda 2002; Hollinshead 2002; Anguissola 2013.

[7] The same has generally been true of the study of Western Art, although a swing toward materialist investigations occurred in the last decades of the 20th century and continues today (cf. de Mèredieu 1994; Lange-Berndt 2015).

used new materials for inherited forms. This approach has left unrecognized the fundamental disjunction between the Roman reception of, on the one hand, Greek sculptures' forms and, on the other, their materials. This dissertation, by contrast, seeks to evaluate the materials of the Roman sculptures within their contemporary context as well as to more thoroughly assess the kind and manner of attention that was paid to the materials of archetypes and antiques. In this way, it outlines a methodology for the investigation of Roman sculptural materials that is in keeping with current scholarship on the Roman practices of formal replication that have interrogated the redeployment and recontextualization of styles and subjects in their new context.[8]

However, this dissertation is not concerned solely with Roman sculptures that bear a relationship to an archetype of classical, Hellenistic, or other Greek-inspired origin. This project takes aim at a rich era in Roman sculptural history, the late first century BC through the first two centuries AD, when an influx of wealth and exotic stones coincided with a retrospective interest in a wide variety of sculptural traditions and spawned innovative works in novel materials and sensitive reconsiderations of traditional ones.[9] This analysis circumscribes its focus around sculptural types whose large-scale replicas are extant in more than one material, thus including replicas of famous Greek works and *Idealplastik,* but also works related to Egyptian archetypes and the large-scale, positive plaster casts from Baia. In this way, it sets out on a broad investigation of the nature of the reception of media practices within a particularly intensive context of reception, that of Roman large-scale sculptural replication. By focusing on sculptural series, it investigates diverse choices of material and technique against the common background of a type's subject, style, composition, and reception in the Roman world. Its examinations consider technical processes as much as formal connections and treat the reproductive interest in Greek, Egyptian, and even recently invented forms

[8] Cf. Infra p. 30-32.

[9] The empire's control of natural resources around the Mediterranean increased the availability of a vast array of colored stones in this period and thus allowed greater experimentation (Cf. Gregarek 1999; *I marmi colorati;* Pensabene 2013).

as complementary parts of a single retrospective approach to sculpture.[10] Its last chapter, moreover, expands beyond the examination of sculptural types, studying the use of Egyptian materials and the materials used for Egyptianizing styles within Hadrian's Villa and suggesting how the approach followed here might be applied to sculptures that do not participate in replica series. As a whole, the project proposes a methodology for investigating historically contextualized materialities that marries the approaches of historical reception, reception aesthetics, and remediation. Individual case studies, by contrast, pursue the material relationships – technical, formal, visual, historical – established in specific moments of reception.

Each of these case studies highlights the peculiarly Roman nature of several defining material relationships. Some sculptures replicate Greek compositions in stones that were previously used primarily for Egyptian and Ptolemaic royal portraiture.[11] Others used richly colored stones in a dramatic transformation of an Egyptian color pairing, indexing how the Roman perspective redefined materials and traditions for their own purposes.[12] It is precisely these situated and experiential materialities that this project seeks to recover. Previous discussions of artistic media in antiquity have been overly informed by modern materialities, as scholars have yet to appropriately value the divergence between our own and the ancient experiences of natural and manufactured matter; conducting a thorough historiography of the meanings that scholarship has attributed to Roman materials is a necessity equal to that of reconstructing the Roman material context.

Peeling away scholarly biases requires an attempt to establish the framework with which ancient viewers approached these works. While ancient viewership and experience is difficult to determine in many cases, it is especially so for many of the provenance-lacking sculptures discussed here. An address to this issue is provided in the second half of chapter 2, which articulates a methodology for marrying the approaches of historical reception and reception aesthetics. In short, this project attempts to reconstruct

[10] Elsner 2006.

[11] Infra, Chapter 4.

[12] Infra, Chapter 5.

several frames of reference – the Roman *mediascapes*[13] – that could have informed diverse sets of viewers as well as studying the ways in which the work's material selection or facture might have been intended to target specific resonances with pre-existing sculptural traditions. Moreover, this project does not simply address sculptures as finished works of art to be engaged with in a single moment and condition, rather, it treats them as 'materials becoming things'[14], seeking to value processes of production, aging, maintenance, renovation, and destruction. Neither viewer nor material is stable, but both may be approximated for different moments and contexts by following and building out as many specific material relationships as possible. As practiced here, this approach does not recover individualized viewers, but it prioritizes the plurality of relationships that might matter to its Roman audience, thereby opening space for more targeted investigations of personal experience.

Throughout, this dissertation illustrates that the Roman selection, manipulation, and evaluation of sculptural materials must be situated within a material context that is predicated upon a retrospective engagement with sculptural traditions and the materials in which they were established. It shows that investigating the modes of transmission of material traditions – by the dissemination of plaster casts or by the importation of antiques, whose surfaces might be altered by age or later intervention – can reveal scholarly misconceptions and can realign modern interpretations with ancient practices. Engaging with the multiple, co-existing relationships that define a work's materiality, this dissertation suggests that this plurality of references could be valued in much the same way that the combination of distinct period styles could articulate new meanings in a Roman context. In the process of tracing these numerous material relationships, this dissertation's analyses point to further avenues of research, indicating the so-far underappreciated relevance of Egyptian and North African material traditions for Roman uses of colored stones, calling attention to sophisticated engagements with issues of representation, and demonstrating that lack of coherence (in material and in display) could be exploited as a means of enriching artworks that were

[13] Infra, Chapter 2, section 2.2.a.

[14] Ingold 2011, 178ff.

conservative in their form and subject matter. With a careful reconstruction of the many ways that technical practices, embodied experiences of materials, and the socio-cultural context of the Roman world impacted their engagement with sculptural media, this dissertation confirms the situated and historically specific nature of materiality.

1.1 Roman Materiality

Pliny is not the only author whose work testifies to comparative and relational evaluation and conceptualization of materials, especially those that were engaged for sculptural or architectural ornaments. Livy ascribes the following to Cato the Elder in a speech against luxury: "They are dangers, believe me, those statues which have been brought into the city from Syracuse. For now I hear far too many people praising and marveling at the ornaments (*signa*) of Corinth and Athens and laughing at our terracotta antefixes (*antefixa fictilia*)."[15] The contrast is an exaggerated one, between the full-scale statues of famous Greek cities and the small relief decorations applied to the eaves of temples. Livy (as Cato) intentionally undervalues the statuary and even the architectural ornaments then existing at Rome.[16] The inclusion of the term fictilia adds a specifically material dimension to the contrast. Terracotta antefixes were often mold-made and, by contrast with bronze or marble sculptures, much cheaper to produce. This passage is an overt critique of luxury materials used for artworks by comparison with simple, noble materials intended for the veneration of a deity. However, it also testifies to a Roman consciousness of historical materiality that is peppered throughout Pliny the Elder's *Natural History*.[17]

The entirety of Pliny's work is organized by the ways that natural resources have been exploited by man throughout the ages.[18] The histories of art that he includes are thus subsumed beneath each material,

[15] Livy, *Ab Urb.* 34.4.1-4.

[16] For a discussion of the history of terracotta sculpture and architectural ornaments, see Chapter 3, section 3.3.

[17] Examples of other historical associations of materials can be found in Allen 2015, 163-4.

[18] Wallace-Hadrill 1990; Isager 1991; Beagon 1992.

only secondarily following the parabolic arcs of growth and decline in skill working that material. His text thus artificially breaks apart the careers of artists who practice in more than one material.[19] As idiosyncratic a witness as Pliny may often be, it is worth considering to what extent his reorganization of art history was reflective of broader concerns in his period. As an author, Pliny gathers, compiles, and re-deploys pieces of evidence to his own ends, but even many of the recent material histories that he tells are clearly repeated or transcribed from others. Pliny provides detailed accounts of, for example, who was the first to use columns of foreign marble in the city of Rome: it was Lucius Licinius Crassus (140-55 BC), who installed six columns of Hymettan marble, no greater than twelve feet in height, in his home on the Palatine (*NH* 36. 6-7). The *Natural History* likewise tells the story of how Marmor Luculleum received its moniker from the first importer of the stone, remarking that it is almost the only marble – but, the reader knows, not the only material – named in this fashion (*NH* 36.48-50).[20] While stones were more frequently described by association with geographies or with specific appearances that helped define their character, in the imperial period metal mines were sometimes linked to imperial personages[21], as was at least one stone quarry – that of Mons Claudianus in the Eastern desert of Egypt.[22] It hardly seems a coincidence that as the wealth of foreign wars dried up, discoveries of new metal sources could be attributed the names of members of the Julio-Claudian family. The coin they provided could be linked to the figurehead's popularity and cult of personality, albeit perhaps less directly and visibly than the bullion paraded in a triumph.

While Pliny deploys his citations of conspicuous new uses of materials as a means of critiquing the immoral luxury and greed of his contemporaries, his examples are nearly a century old. He draws on other written sources who are likewise at least partially concerned with the history of materials and their

[19] E.g. Praxiteles, whose bronze sculptures are discussed at *NH* 34.69-71; while his marble sculptures are treated at *NH* 36.20-1.

[20] The marble is quarried near Teos in Asia Minor, but often called *africano* according to the antiquarian nomenclature (cf. Bruno et al. 2012; Pensabene 2013, 392-3).

[21] Pliny, *NH* 34.1-2 (of the Livia copper mine); Millar 2002, 51-2; on imperial administration of mines and quarries: cf. Hirt 2010.

[22] Peacock and Maxfield 1997; Pensabene 2013, 231-40.

exploitation, like Vitruvius's discourses in his books on architecture.[23] Sometimes, Pliny and other ancient authors are very well informed about material histories, as in the above examples. Other times, they are at the mercy of their sources or their technological means, which do not match our own. Or, it may be the case that the archaeological record testifies to a type of Roman reception of a material that is not attested in the literary sources, as in the apparent use of *lapis basanites* to visually connect with aged bronze[24], while Pliny writes that it is like iron in color and hardness (*NH* 36.58). In a very real way, there are several histories of materials and their reception that must be given thorough consideration in any project that seeks to establish their 'meaning' in the ancient world. Not least among these, it should be remembered, is the issue of how much the degradation of materials over the centuries and their 'restoration' in the modern period have misleadingly shaped contemporary perceptions of ancient artworks.

The following chapters endeavor to write a material art history that engages each of these complex and often incomplete perspectives on ancient materials. The project proposes that Roman viewers were conscious of various types of material tradition, due in part to imported works of art and in part to ancient texts about art. It strives to identify and peel away the effects of modern receptions in the interest of revealing ancient ones. Examining techniques of production and finish and tracing the associations of subjects and styles, this thesis investigates the nature of material relationships and their redefinition over time and space.

In this way, the conclusions of each case study turn on extensive investigations of ancient sculptural 'materiality'. This concept has seen concerted attention over the past few decades in a return to the object that many scholars see as a response to increased digitization and its turn to the virtual and dematerialized.[25] As a term, it is frequently used and rarely defined. Drawing upon the fields of phenomenology, thing theory,

[23] Isager (1991) cites Vitruvius as well as Cornelius Nepos as sources for Pliny's histories of materials, but there likely were others.

[24] *Power and Pathos*[a], cat. 44 p. 281 (Daehner).

[25] Questions of materiality have arisen in response to the Lyotard's Paris exhibition "Les Immatériaux" in 1985 and its investigation of the digital (Wagner 2001).

agency, and many more, materiality is something of a catch-all for the many ways that materials matter in an artwork.[26] Its ubiquity and ambiguity, however, do not make it banal or useless. Rather, it is precisely in these qualities that the term manages to encapsulate something about matter that language fails to express.[27] Materiality encompasses both the physical presentness of matter in space and its encounter by an audience. It involves each aspect of the material that is tangible to viewers and their process of sense-making as well as everything that escapes their notice but is essential to the object. Consider, for example, a dark-colored marble sculpture covered with shiny veneer that viewers might wholly mistake for patinated bronze; the stone's color and the veneer contribute to a sense of materiality that obscures their true nature. Materiality exists without a human encounter, but the character of materiality as experienced is dependent upon the audience and their frame of reference.

Long before materiality became a subject of study in its own right, scholars have examined the histories of materials, in antiquity and other periods.[28] For the Roman period, the use of colored marbles has received perhaps the most sustained attention. Earlier scholars like F. Corsi and R. Gnoli collected a variety of examples and discussed possible visual associations between materials and subjects.[29] With advancing scientific techniques, J.B. Ward-Perkins led a team of scholars to remote sites around the Mediterranean to begin the process of identifying the stone quarries that continues to this day.[30] In recent decades, the work of P. Pensabene, L. Lazzarini, and a growing number of other scholars has dramatically increased the available data for marble provenance and have made it accessible to a less-scientifically

[26] Holly 2013.

[27] Lange-Berndt 2015.

[28] The work of Michael Baxandall (1972), for example, eloquently illustrated how lapis lazuli came to be used exclusively for the garments of the Virgin Mary.

[29] Corsi 1845; Gnoli 1971.

[30] Ward-Perkins 1951, 1971, and 1992.

trained audience.[31] Ongoing studies in a variety of areas continue to refine attributions of provenance[32] and contribute to better understandings of the economics of the marble quarrying and trade.[33] Utilizing these identifications, archaeological finds, and the evidence of ancient texts like Pliny's *Natural History* and Martial's *Epigrams*, art historians have cataloged the many ways that Romans exploited colored stones with symbolic or allusive purposes.[34] R. Schneider has illustrated how their particular patterns, costliness, and exotic geographic connotations could be exploited for symbolic significance, as in the use of colored stone for the representation of defeated foreigners.[35] H. Gregarek's collection of ideal sculptures in colored stone documents an extensive use of these materials for a variety of naturalistic conceits as well as simple and esoteric allusions.[36]

Moreover, in a recent essay, Mont Allen has cataloged the variety of ways that scholars have shown materials to have mattered in the Roman world.[37] Associative or symbolic meanings of materials are those that are "inherent in a weak sense", by which he means that, although they are culturally assigned, they should be considered to be activated any time the material is used. Under this umbrella, Allen offers a series of other categories: manifest cost of materials (including their manufacture into art products); magical and medicinal properties; geographical associations; approximating other media; mimesis and metonymy; and historic associations. On the other hand, there are the relational meanings, which are created when two unexpected materials or techniques (like drilling and chiseling) are combined to create new meanings. Allen's article is intended as a recapitulation of preceding research for a handbook audience and it does an

[31] Authoritatively compiled in: Lazzarini 2007; Pensabene 2013.

[32] Cf. the ongoing controversy regarding the identification of Carrara vs. Göktepe white marble: Attanasio et al. 2009a; Lazzarini 2010; Attanasio et al. 2011; Lazzarini 2011.

[33] Fant 1988 and Fant 1993; Russell 2013.

[34] Cf. *Radiance in Stone*; *I marmi colorati*.

[35] Schneider 1986.

[36] Gregarek 1999.

[37] Allen 2015.

admirable job of creating a first categorization for the modes in which scholars understand Roman uses of materials. As Allen rightly notes, there has been no previous attempt to systematically organize this body of evidence. Scholars have identified a nearly inexhaustible list of ways that Roman sculptors utilized materials to add shades of meaning to their works; Allen's contribution lies in his ability to synthesize theoretically conscious categories out of the extensive list of particularly expressive examples that scholarship has collected. Useful as this is, the survey continues two problematic tendencies of earlier literature.

First, the categories are created around a list of examples, whose individual material resonances are implicitly treated as specific and univocal in meaning. Allen's definition of the associative or symbolic mode is premised on the idea that certain meanings are activated every time the material is used, but this is demonstrably not true for several of his examples. Rosso antico may be used for a satyr, whose purplish-red color metonymically brings to mind the wine imbibed by this follower of Dionysus.[38] The same stone may also be used, in a different context, to represent the skin of an Isiac priest, perhaps drawing a relationship to the Egyptian use of red stones like quartzite or red granite.[39] The resonance of the richly red stone depends not on some specific, culturally assigned value of rosso antico, but on the connection between the stone, the subject, the style in which it is carved, and more. The allusions of rosso antico are culturally determined and the historical context determines the range of meanings that the stone can bear, but the tendency to study material exploitation in an exemplary fashion obscures each material's ability to convey multiple meanings. Moreover, an approach which examines specific instances without broader contextualization is strongly subject to the bias of the interpreter.

Second, as a result of this example-based approach, the survey fails to recognize the implications of the fact that its categories are not mutually exclusive, although Allen does explicitly mention several

[38] Gregarek 1999, 150; Borghini and Gnoli 2004, 288; Allen 2015, 160-1.

[39] Mari 2006, 55-6

examples that bridge categories. The probably Carian red marble[40] of the satyr from Hadrian's Villa (fig. 5.4) activated a variety of resonances including its manifest cost, geographical associations, and metonymic connection to wine, thus exploiting three associative/symbolic modes. At the same time, if it was displayed alongside the Capitoline Centaurs (figs. 5.2, 5.3) [41], the stone would have gained further associations from its juxtaposition with their dark grey marble (also from Asia Minor), thus functioning in the relational mode. In this case, the act of categorization reveals precisely how insufficient the approach is for this particular field. Materials, even when used in a single sculpture, can bear a range of resonances that is broader, more ambiguous, and more subject to change (through degradation or shifting cultural interpretation) than perhaps any other aspect of the work of art. Searching for an order and a rationale to the use of colored stones in Roman sculpture has left more than one scholar with the impression that that these costly and rare materials were occupied in a particularly vibrant form of conspicuous consumption.[42] And yet, at the same time, Allen and others have shown that it is possible to document patterns in material use.[43]

The present inquiry's focus on contextualization and a relational approach is designed in response to each of these limitations of earlier scholarship. First, it focuses on establishing a historical, localized context within which to evaluate materials so that individual examples are understood within a more broadly considered frame. This is undertaken as an endeavor of historical reception, establishing a set of expectations with which a certain viewer in a certain moment might have approached the material of a sculpture. By examining the facture and finish of individual works and tracing relationships to broader practices in the same and other materials, this project's case studies seek to furnish a more firmly ancient foundation from which to evaluate sculptures' uses of materials. In several instances, the investigations undertaken in the chapters that follow reveal misinterpretations of material resonances that are based in

[40] Attanasio et al. 2013. Contra: Andreoli et al. 2002. For additional discussion of the stone, see Chapter 5, n. 191.

[41] Morawietz 2005, A1 and J1. For more bibliography and further discussion, see Chapter 5, section 5.3.

[42] Cf. Allen 2015, 155-6. The concept is indebted to the moralizing critiques of Pliny and other ancient authors, on which see: Wallace-Hadrill 1990; Beagon 1992.

[43] Cf. especially Gregarek 1999 for a discussion of the uses of colored marbles.

demonstrably false modern assumptions about visual similarity. Second, while the case studies strive to identify particular material relationships and specify the modes in which they function, it intentionally recognizes the presence of multiple, interacting and/or competing material relationships that cooperatively define materiality. This approach circumvents the idea that materials were exploited with a single meaning and reveals the inherent ambiguity of material relationships; the illusion of material imitation, for example, is only partial and is created by manipulating select physical characteristics.[44] Materials are shown to be well-suited to bearing a multiplicity of meaning via a plurality of layered and co-existing material connections. While their physical characteristics, abilities, and even their natural changes (like discoloration or degradation) are in some sense universal[45], these are subject to nearly unending interpretation and reception by a human audience.[46]

Materiality, as it is conceived in this dissertation, encompasses both nature and culture.[47] Nature involves the unchangeable characteristics of a material. Culture, here, is not synonymous with the mind and conceptual knowledge, but also includes embodied knowledge. The term is meant to indicate the phenomenal realm of experience that informs a person's engagement with a material. Marble is, by nature, hard. A person's experience of that hardness may be conditioned by their bodily knowledge of, for example, crafting in other stones. Marble is hard to a sculptor used to working in limestone, but soft to a granite-

[44] This issue is the subject of Chapter 4. Cf. Lange-Berndt 2015, 14-16 on "following the materials" through "entangled, anachronistic layers, incorporating references that point beyond canonical art historical boundaries."

[45] Tim Ingold (2007) rightly emphasizes that some qualities of materials are unchanging regardless of who encounters them. Stones do not yield to the pressure of a hand, while wet clay does. However, it is crucial to consider the experience of who encounters the stone.

[46] Bynum (2011) provides a lengthy discussion of how a particular religious environment shaped peculiarly cultural materialities that, in some cases, sound completely foreign in our contemporary world, though the object may be extant into our own period.

[47] It thus differs from the approaches of scholars who view nature as something 'out there' to be interpreted (e.g. Ingold 1992 and 2007; Renfrew 2004) and more closely follows the idea of a 'perceptual framework' that describes how a person's experience of natural qualities is mediated through their memories, previous experience, knowledge, and preconceptions (for example, Renfrew's later work discusses the importance of foreknowledge in engagement between mind and matter, e.g. Renfrew 2001 and 2004). For a further discussion of the theoretical framework underlying this dissertation's approach to establishing the background that influenced Roman materialities, see Chapter 2, section 2.2.

carver. Qualities may be universal, but their experience is not. Materiality also includes what culture makes of nature and what nature does to culture.[48] Greek sculptors made bronze statues that, over generations, were repeatedly covered with coats of wax or bitumen that prevented corrosion of the surface that would occur in the natural aging of the alloy.[49] A desire for longevity of culture halted nature, but resulted in a slow darkening of the bronze's shiny patina. By the Hellenistic period, sculptors covered some new bronze statues with a black, sulfur-based patina that responded to the darkened visages of antiques.[50] Culture bred new culture through an engagement with nature. The nature of the material defines what is possible and makes it subject to particular finishes or processes of deterioration. Moreover, it is the technical manipulation of the physical qualities of materials that, in many cases, expresses material relationships and situates their cultural interpretations.

While this project might seem to follow a rather traditional dichotomy between form and matter – the so-called hylomorphic approach[51] – given that it focuses on how the same sculptural type was cast or carved into multiple different materials, this is not quite correct. The hylomorphic model implies that an artistic idea (a form) is imposed upon matter, without concern for how the matter impacts the shape and appearance the form eventually takes. By contrast, in this dissertation, the form that is being imposed usually refers to a sculptural type, that is, a pre-existing physical sculpture, cast impression, or model. In some cases, such a form is used to cast the matter of the new sculpture; this is form as model or, even, as imprint rather than abstract idea. This kind of form directly impacts the matter in a way that does, in some way, determine the outcome of the materiality. At the same time, this thesis also pays particular attention to the ways that properties of materials predetermined what choices were available in production or, when employed for a sculpture, created novel impressions on the viewer (as in section 4.2.c, which compares

[48] On materiality as an ongoing performance cf. Barck 1994.

[49] Cf. Formigli 2013a.

[50] Willer 1994; Descamps-Lequime 2015.

[51] Cf. Ingold 2011, 178.

techniques of sculpting bronze, white marble, and lapis basanites). It thus considers the pre-figuring influence that the form of the archetype, model, or mold has on the material as well as the inherent impact that the physicality of the material has on the determination of the final form. A thorough understanding of practices of craft production and the application of surface adornment are essential to such investigations.

To address these aspects of materials, the following chapters draw extensively on scientific literature that has established the natural characteristics and the technical practices that created and affected ancient sculpture in each material. Since this dissertation considers works crafted in bronze, terracotta, plaster, white marble, and a variety of colored marbles and stones, the literature is too extensive to review fully here.[52] Each of the chapters makes reference to a variety of studies regarding craft technique, finishing, scientific identification of superficial adornments and the effects of aging, and materials analysis of the provenance of stones or the compositions of alloys. Furthermore, the appendices offer surveys of the most important literature regarding the materials and superficial adornment for stone and bronze sculpture, which are not dealt with directly in the chapters. For the moment, however, it is necessary to give a sense of the scope of the technical studies that define this project's engagement with craft production.

The techniques of casting bronze sculpture have largely been studied from the traces of facture on the small number of preserved sculptures and from comparison with modern methods of production, since the archaeological and literary sources are relatively rare.[53] Recent survey articles by Carol Mattusch provide a useful state of the field concerning production.[54] Mattusch's extensive research, which combines archaeological investigation of casting-sites with sensitive and scientific examinations of extant bronzes, has introduced one of the principal controversies regarding the production of ancient bronze.[55] Simply put,

[52] Fundamental, though now slightly dated, is the extensive study by Blümner 1979.

[53] Book 34 of Pliny the Elder's *Natural History* provides extensive information about the composition and production of alloys, but nearly nothing about the process of casting.

[54] Mattusch 2008 and 2015. Mattusch expands upon the work of, especially Rolley (1983). Continued discussion in: Rolley 1990 and 1994; Haynes 1992.

[55] Mattusch 1977a; 1977b; and 1980.

Mattusch argues that Greek bronze sculptors produced bronzes in series via indirect casting of inter-models from the master model.[56] Her view has found favor with a significant number of scholars and is supported by the variety of essays in the catalog of the recent exhibition *Power and Pathos: Bronze Sculpture of the Hellenistic World*, which gathered more than fifty bronzes excavated or discovered in various places around the Mediterranean.[57] However, the idea that Greek sculptors created multiple works from a single master model – via one or multiple inter-models – has been strongly critiqued by scholars who maintain the more traditional view that Greek sculptors always cast directly, destroying each master model in the process of casting a wholly new sculpture, even if it appeared similar in many ways to others created in the same workshop. Opinion remains staunchly divided, but, at least, the practices associated with both are quite well understood. It is, moreover, still difficult to distinguish by chemical composition or thickness of the cast bronze whether a sculpture was cast in the Greek or Roman period.[58] In the case of ideal sculpture, the most useful method of distinguishing a Roman period sculpture are the identifiable traces that the negative model was taken directly from a finished bronze statue, for example, the negative mold may preserve the outlines of small patches to the bronze of the original statue which are transferred as faint outlines (not associated with new patches) on the newly cast piece.[59]

Since the discovery and study of the Mahdia shipwreck, moreover, there has been an increasing interest in using materials science to recover information regarding the superficial appearances of ancient bronze sculpture (see Appendix D). The publication of bronzes found on the shipwreck proposed that they

[56] Mattusch 1996. For additional discussion of this hypothesis and its distinction from direct casting via master models, see Chapter 3, section 3.1.

[57] *Power and Pathos*[a]; the thesis is further supported in the review by Ridgway (2015).

[58] Giumlia-Mair 2015. In part this is simply due to the relatively low number of tested statues and the low number of preserved ancient bronzes it would be possible to test. Mattusch (2005) has offered indications that analyzing trace elements of the alloys of works can provide indications of workshops if the alloy is sufficiently similar, as in the casting of a few works from the Villa dei Papiri. Cf. also Mattusch 2015, 150-1.

[59] See Mattusch 1978 and 1996, 197-206 on the Florence and Met bronze torsos; see also Kluge 1927, I.117, n.2.

had been treated with an artificial black patina.[60] The work of E. Formigli has been especially transformative, as he has studied the archaeological evidence of both 'natural' (the result of maintenance) and 'artificial' (including blackening with sulfur) patinas, the application of color through specialized alloys (especially with increased tin or copper), and more.[61] While not every sculpture preserves evidence, thanks both to degradation and over-zealous modern cleanings[62], a vibrant range of polychromies should be expected for Greek and Roman bronzes.[63] Considerable debate remains about the colors and production method of the infamous Corinthian bronze, the alloy that supposedly includes gold and silver, but scholars have identified numerous ways in which gold and silver were used to color ancient copper alloys.[64]

The methods of production for marble statuary have likewise been extensively treated. Amanda Claridge's recent essay provides a useful overview of marble carving and practices as well as evidence for workshops.[65] It is, of course, true that the process of marble sculpting has not changed extensively even to this day, although steel tools offer some improvement in efficiency.[66] Ideal sculpture of the Roman period was produced by reference to a model, recreating forms by measuring from a set of points.[67] Evidence of this system is preserved on several sculptures in the form of raised bosses that range in number from three

[60] Willer 1994; Eggert 1994; For a recent survey of the state of the field, cf. Descamps-Lequime 2015; Formigli 2013b; with greater emphasis on the evidence for Greek sculpture: Zimmer 2012. For a more comprehensive treatment, see Appendix D.

[61] Providing a wide-ranging discussion of his analyses and their implications, cf. Formigli 2013b. For portraits and techniques of casting: Lahusen and Formigli 2001.

[62] Cf. Risser 2013; *Small bronze sculpture*. See also the discussion of the early reception and restoration of bronzes in Naples in Mattusch 2005.

[63] Consider the extrapolated re-construction the Munich Youth's head: Wünsche 2007.

[64] Giumlia-Mair and Craddock 1993; Mattusch 2003; Descamps-Lequime 2011 and 2014.

[65] Claridge 2015. For late antiquity, see Rockwell 1991, van Voorhis 2012, and the forthcoming Aphrodisias V on the sculptor's workshop. For the Greek world: Adam 1966; Blümel 1969; Palagia 2006.

[66] Blümel 1969; Nolte 2006; Rockwell 1993.

[67] Cf. Pfanner 1989; Touchette 2000; Anguissola 2012, 34-5, 60 n. 38. Lorenz (2009) publishes a sculptor's training piece showing bosses on a completed face and on another, in progress, being carved by reference to it.

to twenty-seven.[68] These points, however, should not be confused with the modern practice of "pointing off" or using a pointing system with three fixed points, as scholars now generally agree; this practice leaves evidence of tiny drill holes across the surface of the finished work, none of which can be identified on ancient statuary.[69] Instead, the system of bosses preserved on ancient sculptures suggests a more organic approach to setting points dependent upon the complexity of the form. There remains some debate about the models that sculptors used for reference in production. The fragmentary plaster casts excavated at Baia (ancient Baiae) represent a group of positive, three-dimensional models that must have been used in this manner[70], but models in other materials or even other finished marble sculptures could also have served this purpose.[71]

Like that of bronze, the field of ancient marble polychromy has exploded with the advent of materials science analysis. Although the pigmented appearances of ancient white marble sculpture and architectural elements were known since early discoveries, it has only been in the last fifty or so years that it has become more possible to identify remnants of ancient pigments and suggest reliable reconstructions (see also Appendix C).[72] P. Reuterswärd's 1960 monograph on the polychromy of ancient sculpture remains a central text for the field since it collects known examples of preserved color. A series of projects pioneered in Munich in the 1970s and 80s using multi-spectral analysis led to efforts at color reconstructions and, in the new century, to non-invasive methods of identifying organic and non-organic materials.[73] The results

[68] Pfanner 1989, 151-2.

[69] The system has been shown to have been developed around 1760, probably in Paris (Ayres 1985). Confirmed by Palagia (2003) for the Greek period.

[70] Landwehr 1985, 2010; see infra, p. 21-22 on plaster.

[71] Claridge (2015, 110) does not see these as sculptor's models but as finished sculpture for display in their own right. These plaster casts and their role as models is discussed in depth in Chapter 3.

[72] On the history of research on ancient polychromy, with bibliography and descriptions of recent projects: Brinkmann 2014a and Liverani 2014. On interest in the colors and color-terms of antiquity in the 19th century: Dönike et al. 2016. For a more thorough discussion, see Appendix C.

[73] Including UV-VIS absorption spectroscopy, UV fluorescence, and Infra Red luminescence. On methods and techniques, cf. the PDF publications of the Tracking Colour Project of the Copenhagen Polychromy Network (published electronically on the project's website 2009-2013). See also Liverani and Santamaria 2014.

of these analyses are collected in the Bünte Gotter exhibition that has traveled to numerous cities in Europe and North America since 2003 and is continually updated with recent results. In the last decade, moreover, the Copenhagen Polychromy Network has added substantially to the field with a survey followed by targeted investigations of specific works in the Ny Carlsberg Glyptothek. Examinations of new archaeological material and projects initiated by individual scholars have made significant contributions as well, ranging from discussions of Hellenistic[74] to late-antique practices.[75] Wide-ranging studies with extensive discussion of recent literature on various aspects of the polychromy applied to white marble sculptures and its scientific investigation, moreover, are readily available.[76]

Unfortunately, the same cannot be said regarding the kind and volume of pigment or other superficial adornment added to Roman sculpture in colored stones, which remains largely unstudied, especially from a scientific point of view.[77] One of the only sculptures that has been systematically examined is the Hanging Marsyas excavated in the Villa delle Vignacce in 2009 (fig. 4.7); carved in a richly hued red stone, likely pavonazzetto from Asia Minor but not yet matched to any quarry site, the statue bears inlaid eyes and composite white hands (and possibly feet), as well as bright red pigment at the internal corner of his eyes and darker red on the tree trunk.[78] Similar kinds of finishing should likely be expected on other colored stone sculpture, but whether variety in scope or type of polychromy existed remains unknown.[79]

[74] Blüme 2015; Bourgeois et al. 2009; Bourgeois and Jockey 2005.

[75] Abbe 2010.

[76] Liverani 2010; Liverani and Santamaria 2014; Østergaard 2014; Abbe 2015.

[77] Gregarek 1999, 45-7; Abbe 2015. On superficial adornment of porphyry: Delbrueck 1932, 6; Laubscher 1999, 242-4; von Bülow and Wulf-Rheidt 2009, 17.

[78] Angoli 2014.

[79] Chapter 4 offers a preliminary survey of the polychrome adornment that might have been applied to Roman sculpture in *lapis basanites*.

The methods of sculpting colored marbles and limestones are precisely the same as those of carving white marbles and limestones.[80] Moreover, the same approach to carving reproductions, including the use of a reference model and bosses for measurement, was likely employed for large-scale sculpture in other stones (including granite, greywacke, porphyry and alabaster), although some technical modifications and additional man-hours must have been required to suit the harder stones. There have been few technical studies of Roman-period hard-stone sculpting, but there is a growing amount of literature on ancient Egyptian practices[81] and there appear to have been few changes in tools in the Roman period.[82] The same tools for carving and finishing were exploited for new subjects and styles; significant exchange of the latter occurred in the Ptolemaic period and continued into the Roman, for example, with the use of greywacke for replicas of classical athletes.[83] It seems likely that the Hellenizing ideal sculpture in Egyptian hard stones was produced using Greco-Roman copying techniques (rather than blocking out the statue as was the practice for Egyptian sculpture), but this issue, too, remains unstudied.

Moreover, for both colored and white stones, there is an ever-growing body of scholarship that seeks to identify ancient stones through petrographic and chemical analysis. An outline of this mode of inquiry was provided above, since the identification of quarries and the extant sculptures connected with them have been used to understand the reception of the stones by the Roman audience (see also Appendix A). However, the relevance of the materials science studies for investigations of ancient production should not be undervalued. While there was not a major difference in method of production between the various

[80] Rockwell (1993) indicates that the process of carving any limestone or marble is the same regardless of color, although color and desired effect may have been principal determinants of the type of carving or finish applied to the sculpture.

[81] On Egyptian practices: Reisner 1931, 108-29. Comparing Greek, Egyptian, and Roman techniques: Pfanner 2014. On tools used for hard-stones: Cotterell 2010, 129-30; Stocks 1999, 2001. Ongoing research promises more information regarding the carving of fine detail with ancient tools, e.g. Anna Serotta's paper presented at the recent conference *Colored Stone Statuary in the Ancient Mediterranean: Quarries, Workshops, Uses, and Meanings* held in Pisa and Florence, November 28 – December 1, 2017.

[82] There is some evidence that the Romans had improved the quality of tempered iron (Mattusch 2008).

[83] On cross-cultural exchanges of techniques and styles, as well as on the identity of artists and possible specialization of workshops in the Ptolemaic period, cf. Ashton 2001; Stanwick 2002; and Ashton 2004. For further discussion of this topic, cf. Chapter 4, section 4.2.f.

white and colored stones, or even the hard stones, their different petrographic and chemical profiles create critical differences. A pressing problem, in this regard, is the enormous amount of confusion regarding the identification of black stones in the art historical literature that has impacted modern interpretations of material exploitation; Appendix B offers a discussion of terminology and lithotypes that aims to clarify the nomenclature and the provenance of the black stones most commonly used in Roman sculpture.[84] Mis-identifying a black limestone as basalt or basanite entails in a mis-reading of the amount of extra labor and cost required for its production and, by extension, the material's role in signifying expense and painstaking artistic execution. Whether ancient audiences had similar difficulties in distinguishing the varieties of black stones remains to be seen[85], but correct identifications nevertheless remain essential to scholarly investigations. The Egyptian black hard-stones, for example, remain dark and shiny in color regardless of age, while black marbles and limestones will acquire a greyish oxidation patina unless treated with a protective veneer of some kind.[86] An un-veneered, textured *levigato fino* finish on a dark-colored marble appears greyish and will turn more so, exploiting this character of the material to aesthetic ends.[87] Greater engagement with scientific analyses of the nature of stones will better enable understandings of their cultural uses.

As mentioned above, the production of ancient ideal sculpture in stone relied upon both negative plaster molds of existing sculptures and the positive plaster models produced from them.[88] Plaster was likewise the material of negative casts of metal plate and small scale statuary, although the archaeological evidence suggests that workshops specialized in these did not also work large-scale sculpture.[89] Plaster,

[84] The mis-nomers, mis-identifications, and mis-understandings: Appendix B.

[85] This topic is further discussed in Chapters 5 and 6.

[86] Lazzarini 2013, 142-43. The black pigmentation of marble and limestone results from decayed organic matter which is subject to oxidation, while the volcanic basalt and the heamatite rich greywacke will not age in this manner.

[87] Cf. Chapter 5, section 5.3.d

[88] D'Alessandro and Persegati 1987; Gasparri 1989, 1995; Duthoy 2012, 102-5. Generally, on copying: Gasparri 1994. It could also be used as a bronze-casting mold (Mattusch 1978, 101, n. 9).

[89] There are caches of casts of metal plate found around the Mediterranean (cf. Chapter 3, p. 119), sometimes including molds for small-scale sculptures (e.g. at Sabratha, Barone 1980 and 1994). Casts of large-scale sculptures have not

moreover, may have been a sculptural medium in its own right, although archaeological and literary evidence is scarce.[90] The composition of ancient plaster is described in ancient literary sources, as was its use for taking negative molds[91]; moreover, its techniques of mold-making have been treated at length, including comparative studies with modern cast production.[92] However, the only Roman-era plaster molds or models of large-scale sculpture are those excavated at Baia, all of which are positive and reproduce life- or nearly life-size sculptures. Christa Landwehr's monograph on the Baia plasters illustrates that they were produced in the region of Campania, by pressing layers of plaster into negative piece-molds that had been taken directly from finished bronze statuary.[93] The unique testimony that these provide regarding the production of three-dimensional plaster models and the impact their materiality had on the stone sculptures produced from them is discussed at length in Chapter 3.

Clay and terracotta have, likewise, long been studied both as a material of models used for bronze production and of free and mold-made sculptures.[94] The material has an extensive history on the Italian peninsula and is described by Pliny the Elder (*NH* 35.151-6) and his cited source, Cato the Elder, as having achieved a particular height of expression in Etruria and Italy.[95] Unfortunately, much of the material for the city of Rome is lost, but a few fragments and the literary sources provide a relatively clear picture of the technical practices. Large-scale sculpture was produced, in most cases, in an additive manner that did not

been found with these smaller items, nor have small-scale molds or models been found with the large-scale models excavated Baia (Landwehr 1985, 12-25; cf. the survey in Frederiksen and Marchand 2010).

[90] Most comprehensively treated in D'Alessandro and Persegati 1987; the first two articles in Frederiksen and Marchand (2010) are devoted to the ancient world.

[91] Theophrastus *De Lapidibus* 64-67; Pliny, *NH* 36.163.

[92] D'Alessandro and Persegati 1987; Donati 1990.

[93] Landwehr 1985.

[94] Regarding the production of bronze: Rolley 1994; Mattusch 1996. On terracotta sculpture in Rome, see the discussion in Chapter 3, section 3.3.a, and, particularly on the late-republican and early imperial use of the material: Fuchs 1999, 69-72; Strazzulla 2010; La Rocca 2010. As a small-scale sculptural material: the recent survey by Erlich 2015. On clay models: Duthoy 2012, 103-4.

[95] Cf. discussion in de Angelis 2008.

make use of molds.[96] The malleability of the material made it, like wax, particularly good for the production of unfired master models for bronze-casting or sculptural production in other materials.[97] However, the practice of modeling free-hand led to difficulties of firing (like air bubbles that could explode and fracture the work) that made large-scale terracotta sculpture expensive and relatively rare.[98] By contrast, the much higher volume of mold-made productions of both architectural adornments and votive figurines was principally achieved with molds whose use reduced breakage upon firing and increased cost-efficiency.[99] Only a single group of large-scale sculptures show intensive use of negative molds for their production; this unusual case is treated in Chapter 3. The polychromy applied to terracotta sculptures, both large- and small-scale, has become a subject of interest and investigation over the last decades. Attention to particular production groups is balanced by investigation of specific examples that show evidence, for example, of continued maintenance of color over time.[100] Patterns and changes in taste can also been identified, as in the increased use of a white coating before the application of color on architectural ornaments at the end of the first century BC.[101]

These technical studies offer an incredible resource, but there is not yet enough integration between the art historical and the technical. While some scholars manage to effectively bridge the divide[102], the

[96] The notable exceptions are the Palatine terracottas (Tomei 1990a, 1992), discussed at length in Chapter 3. The head of an enthroned goddess from Ostia now in the British Museum (Strazzulla 2010; La Rocca 2010; La Rocca and Parisi Presicce 2010, I.32).

[97] As Pliny the Elder tells us Pasiteles valued clay as the "mother" of sculpting and chasing (*NH* 35.157).

[98] Often employed as architectural ornaments: Deonna 1908; Andrén 1939/40; Coarelli 1976, 1990; La Rocca 1990.

[99] Erlich (2015) provides a concise analysis of ancient terracotta production and a historiographic treatment of scholarly studies.

[100] For a survey cf. Blüme 2015, 87-92. On maintenance: Bourgeois 2014.

[101] Perhaps to make the color appear brighter (Zink 2014, 238). Rohden and Winnefeld (1911, 27) and Koch (1912, 14) suggest that the white coating is lime, chalk, or fine pipe clay, but no modern scientific analysis has been conducted on these works.

[102] Especially notable are, on bronze: Mattusch 1996; Lahusen and Formigli 2001; Formigli 2013b. On marble: the projects undertaken by the Munich group (Brinkmann and Wünsche 2007; Brinkmann 2014) and the Copenhagen (Østergaard 2014); as well as the individual project of Blüme 2015. On chryselephantine sculpture: Lapatin 2001.

majority of examinations make only partial attempts to understand the methods and goals of the other. Art historical analyses often fail to accurately identify colored stones, perhaps because the studies of their provenance are published in technical journals and their results often left out of museum catalogs. Technical analyses, on the other hand, provide data that are directly relevant to art historians but are often opaque to a non-scientific audience. Moreover, mistakes of iconographic identification, which could be easily reconciled by cooperation with an art historian, enter the scholarly literature and perpetuate misunderstandings of the ancient evidence.[103] Cooperation between experts in the two fields could resolve misunderstandings and produce new, collaborative research agendas.

This dissertation demonstrates how, even without undertaking new materials science analyses, becoming a knowledgeable consumer of the massive quantity of existing studies on a variety of materials can direct their evidence and conclusions toward new kinds of art historical examinations. The technical studies, even those written with a strongly art historical approach, are extraordinarily specialized by material.[104] As yet, there is only rarely an integrated discussion of practices that cross the boundaries of materials and little discussion of the implications of those shared techniques[105]; scholars working on bronze-casting processes rarely write about marble-carving or the plaster casts they referenced and vice versa. However, there is a consciousness that production was often a multi-media affair, with bronze casting involving models in wax and encasements of clay or with marble being sculpted by reference to models in

[103] Cf. the discussion of the proposed lapis basanites Niobid (Lapuente et al. 2012, 377, sample VA-39; Attanasio et al. 2013, 4366), which was discussed as evidence of a possible lapis basanites Niobid group in a paper by F. Slavazzi at the recent conference *Colored Stone Statuary in the Ancient Mediterranean: Quarries, Workshops, Uses*, held in Pisa and Florence, Nov. 28-Dec 1, 2017. For a refutation of this identification, see infra Chapter 2, section 2.1.a.vii and Chapter 6, section 6.4.

[104] Cf. Abbe (2015, 180) calling for more integrated approaches to craft traditions.

[105] The most integrated discussions always concern sculptural models. For example, Carol Mattusch's work on the craftsmanship of ancient bronzes evaluates the role of wax as the sculpting material (most fully described in Mattusch 1996), as does the work of several other scholars. However, once the discussion moves from production to that of reception, wax is consistently removed from the discussion and bronze becomes the material par excellence. Christa Landwehr's intensive discussion of the Baia plaster casts relationship to bronze likewise prioritizes the bronze over the materiality of the plaster (Landwehr 1985). The confirmation that the Palatine terracotta's were produced in a process quite similar to that of the Baia plasters was relegated to a footnote, while the elaborate discussion of their formal relationships to other sculptures has dominated their discussion (Tomei 1992, 215).

clay or plaster, perhaps after bronze prototypes. In the scholarship, there are explicit indications of very real entanglements of materials during manufacture. These are often appreciated as integral to the production of a work's eventual materiality, as in the discussion of the additive method of creating a wax model for bronze versus the subtractive process of marble carving. However, it is usually the *effect* of such relationships on the final material, rather than their *existence*, that is evaluated in art historical inquiries.[106] This project, by contrast, seeks to understand how these material entanglements in production impacted both production and reception. Moreover, this project examines craftsmanship as part of its investigation into the nature of material relationships, asking how, exactly, a sculptor could create or suggest material imitation via techniques of finishing, superficial adornment, or juxtaposition.

Finally, regarding the articulation of ancient materiality, it is relevant here to say a word about ancient color perception and its pertinence for the present study. There have been extensive studies on color terminology[107] and the possible meanings associated with colors, which have their own complicated histories.[108] While there are some notable instances in which ancient literature allows us to connect color-terms and discussions with known materials, these are not numerous or rich enough to encapsulate all of the various ways that materials and material relationships mattered. To put it simply, in the same way that modern scholarship has struggled to develop a vocabulary and an approach to studying materiality, the Latin literature only partially expresses their reception of materiality and, moreover, is engaged in a variety of particularly literary tasks as well.[109] R.J. Edgeworth's *The Colors of the Aeneid*, for example, shows how color could be used as a formulaic marker, to allude to other texts, to adorn something, to accumulate and add to drama, or to link disparate scenes.[110] This use of color must somehow correspond to how materials'

[106] Relatedly, Petra Lange-Berdnt (2015, 12): "Thus, to address processes of making is still associated with formalism, while materials are thought of in terms of concrete, direct and inert physicality, carrying imprinted messages."

[107] André 1949; Villard 2006; Bradley 2009a, 2012; Goldman 2013.

[108] Cf. the histories of individual colors written by M. Pastoureau (on blue: 2001; black: 2009; 2014; and red: 2017).

[109] Lange-Berndt 2015, 16: "Things are often practiced long before they are written about".

[110] Edgeworth 1992.

natural colors or polychromy were expressed, but it cannot be used as a point of departure. As Mark Bradley has clearly illustrated, the study of color in ancient literature is a different, if related, project than that of studying the colors and coloring of material culture.[111] The former discusses how color words and uses express the conceptualization and ordering of the visual world, while the latter concerns the physical world that is conceptualized (but whose richness may not be fully encompassed) by those words and whose manipulation reflects the process of ordering.[112] Moreover, as this thesis illustrates, while color is an essential part of materiality, it must be viewed in the context of a variety of other material and formal relationships that impact its reception in a given context. This dissertation prioritizes an examination of material culture, studying how materiality was articulated and expressed by relationships between objects (including by shared colors or polychrome additions), and, secondarily, how those materialities and relationships are treated in literary sources. Future research might investigate how the materialities reflect or subvert the literary use of colors, but such a project remains outside the scope of the present endeavor.

1.2 Roman Replicative Sculpture

In the Plinian passage with which this introduction began, the ancient author compares a bronze and a marble sculpture of Aphrodite, both made by Praxiteles. The subject, the artist, and probably a similar style allow direct evaluation of the success of the representations in different materials. The retrospective and formulaic nature of Roman art and, perhaps especially, Roman sculpture, created a "system of mutual reference and comparison" that functioned in a similar manner.[113] What has been less well understood and evaluated, however, is the way that the exploitation of a wide variety of materials for the execution of those sculptures drew stones, bronze, terracotta, and plaster into those systems and a context of relational

[111] Bradley's 2009 *Colour and Meaning in Ancient Rome* contains not a single illustration, focusing instead on literary discussions (cf. p. xi). For his separate discussions of material culture culture (Bradley 2006, 2009b).

[112] Several studies that explore the meeting of these two traditions, particularly the relationship between material culture and ekphrasis, can be found in Rouveret et al. (2006).

[113] Anguissola 2013, 17.

evaluation. In fact, one scholar proposes that we must jettison style in order to study materials and facture.[114] To do so, however, risks excluding one of the principal frames within which it is possible to recover Roman evaluations of sculptures and their engagement with past material traditions. In this dissertation, the formulaic way in which Roman sculpture engaged with earlier styles is understood as an integral component of how it employed materials and engaged with their historic uses in both local and foreign traditions. By examining both the materials engaged in formal reproduction and the materials into which individual compositions were replicated, this project traces material relationships of the production and reception of sculpture.

This dissertation thus relies upon the vast body of literature concerning Roman formal reproduction, which has primarily been developed in the study of works derived from Greek sculptures or styles.[115] The fact that much of Roman sculpture relied upon replication, quotation, or adaptation of Greek styles and works has been understood with divergent approaches over the course of the centuries. Early in the 18th century, antiquarians began to comment upon the existence of multiple sculptures that must have derived from a common model and to posit Roman copies of Greek originals.[116] Winckelmann considered that in many cases the extant sculptures were some form of a reproduction rather than new inventions, writing that "we too have…nothing but a shadowy outline left of the object of our wishes… we study the copies of the originals."[117] Twenty years later, in 1784, Ennio Quirino Visconti's second volume of the catalog of the Vatican's Museo Pio-Clementino became the first museum catalog that described several statues as copies of famous Greek works of art.[118] Some of his assertions contained a particularly important logical jump. Included among the "copies" were even sculptures whose compositions were unique in the

[114] Allen 2015, 153-4.

[115] For recent surveys of the state of the field: Perry 2005; Marvin 2008; Anguissola 2012, 2015.

[116] Barbanera 2006, 2008; Marvin 2008, 103-67; Anguissola 2012, 25-6.

[117] Winckelmann (Lodge trans. 1st ed. 1849; 2nd 1880). Cf. Potts 1980.

[118] Visconti and Visconti 1782-1796.

archaeological record and could not be identified as a reproduction of a sculptural subject mentioned in an ancient literary source. Instead, their combination of a well-conceived composition and a poorly carved sculpture was enough to suggest that the work was derivative, since the former indicated an excellent artist's conception and the latter an unskilled imitation. The notion that many Roman sculptures copied earlier Greek masterpieces maintained a central position in Roman art scholarship through the next century, bolstered by contributions from the fields of Altertumswissenschaft, connoisseurship, philology, and photography.

At the end of the 19th century, this confluence of trends spawned the fields of *Meisterforschung* and *Kopienkritik*, most widely disseminated through Adolf Furtwängler's influential *Meisterwerke der Griechischen Plastik*.[119] The former mode of research mined the extant sculptures for those that were mostly likely to be identified with the artworks described in ancient literary sources and attributed to famous Greek sculptors. Early among these identifications was Karl Friedrich's 1863 recognition of the Doryphoros, sculpted by Polykleitos and expressing his 'canon'.[120] The latter approach, by contrast, critiqued the extant replicas of a specific sculptural type in order to ascertain which features and which replica most closely represented the lost original. Scholars sought to weed out mistakes and additions of the Roman copyist and attain a most authentic version of the original. A philological metaphor of the manuscript stemma was exploited to explain how variations could be passed down in some replicas, while others derived from more ancient sources; however, no convincing stemma has ever been achieved for a single composition.[121] Furtwängler's approach attracted significant contemporary criticism, particularly from Reinhard Kekulé von Stradonitz.[122] Outlining its methodological faults, Kekulé challenged the confidence with which

[119] Furtwängler 1893. Furtwängler was a student of Heinrich Brunn, whose philological approach to studying the sculptural series was pioneered in the 1880s (Brunn 1879, 1888-1890). On Brunn's influence on Furtwängler, cf. Perry 2005, 78-9; on Brunn's philological approach, cf. Jaros 1993, 113-14.

[120] Cf. Anguissola 2012, 34.

[121] Bieber 1977, 5-6; Perry 2005. Lippold (1923, 11-12) offers two alternatives stemmata for a single sculptural type.

[122] Especially by Kekulé 1895. On contemporary reactions and its legacy: Jaros 1993, 186-97; Fullerton 2003; Perry 2005, 84-90.

Furtwängler asserted what were, in truth, hypothetical attributions to the hand of a master and his use of those attributions to construct further hypotheses about the stylistic hand of that sculptor.

Still, the *Meisterwerke* and its methodology engaged a significant following that produced numerous monographs on Greek masters studied through Roman replica series. Ideal sculpture came to be considered primarily as evidence for the reconstruction of Greek sculpture, while it was largely left out of textbooks on Roman art.[123] The following years saw some refinement of aspects of Furtwängler's approach, even from his students. Georg Lippold introduced a more varied terminology that sought to differentiate levels of fidelity to the Greek model, ranging from *Kopie* (copy) and *Replik/Wiederholung/Nachbildung* (replica), to *Umstilisierung* (change of stylization), *Umbildung* (transformation), *Benutzung* (use) and *Verwendung* (reuse).[124] Over time, these types of engagements with pre-existing models came to be associated with the terminology of literary imitation, and scholars recognized literal translations (*interpretatio*/*Replik*), reworkings or 'free copies' (*imitatio*/*Umbildung*), and new creations in a retrospective style (*aemulatio*/*Neuschöpfung*).[125] The term ideal sculpture, *Idealplastik*, was coined to refer to this large group of sculptures that have some relationship to Greek formal traditions and compositions, without passing judgment on what exactly that relationship was. In the immediately subsequent scholarship, the effect of Lippold's work was to distinguish more clearly which sculptures were most useful for Kopienkritik and to marginalize those that were variants or adaptations. However, the eventual effect of this recognition of different types of attention to formal archetypes was to pave the way for the revisionist studies of Roman ideal sculpture that have occupied Roman art historical scholarship since the late twentieth century.[126]

[123] E.g. the textbook by Eugenie Strong (1907), who translated the *Meisterwerke* into English (Furtwängler 1895). The 1976 Roman art textbook by D.E. Strong does not show much change (Strong 1976).

[124] Lippold 1923. The English terminology is discussed by Bieber (1977, 3) and Anguissola (2015, 243).

[125] Anguissola 2012, 39-42.

[126] Perry 2005, 89.

In the 1970s, several scholars began advocating for an approach that more heavily emphasized the Roman context of ideal sculpture and an attention to how the 'adaptations' to sculptural types reflected Roman taste and re-interpretations of the subjects, styles, and compositions.[127] Brunilde Ridgway, Paul Zanker, and Raimund Wünsche were the major proponents of this approach in the 1970s.[128] These scholars, and others who follow this approach, have challenged one of the underlying assumptions of *Kopienkritik* and *Meisterforschung*, namely, that Roman sculptors always aimed at precise and exact replication of Greek masterpieces. Their arguments have taken many forms and, in the past decades of scholarship, several key factors have been established. First, many of the works once considered copies of Greek originals of the fifth or fourth century BC have been recognized as certainly (or possibly) archaizing, classicizing, or eclectic creations of later periods.[129] Moreover, it is clear that Roman sculptors also produced works of these later periods and of their own contemporary period in a serial manner, illustrating that sculptural reproduction was not limited to the faithful duplication of antiques.[130] The recognition that Greek sculptors likely also produced works in series has re-characterized similar Roman practices.[131] Moreover, some frequently replicated sculptural types that might have been familiar to an ancient audience likely did not derive from singular, famous archetypes.[132] The formulaic nature of these repetitions could be deployed to add shades of meaning to statuary and portrait representations.[133] Replication and reproduction was a strategy that served multiple purposes and situated an artwork within its precise historical, social, and

[127] For summaries of these developments: Ridgway 1984; Bartman 1992; Jaros 1993; Gazda 1995; Bergmann 1995;Fullerton 2001; Gazda 2002; Perry 2005, 7-12; Anguissola 2015: 243.

[128] Ridgway 1970, 1977; Wünsche 1972; and Zanker 1974. A significant, much earlier predecessor is Rumpf 1939.

[129] Rumpf 1939; Wünsche 1972; Trillmich 1973; Zanker 1974; Trillmich 1979; Marvin 1997; Perry 2005, 1-6.

[130] E.g. Fullerton 1990, 22-9, 34-5.

[131] Mattusch 1996.

[132] Bartman 1992, 120-3; Willers 1986.

[133] Gazda 1995; Trimble 2000, 2011.

physical context.[134] At the same time, however, it is clear that there were cases of genuine replication that were intended to recall a specific work of art by a known artist, as in the case of the Doryphoros or the Diskobolos, whose gestures became synonymous with the statues.[135] These and other conclusions have led to a more richly considered evaluation of Roman practices of replication, repetition, and reappropriation that has been displayed, for example, in the recent exhibition *Serial/portable classic*.[136]

Moreover, some studies have sought to provide a broader framework within which these varied types of engagement with predecessors can be understood. Otto Brendel's *Prolegomena to the Study of Roman Art* recognized that plurality of forms and expressions were an essential component of Roman art: "An interpretation which intends to account for these facts must resign the idea of an absolute stylistic unity in Roman art. It must reckon with the simultaneous existence of contrasting standards and perhaps not only with a dualism but a plurality of trends."[137] One of the responses to this concept of plurality is Tonio Hölscher's *Languages of Images in Roman Art*, which articulates the way that multiple styles were deployed even within a single artwork, each for a specific range of semantic connotations.[138] The Roman reception of the sculptures and styles of Greek masters gradually reduced them to signs that conveyed particular qualities. Thus the classical style could be used for figures with *dignitas* and *auctoritas*, while expressive Hellenistic forms were more appropriate to battle scenes. Hölscher's treatise shows how the systems of formal repetition that characterized Roman reception of these styles, paired with art historical texts that associate styles or artists with particular characteristics, effected a reconceptualization of the meaning of inherited images. Multiple styles, moreover, could be employed for single figures in eclectic combinations

[134] Perry 2005.

[135] Settis 1992; Neumeister 1993; Marvin 2008, 151-64. For a defense of continued practice of Kopienkritik, with modifications: Hallett 1995, 2005a.

[136] *Serial/portable classic*.

[137] Brendel 1979, 126. The last line contributes to Brendel's counter against scholars who argued for the role of a collective artist will or "ethnical" changes as the driving force behind stylistic change.

[138] Hölscher 2004 [published in German in 1987].

that offered revised interpretations of the qualities of certain artistic periods. Christopher Hallett illustrates how the 'imitation' of Archaic style prioritizes delicateness and combines features of the severe and the classical periods to give shades of meaning that suited the Roman context.[139]

As will be illustrated in the following pages, it is these concepts of plurality and selectivity employed in single sculptures that has been most influential on this project's conceptualization of the way material relationships cooperatively define a sculpture's materiality. Moreover, the idea that these Roman ideal sculptures are intended to suit a contemporary audience and, perhaps, one that is not interested in their possible derivation from ancient masterpieces, is central to this study. The organization of the inquiry around replica series extant in multiple materials is premised upon the idea that visual repetition of a formal kind draws sculptures into relationships with one another.[140] Ideal sculpture and replica series are here conceived broadly, so as to include sculptures that were produced as replicas of Egyptian works as well, of which there is at least one.[141] Although these have traditionally been treated separately, the Roman interest in Egyptian forms and their creation of Egyptianizing sculptures shares some key characteristics with their classicizing and archaizing works.[142] Considering them together offers a chance to investigate the reception of the media practices of two distinct sculptural traditions and to determine whether there are different modes in which the reception of media practices can function.

It should be noted that the organization of this study around replica series is not intended to imply that the sculptures of a single series were ever intended to be viewed as replicas of a specific type, although there is archaeological evidence that indicates statues were sometimes displayed in ways that must have

[139] Hallett 2012.

[140] Cf. Anguissola 2013.

[141] A near copy of a sphinx that was likely displayed together with its archetype in the Iseum Campense in Rome (see Chapter 2, section 2.1.a.xii).

[142] Elsner 2006.

evoked a consciousness of formal repetition.[143] In most cases, though, the statues of a series that existed in diverse materials were likely never seen together. The relevance of the replica series for the investigations of materiality is that, on the one hand, it provides a constant against which diverse material choices can be evaluated and, on the other, it clearly illustrates how materiality was one of the ways that sculptors could creatively innovate while working within a formally conservative tradition. How the material of the archetype mattered in this negotiation between tradition and innovation will be a question that is treated through examinations of both production as well as reception.[144] In the selection of a new sculptures' material, the rules of decorum still applied, of course, and whoever chose the material had to consider the work's intended context.[145] As will be shown throughout this thesis, however, it was here, at the level of the material, that there was enormous room for innovation that engaged with tradition, created new tastes, and expanded representational possibilities.

1.3 Legacies of Matter

The following chapters will investigate the materials of Roman ideal sculpture as both agents and products of a transformative reception of earlier local and foreign material traditions. Advancing an interdisciplinary approach, it documents the ancient appearances and adornments of individual sculptures by pairing close object-based investigations of facture and finish with the evidence of Roman literary testimony, archival records of conservation treatments, and modern technical research. Employing methods of historical reception, the project utilizes formal and archaeological analysis to define and localize the context against which the materialities of these new works were evaluated. Each analysis also traces active engagement with this context via reception aesthetics, identifying the ways in which craftsmen utilized

[143] E.g. the four pouring satyrs displayed in the theater of the Villa of Domitian at Castelgandolfo (Koortbojian 2002, 195-6; *Serial/portable classic*, cat. 25-28, p. 216-17 (A. Anguissola)). See also Brilliant 1984; Slavazzi 2000, 2002.

[144] Chapter 3 and 4 contribute new perspectives that re-shape ideas about material imitation and the translation from bronze into other materials.

[145] On *decorum* as a structuring principle for adherence to tradition and a cause for innovation, cf. Perry 2005.

technique to augment or negate resemblances or allusions to other materials and their established traditions of use. Studying these relationships as acts of remediation, adapting the concept from the study of New Media, this project describes the logic that drove changes in the norms of material *decorum* and taste. This thesis challenges the idea that the objectively measurable properties and capabilities of materials are universal by engaging with the many relationships – technical, visual, formal, and historical – that situated craftsmen and viewers' experience and reception of the materials of Roman sculpture.

The investigation begins, in Chapter 2, with a survey of the sculptural types that are extant in more than one material and a discussion of the theoretical and methodological approach required to address the peculiar issues of this body of evidence. For each of the nearly fifty sculptural types, the survey lists the materials exploited, discusses the provenance and dating of the replicas, and offers a brief analysis of the proposed origins of the composition. In this way, it illustrates the wide variety of material uses for sculptures whose formal models date to a range of historical periods. Although all of these participate in the same tradition of formal retrospectivism, this section also illustrates the various difficulties that present themselves for an investigation of these sculptures as a corpus.

Thus the second half of this chapter offers an extended discussion of the theoretical approach that unites the case studies of particular types or groups of types pursued in the following chapters. It explores, first, how it is possible to investigate the historical context of material exploitation – the perceptual framework or the sense of material *decorum* – that conditioned the manipulation and reception of materials. Articulating the history of each material's exploitation according to its technical abilities encourages a consideration of each sculptural material as an independent medium that offered a set of expectations. Second, it discusses methods for investigating how a sculptor could work within or against these traditions by manipulating the techniques of production or the finished appearance of the sculpture to target resonances with historic uses of the same or other materials. This section illustrates the relevance of studies of remediation that articulate infra- and inter-media connections; it suggests, moreover, that it is possible study the reception of historic uses of materials through such relationships. This section provides a foundation for the case studies' examinations of Roman reception of earlier media practices from two

complementary perspectives, articulating how prior material uses conditioned reception and considering how new materials could conform to tradition or innovate in ways that were engaging and intelligible to their audience.

Chapter 3 examines the sculptural model as the locus of material relationships of formal reproduction. It begins by studying the positive plaster models that were excavated at Baia and how their materiality is connected with the bronze of the archetype whose form they reproduce and the marble of the replicas carved by reference to them. Since these plasters are extremely fragmentary, the case study does not strictly limit itself to examination of the casts whose sculptural types are also represented in other materials, although it focuses on these as much as possible. Instead, the chapter intensively studies the production of these plaster positives and how they preserved, severed, or created material relationships that impacted the connection between the bronze archetype and the marble replica. The particular method of production, moreover, shares certain characteristics with the manufacture of the Augustan-era Palatine terracottas, which are the focus of this chapter's second case study. While these have been identified as sculptural models, they are unlikely to have functioned as such. This section explores the implications of the unusual, mold-made facture of these works and their relationship to the other terracotta sculptures and *proplasmata*, clay sculptural models that were being famously produced and sold for exorbitant prices by some of the most skilled sculptors in this medium. This chapter offers a substantial challenge to the common assumption that the materiality of a marble replica competed with the bronze of its archetype and, moreover, illuminates several ways in which the material relationships established in production could be refashioned to condition the reception of a finished sculpture.

Chapter 4 returns to a question of the relationships between the material of the replica and that of the archetype, this time with an extensive examination of material mimesis. While art historical literature is full of attributions of material mimesis, the concept has never been critiqued nor its mechanisms identified. This chapter focuses on the several replicas of Greek athlete figures that are extant in *lapis basanites*, whose dark color and greenish cast have often been argued to have been selected with the intention of imitating the slightly corroded patina of an aged bronze statue. As works of extraordinarily

high quality and, in some cases, apparent fidelity to a known model, these would perform a particularly evocative kind of material imitation. This chapter conducts a survey of all of the possible ways in which these sculptures might have targeted a resonance with aged bronze, examining the selection of the shade of the stone, the finish, superficial adornment, style and precision of sculpting, and more. It also provides a historiography of the connection between *lapis basanites* and bronze, which is not found in the ancient literary sources. Other material connections – to darkened silver, to iron, and to the Egyptian sculptures in *lapis basanites* imported to the city of Rome – are also explored. By tracing all of these possible references, this chapter illustrates how a material can easily bear multiple competing relationships that together contribute to its full materiality. Moreover, by examining the precise ways in which a sculptor could effect material mimesis, this chapter articulates the partial and selective nature of resemblance and imitation between materials. It distinguishes this kind of intentional allusion to and remediation of other material traditions from the preservation of 'material fossils' that define a period style, like the sharpness of carving achieved in bronze that became symbolic of the classical style. Together, chapters three and four offer a modern perspective on how the materials of Roman sculpture should, except in rare cases, be extricated from reliance upon a comparison with an archetype and how their materiality can be investigated in rigorously contextualized manner.

Chapter 5 shifts the perspective of this inquiry in two ways. First, it investigates materiality from a temporal perspective and, second, it examines the Roman reception of an Egyptian material tradition. The chapter studies the evolution of the pairing of richly hued red marbles (from the Peloponnese or Caria) with black and dark grey stones (from Tunisia or Caria), examining how their use and reception could be diversely employed. The chapter argues that the first use of this color pair, for the half-herm canephorae that represented the Danaids in the Portico of the Palatine Temple of Apollo, turned on a transformative reception of the Egyptian practice of opposing red and black conceptually and materially. Pairing this Egyptian material tradition with archaizing Greek forms, the sculptures balance multiple identities and eloquently express the conflicted character of the Danaids. In the subsequent uses of the pattern, it is the oppositional character of the pairing that is selected and repurposed, for example, in the composite

representations of centaurs with the division between human and horse reinforced by a juxtaposition of material and color. The Hadrianic use of dark grey Carian stone for the entire bodies of the Capitoline Centaurs contrasts their subjugation to Aphrodite with the Dionysian nature of the Red Faun and its wine-red Carian stone. This chapter illustrates how the selective process of remediation described in the previous chapter helps to explain the logic by which changes in material *decorum* and meaning are incrementally advanced. Moreover, its examination illuminates that the process of Roman reception of earlier media practices could separate material traditions – like the Egyptian pairing of red and black – from their historic connections with particular subjects and styles.

Chapter 6 expands beyond examinations of replica series to accommodate the divergent modes of formal imitation and quotation of Egyptian models, this chapter also illustrates how the methodology practiced in this dissertation can be more widely applied. At the same time, it is a response to the prevalent role of Egyptian and North African material traditions in the constitution of Roman sculptural materiality (particularly in the exploitation of colored stones) that is clearly established by the previous two chapters. It studies the Egyptian and Egyptianizing sculpture that has been associated with Hadrian's Villa at Tivoli, studying how the Roman use of materials responded to and remediated the Egyptian material traditions represented by imported antiques. This chapter illustrates that Hadrianic creations in Egyptian hard stones often bear strong parallels – in material selection, subjects, and compositions – with the Egyptian antiques. The sculptures in white and colored marbles, by contrast, employ more eclectic combinations of Greek and Egyptian formal elements. The lack of intentional pairings of red and black marbles, moreover, confirms the hypothesis of Chapter 5 that while this pairing originated in the Danaid's remediation of an Egyptian tradition, by the Hadrianic period it had come to be primarily associated with opposition or juxtaposition. Lastly, in a divergence from earlier imperial commissions, Hellenizing ideal sculptures in dark Egyptian stones like *lapis basanites* are rare; Egyptian materials seem to have been targeted at sculpture in Egyptian subjects and styles. These patterns raise many questions about workshops and display context that remain unanswered here, but, crucially for this project, indicate how close attention to material traditions co-existed with dramatic remediations. In the retrospective culture of the Roman Empire, antiques preserved tangible

material histories (even if altered by aging and degradation) and prevented innovation from overwriting tradition.

This dissertation reorients the field of reference for the materials of Roman ideal sculpture, establishing a theoretically-conscious methodology for contextualized evaluations of historical materialities. Its investigations illustrate the impact of technical processes of replication on facture and reception, showing that the distribution of negative plaster casts furnished sculptors with forms to replicate while providing little access to the materiality of the original, challenging the idea that replicas frequently imitate or compete with the medium of their archetype. Investigating the nature of visual resemblances like imitation, allusion, and substitution reveals material imitation to be a selective and partial illusion that co-exists with a plurality of other inter-media relationships that cooperate with and contradict one another in a manner that can be loosely compared with the plurality of styles employed in classicizing or archaizing works. Where elements of multiple styles might be combined in a single image, it is multiple relationships to other materials that define the character of a work's medium. Viewing each work's construction of such plural relationships as acts of remediation offers the opportunity to study the evolution of taste and generative nature of the material context. Tracing the transformations of a Roman reception of an Egyptian material tradition illustrates how this kind of engagement may exploit or disregard connections with subjects, styles, and contexts of display. Finally, exploring the continued relevance of antiques alongside these remediations clearly indicates that innovative material experiments branch from a tradition without overwriting it.

In the same way that scholars of formal replication and imitation have illustrated that ideal sculpture must be understood from its Roman context, this project reveals that materials must be judged against their contemporary material context rather than, as has often been the case, against the material of their archetype. Moreover, by combining remediation with reception theory, this dissertation outlines several modes in which the reception of media practices can function. Individually, the chapters address a series of specific questions regarding how material relationships – in production, between materials, over time, and across cultures – can be understood to characterize materiality in a specific situation. As a whole, the dissertation

offers a foundational study of the impact that the Roman attention to preceding sculptural and material traditions had on the constitution of their sculptural materiality. At the same time, it develops a methodology for further investigations of specific contexts of the reception of media practices, in the Roman world and beyond.

Chapter 2

Materials, Media, and the Material Context: a foundation for studying Roman materiality

Recent scholarship has increasingly articulated the diverse superficial appearances of Roman sculpture, even of replicas of the same sculptural type executed in white marble.[1] The overwhelmingly pale impression provided by museum collections and prized by early modern sculptors and scholars is giving way to a reconstructed awareness of vivid and varied polychromy. Sculptures that belong to the same replica series might have varied from their siblings in material, carving, added attributes, altered positioning, and markedly different pigmentation and superficial ornamentation. The opportunity for an ancient audience to directly compare such differentiated replicas might have been rare; indeed the existence of replicas with divergent superficial coloring might not be surprising if the sculptures were produced at a great distance from one another.[2] The more important question is whether the variety was intentional or coincidental, whether the diversified replicas signified differentiation or signified differently. Since problems of preservation often make it impossible to securely understand the superficial appearances of white stone sculptures, many open questions remain. Were, for example, iterative displays of sculpture like the four Pouring Satyrs from Domitian's Villa at Castelgandolfo colored in an identical or a complementary fashion?[3] Do these divergent practices of coloring indicate that the superficial appearance of archetypes was not conveyed in the sculptural models used for their production? What impact do different color schemes have on the relationship between the replica and the archetype? How do these imaginatively colored sculptures relate to the metal versions or to the colored stone replicas that are known for numerous

[1] Liverani and Santamaria 2014; Østergaard 2015.

[2] E.g. the two replicas of the Sciarra amazon (the eponymous in Copenhagen and the Écija amazon of the same type) discussed by Østergaard 2015, 116). On the other hand, the full implications of this practice, specifically what they say about the desire for fidelity to the appearance of an original or a model, have not been fully appreciated by the majority of scholars.

[3] Cf. Østergaard 2015, 116; *Serial/portable classic*, 216, cat. 25-8 (A. Anguissola).

sculptural series? Do these varied polychromies reflect interests in specific aspects of the sculpture that cannot be detected by studying the copied sculptural form alone or, on the other hand, do they generate new interest in the sculptures by emphasizing previously marginalized features?

While the superficial treatments of most sculptures are poorly preserved or were removed by the over-zealous cleaning projects of earlier centuries, there is a great deal of evidence that has yet to be fully exploited to answer such questions. As noted in the introduction, there are nearly fifty sculptural types that preserve large-scale replicas in more than one material. These series usually, although not always, preserve a replica in white marble as well as a replica in bronze, terracotta, plaster, a colored stone, or a composite replica made of multiple materials.[4] It should be emphasized that this group of works does not constitute a corpus in any traditional way, for reasons that will be discussed below, but the whole is representative of the variety of materials and treatments that were involved in the Roman serial production of sculptures. The works range from finished sculptures in bronze, white marble, terracotta, and various colored stones to plaster positives that have been identified as sculptural models used as reference in production. Additional material variety could be added by expanding the investigation to include miniature sculptures; replicas of known sculptural types have been identified in terracotta, bronze, marble, ivory, gold, and silver, as well as several precious stones that cannot be quarried in blocks large enough to produce full-scale sculpture.[5] However, their reduction in scale denotes a change in production as well as consumption; the small size might require formal and technical alteration of the type and it changes both the context of display and the viewer's engagement with the work.[6] The following examination will thus focus solely on the replica series that preserve large-scale iterations in more than one material. It will include both exact replicas and variants that do not alter the statue's identity by changing attributes; the project's interest in issues of 'translation' from one material to another encourages an approach that is inclusive of slight variations that may (or may

[4] Large-scale is here taken to mean larger than one meter in height of a standing figure, the size at which Elizabeth Bartman (1992, 9) identifies sculptures as miniature; life-size standing figures are typically around 1.7m high.

[5] Bartman (*ibid*., 19-30) provides a complete list of the materials of Roman sculptural replicas at the miniature scale.

[6] *Ibid.*, 51-101 (on formal principles and production) and 39-48 (on display and function).

not) be the result of technical adaptation. For example, while there are many differences in the representation of the youthful body of the Spinario, known in bronze in the Capitoline Museums and a marble version in the British Museum, they relate to the same composition and are included as a type extant in multiple materials in the survey below.

The Spinario and a few other examples of statuary types extant in multiple materials might come easily to mind, like the Ephesos Scraper, whose eponymous and paradigmatic replicas in bronze, white marble, and greywacke (also known as *lapis basanites* or basanite, see Appendix B for clarification) were recently exhibited together in the "Power and Pathos" exhibition that toured the Palazzo Strozzi in Florence, the J. Paul Getty Museum in Los Angeles and the National Gallery in Washington DC.[7] However, many of the other examples are less well known, since even if the statuary type is famous, like the so-called Hera Borghese, its replicas in materials other than white marble may be more obscure. Thus, the first section of this chapter conducts a survey of the sculptural types that preserve large-scale replicas in more than one material, identifying at the outset any patterns between material exploitation, the subject or period style of the type, or the display context (when known) of the replica.

The survey illuminates the wide variety of materials used for the production of ideal sculpture in the first two centuries AD and represents a cross-section of the period's production. Their retrospective forms, of course, refer in some way to the preceding centuries of artistic production and link them to the Roman taste for genuine antiques and inherited works. Ideal sculptures exist within a "system of mutual reference and comparison" and exhibit conformity or divergence from that tradition.[8] The formal and generational links that characterize ideal sculpture likewise entangle their materials and offer abundant opportunities to trace relationships. They thus present an opportunity to study how sculptural stones, metals, and other media were selected, exploited, and made meaningful.

[7] *Power and Pathos*[a]. On the naming of the stone, see Appendix B.

[8] Anguissola 2013, 17.

The second half of this chapter turns to more theoretical and methodological questions. While the corpus of sculptures is united in its retrospective approach to form, it is composed of works of widely divergent types, dates, and methods of production. This section argues that contextualized investigations of materiality must proceed from the perspectives of both historical reception and reception aesthetics. The former articulates the background against which new works are judged, while the latter examines the ways the work is manipulated to target a specific type of reception whose success, however, is dependent upon activation by a viewer. These approaches have their roots in textual analysis, but they have been applied widely to art historical questions. This section suggests specific updates to their approach based on media-centric models of study that have developed in response to the rise of digital media.

Regarding historical reception, it has been well-established that the city of Rome functioned as a kind of museum of the art of the ancient world, providing a repository of famous artists' works.[9] The second section of this chapter proposes that, likewise, the city's sanctuaries and public squares encapsulated the history of artists' exploitations of materials. For example, they offered a tangible and physical representation of the types of subjects and styles that Greek artists had famously executed in bronze, like victorious athletes, as in the Lysippan bronze Apoxyomenos that was exhibited in the Baths of Agrippa (Pliny, *NH* 34.62). Although most of these works are now lost, it is possible to gain an idea of the kind and proportion of sculptures in various materials that were present in Rome, thanks to various textual sources. In particular, the sections in Pliny the Elder's *Natural History* that deal with art and artworks often mention where the works may be viewed in Rome.[10] Moreover, the archaeological record preserves traces of material environments whose sculptures are not described in literary sources, including the terracotta adornments of Roman temples and even the Egyptian material traditions represented by the imported sculptures displayed in places like the Iseum and Serapeum of the Campus Martius.

[9] Rutledge 2012; Bravi 2012.

[10] Doody (2010) provides an overview of the scholarship on Pliny's encyclopaedic collecting. On Pliny's descriptions of art as a collection and as a source for ancient collections: Sellers 1896; Becatti 1956; Gualandi 1982; Isager 1991; Naas 2002; Carey 2003, 75-101.

Investigating the written and archaeological testimony offers the opportunity to reconstruct a background of material exploitations connected with earlier sculptural production. The formal borrowing enacted by ideal sculpture, as well as by archaizing, classicizing, and Egyptianizing works, forged close links with these older artworks' styles and, at the same time, entailed an engagement with their material traditions. Just as the styles and subjects of contemporary production relied upon the viewer's familiarity with a broad corpus of sculptures[11], the evaluation of the materials of newly commissioned sculptures was performed against the background of the traditions established and represented by older, imported, and looted works. Investigating the contours of this existing *mediascape*[12] provides an opportunity to contextualize Roman material exploitation; much in the way that social, historical, economic, or political contexts of artworks have been carefully traced, so too should the material context become an object of study. However, it is not possible to reconstruct one monolithic Roman mediascape, nor would it be useful to do so, since it risks falsely universalizing experiences and homogenizing audiences. Instead, this section offers some broad outlines that may be considered generally available to the interpretive community, while investigations in the chapters that follow engage in refining and localizing the mediascapes against which the materialities of specific sculptures were evaluated.

There is already a great deal of art historical scholarship that approaches the investigation of materials in a similar manner, assuming certain familiarities among the interpretive community that allow a viewer to comprehend material allusions.[13] In practice, however, many sensitive evaluations of material

[11] Cf. esp. Hölscher 2004; Hallett 2012; Anguissola 2012.

[12] Discussed further below. I borrow the term 'mediascape' from Arjun Appadurai, *Modernity at Large*, who coins it as one of five global cultural flows of modernity; it describes both the media exploited and the "images of the world created by these media" (1996, 35-6).

[13] Several scholars working on material symbolism and materiality have already established what might amount to discussions of certain portions of the Roman mediascape, as they investigate the context of specific uses of materials (e.g. Schneider 1986; Gregarek 1999; Popkin 2015; or Neer 2004 on the Greek mediascape). These studies, however, have not addressed the interrelations between different sculptural materials or the impact of non-sculptural media on the reception of sculptural ones and vice versa. The present study does limit itself to establishing certain aspects of the character of the mediascape of large-scale ideal sculpture, but it does so by studying as many of the materials and material relations of the works as possible, bringing in the media of production molds and models, as well as connections to certain small-scale sculptural and non-sculptural media. This dissertation is envisioned as a partial and incomplete sketch of a particular part of the mediascape that requires enrichment with further studies.

relationships are heavily influenced by modern perspectives that remain unidentified; several of these will be treated in the following chapters. Other discussions of material relationships have become a part of the art historical lexicon and are used without a critical consciousness of their relevance for an ancient audience. For example, it is easy to find formal analyses that utilize material metaphors, suggesting that marble or terracotta is sculpted with metallic sharpness or archaic woodenness without searching for parallels in ancient art criticism.[14] Moreover, scholars write with a connoisseurial sense of what is 'appropriate' or what 'belongs' to marble sculpture versus bronze, terracotta, wood, or some other material. The assumptions underlying these judgments – like their connection to the idea of "truth to materials" that arose as a central tenet of modernism in the twentieth century – have misled many investigations.[15]

What is more relevant to the discussion of ancient material exploitation are the mediascapes of each medium. This chapter proposes that each material can be considered an individual *medium* on the basis of its historical exploitation, which is dually defined by on the one hand, by its unique, unchangeable physical characteristics that dictate the possibilities of production and finished appearance, and, on the other, the audience's received knowledge – via archaeological or textual sources – of its socio-cultural history of use. While sculpture has been treated as a single medium – in contrast with a two-dimensional painting, for example – the term medium is here used in the sense of *technology*, differentiating between materials by examining what and how, as a medium, they *do* – how they "impact the human sensorium" – in addition to what media *mean* as conveyors of information, tradition and cultural memory.[16] The physical characteristics of the material and the attendant possibilities for production and superficial treatment circumscribe what each material can do as a medium, how it communicates its content. In the case of ideal sculpture, each

[14] On ancient terminology for stylistic features, cf. Pollitt 1974 and Anguissola 2012.

[15] E.g. as Stanley Casson writes in his *The Technique of Early Greek Sculpture*, "Greeks were too good artists to confound their media..." (1933, 130). Contra: Köpcke 1964; Allen 2015. Ridgway (1966, 42) establishes a kind of material specificity for Greek stone and metal sculpture, but describes increasing borrowing and refashioning such that, by the end of the second century BC "a definite distinction between the two media is more than ever impossible."

[16] Grusin (2010, 136) distinguishes between these two different methods of investigating media. This is a modified version of the distinction between the medium and the content developed by McLuhan (1964).

different material must make use of a particular process of formal reproduction, different methods of stabilizing or piecing together, and unique applications of superficial adornment. How these possibilities were deployed in different periods, for various subjects, and in relation to the use of other media help to constitute the mediascape of the interpretive community.

From the perspective of reception aesthetics, this section suggests that it is possible to trace the way materials were manipulated to pre-condition their reception with the concept of remediation. With a discussion of the origins of the term and the methodology of its investigation, this section provides a theoretical foundation for studying the exploitation and reception of Roman sculptural media via interdependent relationships. As it was first articulated by Bolter and Grusin[17], remediation emphasizes the entanglement of media, revealing the many and varied borrowings and refashionings of other media forms that characterize a given medium, building on Marshall McLuhan's famous observation that the content of any medium is another medium.[18] Highlighting connections to points of reference in the mediascape, remediation offers a model for the investigation of the materiality of Roman sculpture in a highly contextualized manner. When applied, in particular, to ideal sculpture, this methodology can be expanded to discuss issues of reception.[19] In particular, with close examinations of techniques of facture, finish, and superficial adornment, it is possible to trace the ways in which craftsmen might have utilized technique to augment or negate resemblances or allusions to other materials and their established traditions of use. The following chapters employ this expanded notion of remediation and/as reception in several ways, articulating different aspects of Roman sculptural remediation or inter-medial relationships: those generated by technical practices during production; those established via resemblance relations or material imitation;

[17] Bolter and Grusin 1999; Bolter 2014; Schweighauser 2014.

[18] McLuhan 1964; Cavell 2016.

[19] A similar approach, that emphasizes the connections between remediation and cultural memory, can be found in several papers in the volume *Mediation, Remediation and the Dynamics of Cultural Memory*, edited by Erll et al. (2009).

and those that index the transformation of a material tradition over time and space, spurring new remediations.

The investigations pursued in the following chapters pursue avenues of historical reception and reception aesthetics via remediation, laying out the pre-existing mediascape that conditioned the reception of new sculptures and searching for the ways that new sculptures targeted connections with tradition or challenged their audiences' expectations. Crucially, this approach emphasizes temporality. It tracks material relationships within the contemporary environment, so that its discussions of connections to the archetypal sculptures whose forms were reproduced in ideal sculpture are premised on the condition and recontextualization of those works and their materials in the Roman period. This method thus enables broad discussions of the Roman reception of the media practices of Greek, Egyptian, and other sculptural traditions in as rigorous a manner as scholars have studied the reception of their style and content.

2.1 Replica series extant in multiple materials

For more than a century, the replica series of ideal sculptures have tended to be discussed as white marble replicas of, usually, bronze archetypes. Certainly, the vast majority of preserved ideal sculpture is carved in white marble and it seems that, even in antiquity, this material dominated the market for *ornamenta*. However, while unknowable numbers of bronze sculptures have been melted down and repurposed, a few remain to testify to their existence, colored stone replicas are numerous, large-scale terracotta reproductions are known, and a cache fragments of plaster models cast from negative molds of ancient statues testifies to the trans-medial nature of practices of replication. The world of large-scale ideal sculpture was vastly more multi-media than it has traditionally been treated in scholarship.

The present survey of the sculptural types that preserve replicas in more than one material intends to highlight this diversity and open it up to further investigation, rather than to present these series as a coherent corpus, for several reasons.

First, this group certainly does not reflect the proportions of materials exploited in ideal sculpture in antiquity. Specifically, many more replica series must also have been replicated in bronze, those included here are fortunate accidents of preservation. Large scale ideal sculptures in precious metal may also have existed, but are today completely lost.[20] Moreover, as Gregarek's catalog has amply shown, the group collected here represent a mere portion of extant colored ideal sculpture. Since this project prioritizes only those ideal sculptural types that are extant in more than one material, it is not intended to discuss all the materials that were used for a single subject (e.g. sculptures of Apollo in giallo antico that do not fit a specific replica series are thus excluded). Gregarek's survey and catalog thoroughly cover investigations of this sort, whose results will be referenced frequently, whereas the present study directs its focus at the intersection of formal replication and material exploitation.

Second, this group is notably incomplete, because it treats white marbles as a single monolithic medium and, following this logic, does not presently include replica series that preserve a replica in more than one type of white marble. At the moment, too few ideal sculptures have been scientifically provenanced and, in recent years, a significant debate about the differentiation of Carrara and Göktepe white marbles has cast even some previously secure identifications into doubt (see Appendix A).[21] Any attempt to include this distinction at this time would be incomplete and flawed. Moreover, while differentiating the treatment and exploitation of each type of white marble (in ideal sculpture and otherwise) is an eventual necessity for the study of Roman materiality, it is not a prerequisite for the current project. As will be discussed further below, sculptures in white marble can be broadly considered to be a single medium since they participate in a single technology – all utilize the same techniques of production and their similar physical appearances (light color, translucence) made them amenable to a certain group of superficial treatments. In the context of the present study, their differences – which, of course, should not be undervalued and were clearly tangible to the ancient sculptor and audience – are of degree rather than kind. Colored marbles use the same

[20] Vermeule 1974; Lapatin 2015.

[21] Attanasio et al. 2009a; Lazzarini 2010; Attanasio et al. 2011; Lazzarini 2011.

technical process of replication and carving, but their use, meaning, and superficial ornamentation is often dependent upon their peculiar color. Allowing the abstract patterning of a polychrome stone to present itself as a garment rather than painting a naturalistic representation of a garment onto white stone is a different form of representation and should be distinguished as a different medium.

Third, not every work in this group is, technically, a sculpture, even if it is a part of a replica series. The fragments of plaster casts that replicate the forms of specific archetypes are sculptural models that seem not to have been intended for display as a finished sculpture.[22] Still, as C. Landwehr has thoroughly shown, these positive plaster models are produced from molds taken directly from statues. They are replicas that, moreover, enable further replicas, variants, and adaptations. While it is important to distinguish the plaster casts as a different type of artifact, it is crucial to include them in this investigation. Serving as models, they represent a crucial step in the process of formal replication and literally mediate the material relationships between archetype and replica.

Fifth, the only examples of large-scale terracotta replicas, the fragmentary heads and pieces of drapery excavated on the Palatine, have also been identified as sculptural models. M.A. Tomei's suggestion that they should be connected with the *proplasmata*, like those created by the famous late-republican artists Pasiteles and Arcesilaos, has often met skepticism.[23] As there are merits both to the connection with proplasmata and to the argument that their superficial adornment would have made that use unlikely[24], these works do not fit easily into either category. The Baia plaster casts and the Palatine terracottas both diverge from the bronze and marble works in their affiliation with production. Including them in an investigation of ideal sculpture, while appropriately valuing their particular nature, offers an opportunity to discuss how the technical side of replication impacted relationships between media. It functions as a crucial element in

[22] Landwehr 1985. Contra: Claridge 2015, 110-11. For a full discussion of the arguments, see Chapter 3, section 3.2.

[23] Tomei 1990a, 1992. Contra: Fuchs 1999, 69-72; Strazzulla 2010, 90-1.

[24] Cf. Chapter 3, section 3.3a. Tomei's original publications (1990a, 1992) acknowledge this issue but fail to sufficiently explain it. Fuchs (1999, 69, 85-8), Strazzulla (2010, 90), and Touchette (2015, 302) conclude that their ornamentation identifies them as sculptures, negating the relevance of any connection to proplasmata.

the evaluation of relationships of imitation or allusion, especially to the material of the archetype, that have often been proposed for the finished sculptures.

The following sections survey the forty-seven sculptural types whose replicas are extant in more than one material. This group was collected by surveying numerous catalogs and monographs[25], and is heavily indebted to the catalog of H. Gregarek's *Untersuchungen zur kaiserzeitlichen Idealplastik aus Buntmarmor*.[26] While the plaster and terracotta works record the multimedia nature of production, replicas in colored stones make up the vast majority of the preserved replicas in materials other than white stone. These are the 'new media' of the Roman empire. Many are exploited for sculpture for the first time in that period, while others were historically exploited in Egyptian or North African traditions. Using them to replicate the familiar subjects and forms of Greek and more broadly Hellenistic art necessarily involves an engagement with the more 'mainstream' artistic media of bronze, white marble, and terracotta.

This collection, moreover, intentionally includes both close replicas and variants, but notes the discrepancies between the two. While rigorous copy criticism has its place, this project aims at a discussion of a replicated form in different materials and one of its aims is to investigate precisely what kind of adaptations might be employed, even within a single sculptural type, to meet the particular demands of sculpture in different materials. Beyond the obvious differences between bronze and marble – and the replication of one in the other is often discussed as a kind of translation – scholars have noted that sculptors might handle light and dark stone replicas in different manners in order to achieve a similar effect; since white marble diffuses light, it may not need to be as sharply carved as bronze or a dark stone to convey the same volumetric impression.[27] Moreover, surface finishing on white marble sculptures might add a dynamic, modelled appearance that is not represented in a sculptural manner. These kind of alterations might differentiate replica from variant according to the traditional method of copy critique, even if two

[25] E.g. Roullet 1972; Landwehr 1985; Belli Pasqua 1995.

[26] Gregarek 1999.

[27] Ridgway 1981, 204, n. 17; Hallett 1995, 136.

sculptures in different materials were produced as replicas from the same model.[28] This collection does not, however, include new creations (*Neuschopfungen*) – unless they have their own replica series, like the so-called Idolino, for example – since their alterations indicate a transformation, a decision not to adhere to the sculptural model that likely has more to do with adapting the meaning of the sculpture than with adjustments to the medium. The discussion of each type notes the materials in which the type is extant, a discussion of the dating and, when known, the material of the proposed archetype, as well as noting the date and, when known, the findspot of the sculptures in materials other than white marble. The survey below groups sculptural types by the materials in which they are extant; Table 2.1 provides a concise overview organized in the same manner. Table 2.2, by contrast, lists the sculptural types according to the proposed date of the archetype, with the goal of illustrating any patterns in the Roman exploitation of materials according to their reception of period styles or subjects.

2.1.a Survey of the replica series by types of material represented

This survey organizes the replica series according to the materials in which they are extant and, thus, illustrates broad trends in material exploitation, like the frequent use of black stones, some of which have been remarked upon in earlier analyses of the uses of colored stone. Crucially, however, this section seeks to be as specific as possible about the quarry provenance of each colored stone. Previous scholarship has tended to poorly differentiate, especially, between different types of black stones and marbles, some of which have markedly different physical characteristics and histories of exploitation.[29] The petrographic distinctions of black stones utilized for Roman sculpture are outlined in Appendix B.

[28] This subject is addressed, in particular, in Chapter 4.

[29] For more on these lithotypes and intensive discussion of the histories of exploitation of these stones, cf. Appendix B. Gregarek's (1999) material identifications should be read with caution, given that her publication predates most of the scientific provenancing of black stones. In many cases, it seems she relies upon the museum catalog or plaque information, which often continues to this day to use the broad antiquarian terms, like "nero antico". Sometimes the identifications she uses have later been overturned, as in the case of Gregarek's catalog entry for the granodiorite

2.1.a.i White marbles, bronze – 3 sculptural types

Three sculptures preserve at least one replica in white marble and one in bronze.[30] The first of these is the so-called **Herakles** that has been attributed to Polykleitos, of which several replicas in white marble are known[31], as well as the one bronze replica in the National Archaeological Museum in Naples.[32] The other two are more problematic but should at least be mentioned.

The **Spinario** has both a realistic and an eclectic variant that have been related to the same archetype, dating around 100BC.[33] The eclectic style, which includes a severe style head type, is represented in the famous bronze of the Capitoline Museums, which differs from the pudgier, less well-proportioned marble one in the British Museum.[34]

The last sculptural type is slightly different from the others grouped here. There are several white marble versions of the **Apollo Sauroktonos**, but the only extant bronze version of the type has been controversially argued to be the Praxitelean Greek bronze sculpture of c. 350 BC, described by Pliny the Elder (*NH* 34.69-70).[35] It may date much later, but there are some technical reasons for identifying its

replica of the Venus de Medici in the Metropolitan Museum of Art that lists its material as "basalt", a term that is often applied to the sedimentary stone lapis basanites.

[30] Some others, like the Dancing Satyr (cf. Brusini 2001, 207-25), preserve large-scale replicas in white marble and reduced-size replicas in bronze (cf. Bartman 1992). These will not be considered in this investigation.

[31] For discussion of iconography and a list of replicas: *LIMC* 4 (1988), s.v. Herakles 758, type f, nos. 583-98; Kreikenbom 1990, IV, 95-108. For discussion of attribution and a summary of the issues surrounding the type: Ridgway 1995, 190-1. See also: Lorenz 1972, 30-2; Zanker 1974, 17-18.

[32] National Archaeological Museum Naples, inv. 5610. von Steuben 1967; Kreikenbom 1990, IV 5, 100, 182, pl. 218-20; von Steuben 1967.

[33] Ridgway 1970, 132-3, fig 164; Zanker 1974, 71-83, pl. 57-63. Schade (Stemmer 1995, 215-16, B 65 (K. Schade)) considers the bronze an Augustan copy of a third century original. See commentary in Ridgway 2002, 169 and n.44.

[34] Capitoline Museums: Stuart Jones 1926, 43ff; Helbig[4] II, Nr. 1448 (W. Fuchs); *Power and Pathos*[a], cat. 54. British Museum, inv. 1755 (1880,0807.1): Bol 1972, 72.

[35] Bennett 2013; Bennett and Snyder 2015. On the earliest discovery and identification of the type in marble: Haskell and Penny 1981, 151-3, no. 9. The Cleveland Apollo is also the subject of some controversy regarding its provenance (Olszewski 2012; Gill 2013).

production in the second half of the fourth century BC.[36] Thus it is a type extant in multiple materials, but one may be a Greek rather than a Roman production. As this sculptural type does not play a central role in any of the case studies of the following chapters and since both a bronze original and bronze replicas likely existed, the matter may be left open for the present study.

2.1.a.ii White marbles, bronze, lapis basanites – 5 sculptural types

The many white marble replicas of the Polykleitan **Doryphoros**[37] and the Augustan-era bronze herm excavated in the Villa dei Papiri[38] are well known, but the type is also preserved in two fragmentary lapis basanites examples, a Julio-Claudian torso in the Uffizi Galleries[39] and an Augustan head in the Hermitage.[40] These may be two different statues since the Uffizi torso presents a solidly darker greenish color while the Hermitage head is so light greenish that it was restored with a fine-grained green granite. However, the color of the stone varies greatly and its nuances are often obscured by modern lighting and photography; direct comparison between the material of the two might suggest a stronger connection that the present images imply.[41]

Of the Polykleitan **Diadoumenos**, there are numerous white marble sculptures[42], an early imperial bronze head in the Ashmolean Museum in Oxford[43], and, in the Uffizi Galleries, a mid-first century AD

[36] Ridgway rejects the association of the sculptural series with Praxiteles (1997, 265), suggesting a Hellenistic or later date. Ajootian (1997, 118) suggests a date in the first century BC.

[37] Zanker 1974, 7-11; von Steuben 1993; Kreikenbom 1990, III, p. 59-94; Hartswick 1995.

[38] Kreikenbom 1990, cat. III 42; Mattusch 2005, p. 276-82, with several detailed photographs.

[39] Uffizi inv. 308: Belli Pasqua 1995, p. 79-80, cat. 21, pl. XXV-XXVII.

[40] Hermitage inv. A.292: Belli Pasqua 1995, p. 79, cat. 20, pl. XXIV.

[41] Cf. Appendix B. The lateral bedding of the rock creates wholesale changes in the color of the stone from greenish to dark brown to black. Based on the example of the lapis basanites Ephebe on the Palatine (cf. fig. 4.10), the shift in hue occurs on a gradient that is too large to occur in the space between the Uffizi neck and the Hermitage head.

[42] Zanker 1974, 11-7; Kreikenbom 1990, V, 109-40.

[43] Ashmolean inv. 1918.67: Kreikenbom 1990, cat. V52 (with earlier literature).

lapis basanites "hair-cap" that is probably a fragmentary head cut down during its restoration for attachment to the outsized, modern giallo antico face it now adorns.[44]

The three different media of the **Ephesos Scraper** were recently gathered together for the exhibition *Power and Pathos: Bronze Sculpture of the Hellenistic World*, where all three bronze examples – the eponymous, heavily restored Ephesian sculpture[45], the much more preserved statue recently pulled out of the Croatian Sea[46], and the head now in Fort Worth[47]– were displayed with the white marble replica in the Uffizi galleries[48] and the lapis basanites torso excavated at Castelgandolfo.[49] The type originated around 300 BC.[50]

The so-called **Idolino** is preserved in the famous bronze in Florence[51], a second fragmentary bronze torso (the so-called Ephebe from Samsun on the Black Sea)[52], and a fragmentary Augustan head in lapis basanites[53], and a Claudio-Neronian white marble replica that was in the collections of the Archinti[54] of

[44] Uffizi Galleries, inv. 1914 Nr. 356: Gregarek 1999, p. 238, cat. F13.

[45] Gschwandtler 1978, 104, n. 129; Beck and Bol 1993, 616-7, n.143 (Linfert). See also Daehner (*Power and Pathos*[b], 272-3, cat. 40 (Daehner)), for a recent discussion and a collection of all the possible replicas of the type.

[46] Michelucci 2006; *Power and Pathos*[b], 274-5, cat. 41 (Daehner).

[47] Fort Worth Kimball Art Museum, inv. AP 2000.03 a,b: *Power and Pathos*[b], 276, cat. 42 (Daehner).

[48] Uffizi Galleries, inv. 1914, n. 100: *Power and Pathos*[b], cat. 43, p. 278 (Daehner). The hands and the vase are modern.

[49] Castelgandolfo Antiquarium, inv. 36405: Previously identified as a copy of the Doryphoros, but corrected by Belli Pasqua (1995, p. 78, cat. 18, pl. XXI-XXII).

[50] *Power and Pathos*[b], cat. 44 p. 281 (Daehner).

[51] Florence National Archaeological Museum, adapted as part of a candelabra (on the practice, see Bartman 2002). Excavated in Pesaro in 1530. See: Zanker 1974, 30-2; Beschi 1986; Haskell and Penny 1981, 240-1, no. 50; Rastrelli and Romualdi 1996, 9; Beschi 2000; Formigli and Pecchioli 2002; Ceriana 2013; *Power and Pathos*[b], 298, cat. 51. Lorenz (1972, 19-21) attributes the Idolino to Polykleitos' early works.

[52] Işkan 1998. Cf. *Power and Pathos*[b], 298, discussed under cat. 51; Mattusch 2005, 244, n. 7 (as an interpretation of the Polykleitan "Herakles" type).

[53] Vatican inv. 10134: Belli Pasqua 1995, 80-1, cat. 23, pl. 30-1; Gregarek 1999, 259, cat. F14, fig. 94; *Power and Pathos*[b], 298.

[54] Albizzati 1930, 224-7, fig. 7, 9, 11; Zanker 1974, 648-9.

much lower quality. The type has been considered to replicate a bronze, Polykleitan original, but, more recently, the prototype of the sculpture has been seen as a classicizing work of the Augustan period.[55]

Finally, the so-called Sleeping Faun or **Barberini Faun** is known in multiple replicas in white marble[56], a much restored bronze (that follows the composition but not the details of the type) in the National Archaeological Museum in Naples[57], and an Antonine lapis basanites copy in Munich[58]. The unstable composition, with a dynamic torsion, dates the original to the second century, c. 150-125 BC.[59]

2.1.a.iii White marbles, lapis basanites – 5 sculptural types

The **Diskophoros** type is preserved in white marble replicas as well as a Neronian-Flavian lapis basanites torso.[60] The handling of details on the lapis basanites replica, as in the rough carving of the pubic hairs, differs from the Polykleitan type[61], but this is perhaps due to difficulty carving the very hard stone.

[55] Lorenz (1972, 19-21) attributes the Idolino to Polykleitos' early works. Kreikenbom (1990, 648-9) considers it a work inspired by Polykleitan style; he is followed by, e.g. Ridgway 1995 and Belli Pasqua 1995, 80-1, cat. 23.

[56] Rome, Museo Nazionale Romano: Giuliano 1979ff, I,1 p. 99-100, cat. 76 (O. Vasori). Munich, Glyptothek: Furtwängler and Wolters 1910, cat. 224; Wünsche-Werdehausen 2005, 108-11. Vatican, Galleria delle Statue (variant because of the position of the left arm): Amelung 1903, p. 463, cat. 267, pl. 50; Magnesia al Meandro: Humann et al. 1904, 219-21, fig. 222, pl. VIII. Rome, Museo Torlonia: Visconti 1885, 78, cat. 111. Antioch on the Orontes: Stillwell 1938, 137, pl. 137.

[57] National Archaeological Museum Naples, inv. NM 5624: Wojcik 1986, p. 109-10, cat. D3; Mattusch 2005, 318-20.

[58] Furtwängler and Wolters 1910, p. 394, cat. 448; Belli Pasqua 1995, cat. 39, 91-2; Wünsche-Werdehausen 2005, 64. On the restorations and early history of the Munich replica, cf. Haskell and Penny 1981, 202-5, no. 33.

[59] Cf. Belli Pasqua 1995, 91-2 with bibliography on the type.

[60] Cf. the analysis in Belli Pasqua (1995, 78-9, cat. 19) and compare the entries in *Polyklet* (519, no. 20 (D. Kreikenbom), 521, no. 21 (D. Kreikenbom), and 522, no. 22 (D. Kreikenbom)). See also Zanker 1974, 4-7.

[61] Kreikenbom 1990, 21-44.

The **Munich Orpheus** is preserved in two lapis basanites replicas, which are the eponymous, Augustan-era head in Munich[62] and a Julio-Claudian head in Bologna[63], as well as four replicas and seven variants in white marble.[64] The archetype has been dated to c. 460 BC and identified in the statue of Orpheus by Dionysios of Argos that Pausanias describes among the donations of Mikythos at Olympia[65], but it is now more commonly accepted to be a classicizing work of the late first century BC.[66]

The **Aphrodite Kallipygos** is known in two replicas, the famous Farnese white marble replica now in Naples[67] and a first century AD lapis basanites replica in the Vatican Magazzines.[68] Various dates for the original statue have been proposed, all broadly within the Hellenistic period, ranging from the late fourth century to the first century BC.[69]

The **Apollo of Timarchides** is represented in several white marble replicas[70], in particular the version excavated at Cyrene and now in the British Museum[71] and is also preserved in a second century

[62] Munich Glyptothek. Ridgway 1970, 140-1; Vierneisel-Schlörb 1979, 23-32; Belli Pasqua 1995, 81-2, cat. 24, pl. XXXII; Wünsche-Werdehausen 2005, 64-5.

[63] Bologna, Museo Civico Archeologico, inv. G1059: Brizzolara 1986, 35-7, cat. 1; Belli Pasqua 1995, 82, cat. 25, pl. XXXIII.

[64] For a discussion of the type with literature: Zanker 1974, 84-6; Vierneisel-Schlörb 1979, 23-32; Brizzolara 1986, 35-7; Belli Pasqua 1995, 81-2. There is also a small bronze statuette in Saint Petersburg (cf. Sieveking 1926) that suggests a reconstruction of the type as Orpheus playing the lyre.

[65] Sieveking 1926; Vierneisel-Schlörb 1979, 25-6. Paus. *Per.* 5,26,3. As some details of the Munich type's face have classical traits, Schöller (1969, 15-19) suggests a possible classicizing intermediary that served as the direct prototype, while Vierneisel-Schlörb (1979, 25) attributes the classicizing features to the copyist.

[66] Zanker 1974, 84-6; Ridgway 2002, 169 and n.44.

[67] National Archaeological Museum, Naples, inv. 6020: Säflund 1963; Parlasca 2007, fig 6.

[68] Vatican Mag. delle Corazze, inv. 4512: Kaschnitz von Weinburg 1936, 137, cat. 285, pl. LX; Delivorrias 1995, 85-6, n. 766; Belli Pasqua 1995, 84-5, cat. 27; Gregarek 1999, 179, cat. B3. Cf. *LIMC* II (1984), 85-6, nr. 765-771 (A. Delivorrias), who does not accept the identification of the Syracuse statue, sometimes considered the type's original, as a part of the series because it is not clear which deity it represents.

[69] Cf. Delivorrias 1995, 85-6, for a full recounting of the arguments.

[70] Becatti (1935) divides the replicas into variants based on the position of the head and the arrangement of the drapery. On the type: *LIMC* II (1984), 211-13, nr. 219-29, s.v. Apollo (E. Simon).

[71] British Museum, inv. BM GR 1861.7-25.1: Smith 1892-1904 II, cat. 1380; *LIMC* II (1984), 211-12, nr. 222 s.v. Apollon (E. Simon); Martin 1987, 71, fig. 10, n. 344.

AD, colossal lapis basanites replica now in the Farnese collection in Naples.[72] The original can be dated precisely to 179 BC, sculpted by Timarchides for the Temple of Apollo Sosianus. A fragmentary, colossal marble hand that belongs to the material discovered among the ruins of the temple seems to confirm this identification.[73]

Finally, the **Herakles Albertini** type is preserved in the famous and colossal Domitianic lapis basanites replica from the Domus Flavia that is now in Parma[74], as well as several white marble replicas.[75] The archetype has been dated to the middle of the fourth century BC, perhaps originating in terracotta works of Magna Grecia.[76]

2.1.a.iv White marbles, lapis basanites, plaster cast – 1 sculptural type

Additionally, one further type, the **Mattei Amazon**, is preserved in white marble replicas[77] and a first century AD, ¾ life-size, *lapis basanites* copy[78] as well as in a fragmentary plaster cast from Baia[79]. The four free-standing sculptural types of Amazons have often been discussed in relation to the story that Pliny the Elder relates of a sculptural competition among Polykleitos, Phedias, Kresilas, and Phradmon

[72] National Archaeological Museum, Naples, inv. 6262: *LIMC* II (1984), s.v. Apollo, p. 384, n. 61 i (E. Simon); Belli Pasqua 1995, 86, cat. 30; Gregarek 1999, 170, cat. A3; Gasparri 2009, 100-2, cat. 43, pl. XCII 1-5 (Pafumi).

[73] La Rocca 1977. See also Becatti 1935.

[74] Belli Pasqua 1995, 98-99, cat. 55, pl. LVII-LVIII, LIX-LX; Gregarek 1999, 247, cat. E20, fig. 88.

[75] For a complete list of the replicas: *LIMC* IV 1988, p. 745-6, nn. 288-99 (O. Palagia). On the eponymous sculpture, considered exemplary of the type, cf. Giuliano 1979ff, I/2, 351, cat. 51 (D. Candilio).

[76] *LIMC* IV (1988), 745-6, nos. 288-99; Todisco 1993, 152.

[77] Named after the replica in the Pio-Clementino Museum: Braun 1854, 334-5, Stewart 1990, 262, T 60. On the problem of the identification of the several Amazon types and their attribution: Ridgway 1974 and Weber 1988. For for a further history of attributions and a list of replicas: Michaelis 1886; Becatti 1951; and Von Bothmer 1957.

[78] Turin, Civic Museum: Lorenz 1972, 221, Anm. 51 (R. Bol); Landwehr 1985, 65, E. 66. 71ff.; Belli Pasqua 1995, 97ff., Nr. 54, Pl. LVf; Mercando 1995, 356 ff., 360f. Nr. 2 Pl. LXIII,2; Gregarek 1999, cat. E1, p. 242.

[79] Baia, Archaeological Museum of the Campi Flegrei, inv. 174.692, 174.693, 174.513, 174.572, and 174.531. Landwehr 1985, p. 64-70, n. 34-39, pl. 32a.

(*NH* 34.53).[80] However, the veracity of the story has long been questioned and the discovery of a fifth Amazon type on a relief excavated at Ephesos has complicated matters further.[81] Moreover, details of composition and style have encouraged some scholars to suggest significantly later dates for some of the Amazons, as late as the first century BC.[82] The Mattei Amazon, if not part of a fifth century BC sculptural contest, has been dated to the late fourth century, perhaps a dedication by Alexander.[83]

2.1.a.v White marbles, black granodiorite – 1 sculptural type

One type preserves replicas in white marble as well as in another hard, dark-colored, Egyptian stone that is distinguished from lapis basanites by its large-grain, igneous origin, and more homogenously black color. The **Venus de Medici**, known in several replicas and variants in white marble[84], in represented in a late first-early second century AD granodiorite example now in the Metropolitan Museum of Art.[85] A lapis

[80] Technically there are only three types, since the Doria-Pamphilij sculpture is the only extant sculpture of this form and thus cannot be considered a type. The others, the Mattei, the Sosikles/Polykleitan (see below, p. 71), and the Sciarra/Lansdowne (see below, p. 68-70) are replicated in numerous copies. Ridgway (1974, 78) points out that the text actually attributes five statues to five artists, the fourth to Kydon and the fifth to Phradmon, but the text is usually amended to four under the interpretation that Pliny mistook Kresilas' ethnic (from Kydonia) as the name of an otherwise unknown sculptor.

[81] Cf. e.g. Furtwängler (1895, 303) suggesting that it was a rationalization of the sculptural arrangement. Ridgway (1974, 1-2) provides a history of the interpretations of the story of the contest and a discussion of the fifth Amazon type. Richter (1959a) suggests that the new Ephesian Amazon indicates Pliny's passage should be accepted *in toto*.

[82] Ridgway (1974, 7-13, 17) dates the Sciarra/Lansdowne type as well as its "probable pendant", the Doria-Pamphilj Amazon, to the first century BC based on its style and iconography.

[83] *Ibid.*, 14.

[84] Cf. Felletti Maj 1951, 33-65 and lists p. 61-*LIMC* II (1984), 53-4, no. 419-21, s.v. Aphrodite (A. Delivorrias), with bibliography.

[85] Metropolitan Museum of Art, inv. 28.57.6 :Belli Pasqua 1995, 85, cat. 28, pl. 36, identifying the material as lapis basanites; Gregarek 1999, 180, cat. B9, as "basalt", probably meaning to indicate lapis basanites. The Metropolitan Museum of Art identifies it as "granodiorite", a large-grained igneous rock (versus the fine-grained sedimentary stone lapis basanites). The authenticity of the Metropolitan statue has sometimes been questioned (noted by Ridgway 1990a, 354), but it corresponds closely to a sculpture in the National Gallery of Art and the use of dark stones for replicas of Venus figures is well attested in the Roman period, as illustrated by this survey (see also Gregarek 1999, B3, B6-7, B10 and B14). For more on the differentiation of these Egyptian hard stones, cf. Appendix B. The statue is of reduced size, but stands at 0.45cm missing the head and legs from above the knee, indicating it surpassed 1m in height. On the Medici sculpture in Florence: Amelung 1897, 46, no. 67; Brinkerhoff 1971, 1978, preface, 30-1, 103-4; Ridgway 1990a, 354-5.

basanites replica of the Venus de Medici may be attested by the preservation of an Eros riding a dolphin in a format that is frequently seen as the structural support for the Venus de Medici sculptural type, but nothing of the goddess remains to confirm this attribution.[86] Deriving from the Knidian Aphrodite of Praxiteles (350-25 BC), the archetype of the Venus de Medici type has been suggested to have been sculpted in bronze. The consistency with which the support is replicated, however, suggest that it belonged to the archetype, which might thus have been sculpted in marble. However, the reworking of famous Aphrodite has more recently been thought to date to a later point in the Hellenistic period; proposed dates for the archetype range from the late fourth to first century BC.[87]

2.1.a.vi White marbles, black marble or limestone – 4 sculptural types

Two sculptural types preserve replicas in white marble as well as in black marbles or limestones. The first of these is an *Umbildung* of c. 330 BC of the Anzio Type of the **Asklepios from Kos** that is preserved in replicas in white marble and in a Hadrianic replica in a dark grey to black marble.[88] The black marble sculpture was excavated in the so-called Teatro of the imperial Villa at Anzio, along with a variant of the same sculptural type, the so-called Iuppiter Tonans or Capitoline Zeus[89]; the latter statue differs from the type only in the placement of the left arm (hanging down rather than bent behind the back) and the

[86] British Museum, inv. GR. 1891,0803.1: Belli Pasqua 1995, 85, cat. 29, pl. 38. Belli Pasqua's suggestion (1995, 85, cat. 28) that this fragmentary support might belong to the Metropolitan dark-stone Venus de Medici cannot be sustained after the re-identification of that replica's stone as granodiorite.

[87] See the discussion in *LIMC* II (1984, 53, s.v. Aphrodite (A. Delivorrias)). See also Gregarek (1999, 180, cat. B9, n. 926 and 928), following the dating of Brinkerhoff 1978, 30-1 and 103-4, which is the much later, unedited publication of his 1958 doctoral thesis whose conclusions regarding dating the author revisted and reversed in a 1971 article (see the preface to Brinkerhoff 1978 on his reversal). Brinkerhoff's later work (1971, 13-14 and 1978) dates the archetype to the second century BC.

[88] Specifically, the type is named the Anzio Type, a variant of the Chiaramonti Type, on which see: *LIMC* II, 1984, 878, s.v. Asklepios (B. Holtzmann), Nr. 136 (the Anzio statue), Nr. 137, and Nr.144; *LIMC* VIII 1997, s.v. Zeus/Iuppiter (F. Canciani), 433, Nr. 119; On the Asklepios of Kos type, cf. Heiderich 1966, 58ff, cat. VI 5 and 5a.

[89] Capitoline Museums, inv. 655 (Zeus) and 659 (Asclepius): Stuart Jones 1912, nr. 272-3, pl. 64,1 (Zeus) and nr. 278, pl. 67.1 (Asclepius); Helbig[4] II, nr. 1396 (von Steuben); Gregarek 1999, 178, cat. A42 (Zeus) and 172, cat. A10 (Asclepius). On the restorations, cf. Arata 1998, 178-80, cat. 20-1, fig. 28-31. For a complete analysis of the sculptural finds of the villa: Neudecker 1988, 131-4, cat. 2.1-4

attribute in the right hand (a thunderbolt rather than a staff). The stone of both statues has been identified as the dark marble from Göktepe, near Aphrodisias.[90] Moreover, from the very same location in the imperial villa at Anzio come two statues of younger men, an athlete and a satyr, both of which belong to sculptural types known in white marble – an **athlete type in late fifth-century style**[91] and the so-called **Schwanzhaschende Pan**[92] – both of which are carved in a dark black stone.[93] Although the four are usually treated as a group, since their excavation context indicates they were at one point displayed together, the sculptural style of the athlete and the satyr date them to the first half of the first century AD. Their stone is also a darker, more homogenous black – perhaps to be affiliated with the North African limestone known to be sculpturally exploited in this period?[94] – rather than the mottled dark grey of the Göktepe marble, which began to be exploited in the late first and early second centuries AD.[95] They may have been accompanied by a figure of the Ares Borghese type, recently found on the Lido delle Sirene in Anzio, of as yet unidentified black stone.[96] The bearded gods were clearly commissioned later, as a complementary pendant to the athlete and the satyr. The archetype of the athlete type has often been ascribed a late fifth century origin, sculpted by a follower of Polykleitos, but some scholars have questioned whether it is a

[90] Attanasio et al. (2009a, 340) make the association with Göktepe on the grounds of a macroscopic evaluation and relying upon the earlier isotopic study of Bruno and Pallante (2002). The 2002 study, conducted before the discovery of the Göktepe quarries, tested the Old Centaur and both the Zeus and Asclepius, failing to identify them with any known quarry (cf. p. 174). Attanasio et al. (2009) tested the isotopic signature and EPR of the Young Centaur, securely connecting it with Göktepe; moreover, its isotopic values reflected those recorded for the other three statues by Bruno and Pallante (2002) and all four share the same macroscopic qualities. For more on the differentiation and quarries of grey to black stones exploited by Roman sculptors, cf. Appendix B.

[91] Munich, Glyptothek, inv. GL 468: Fuchs 1992; *MunichKat* VI, 230ff. Nr. 34, fig. 220-5, with a collection of the replicas of the type. See also: Gregarek 1999, 220, cat. D 63.

[92] Munich, Glyptothek, inv. GL 466: Büsing 1971; Gregarek 1999, 257, cat. F5.

[93] Gnoli 1971, 165; Neudecker 1988, 131-4, cat. 2.1-4; Gregarek 1999, 131-2 and 2002, 210; Neudecker 1988, 131-4, cat. 2.1-4.

[94] Exploited, for example, for the series of half-herm Canephorae excavated on the Palatine: see infra section 2.1.a.xi; Chapter 5, section 5.2; Appendix B.

[95] See Appendix B.

[96] Anzio, Museo Civico Archeologico, inv. 108994. On other black stone replicas of the type, see infra n. 101.

creation of the first half of the first century AD.[97] The nero antico Schwanzhaschende Pan, is a variant of the type that dates to the late third or early second century BC.[98]

The last of these types, the **Ares Borghese**, is known in numerous white marble replicas[99] (including those employed in statuary groups[100]), in the aforementioned black stone state from Anzio, and in one, late-first century AD black marble or limestone sculpture that is now in Florence.[101] The sculptural type has been identified since 1869 as the Ares sculpted by Alkamenes in the late fifth century BC, which Pausanias describes as standing in the Athenian Agora.[102] However, recent re-analyses have argued that while the statue might rework a fifth-century athlete/hero body type, the attributes that identify the figure as the god of war are the product of the Roman period.[103] The earliest replica is Neronian and the type may not be significantly older.[104]

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[97] E.g. Fuchs 1992, 230ff. Nr. 34, fig. 220-5, with a collection of the replicas of the type. Koortbojian (2002, 182-3) maintains that the type might be Roman in origin. While he mistakenly assumes all four sculptures are Hadrianic (see also p. 177) and suggests a Hadrianic invention of the type that cannot be sustained, the point that the archetype might originate in the Roman period remains valid.

[98] Büsing 1971, 67ff., pl. 3-6; Gregarek 1999, 257, cat. F5, with bibliography.

[99] Taking its name from the statue in the Louvre, excavated on the grounds of the Villa Borghese, Louvre inv. MA 866. Avagliano (2011, 43-4, n.6) collects twenty-five examples in total. See also: Vierneisel-Schlörb 1979, II, 178-88, with a discussion of the type and its replicas; Hartswick 1990; Hobbold 1995, 83-7.

[100] Hobbold 1995, 90-4; Perry 2005, 128-48.

[101] Uffizi Galleries, inv. 192: Mansuelli 1958, 44, cat. 20, fig. 20; Hobbold 1995, 83-96, 110, cat. P14, fig. 67; Gregarek 1999, 171-2, cat. A9, fig. 34. Mansuelli (1958) indicates that the head, right lower arm and left arm with shield are modern integrations; the torso and legs are recomposed from fragments; the base and the support are ancient but not polished. As far as I am aware, the stone has not been archaeometrically studied. A second replica of this type in black stone may be represented in the black stone, male figure found on the Lido delle Sirene at Anzio and likely to be associated with the imperial villa there (Rea and Tomei 2011, no. 51; Anzio, Museo Civico Archeologico, inv. 108994).

[102] Paus. *Per*. 1.8.4. The attribution was made by Conze (1869, 9, n.2) and accepted by Furtwängler (1895, 121-2).

[103] Hartswick 1990; accepted by Perry 2005. Avagliano (2011), without addressing Hartswick's arguments, identifies the archetype as a statue of Theseus, in part dependent upon the decoration of the helmet. Hartswick (1990, 246-50) convincingly identifies this as a pseudo-attic helmet dating after the second century BC and popular in Roman parades in the first-second centuries AD.

[104] See the list of replicas provided in Hartswick (1990), the Neronian example preserves only the helmet and top of the face, now in Vienna, inv. I 183 (*ibid.* 277, no. 13).

2.1.a.vii White marble, composite black and white marbles or limestones – 5 sculptural types

Additionally, four sculptural types are known in white marble replicas as well as composite sculptures whose white stone skin portions are inserted into black stone garments. The first of these types is a the so-called **Perge Dancer**, named after the colossal, Hadrianic, composite black stone and white marble sculpture excavated in Perge and now in the Antalya museum.[105] The statuary type, a late Hellenistic *Umbildung* of the Aphrodite Frejus, is known in at least two white marble replicas, both in the Louvre[106], as well as two other composite replicas: the famous, so-called Vittoria dei Simmachi[107] of the Antonine period and the late-second century dancer in Munich.[108] Moreover, a variant of the Perge Dancer type is known in replicas in two composite black and white marble examples as well as a fragmentary one in Beneventum of dark-colored stone whose material has been diversely identified as basalt (which often means lapis basanites) or a dark limestone.[109] H. Gregarek's suggestion that the statue was composite, with skin portions added in white marble, if correct, would likely indicate that the dark colored stone is a marble or limestone rather than lapis basanites, as no other composite sculptures are known in that hard, Egyptian stone.

The sculptural group of Iphigenia, Artemis and the Hind is extant in one white marble sculpture that preserves fragments of each figure – excavated in a nymphaeum in the Gardens of Sallust and now in

[105] Antalya Archaeological Museum, inv. 10-29-81 (H: 2.38m): Inan 1990; Gregarek 1999, 232-3, cat. D134, fig. 6 and 2002, 210; Pensabene 2002a, 62; Wood 2015, 246-51, fig. 11. On the type: Guerrini 1959a; *LIMC* VIII (1997) s.v. 197, cat. 15 s.v. Venus (E. Schmidt).

[106] Both excavated in Tripolis, Louvre inv. MA 3060 and MA 2157: Guerrini 1959a, 405, cat. 1.2.4. There are white marble variants of the type in Catania and Florence: Guerrini 1959a, 406, cat. 8 and 9.

[107] Rome, Capitoline Museums, now displayed in the Centrale Montemartini, inv. MC 2845: Moreno 1994, fig. 802; Gregarek 1999, 233, cat. D135; Bertoletti et al. 2006, 48, 50, fig. 43; Wood 2015, 249-50.

[108] Munich, Glyptothek inv. GL 449: Gregarek 1999, 233, cat. 135, with bibliography.

[109] Composite replicas of the Variant type: the late second century dancer now in Cairo, Museum of Egyptian Civilization, inv. 27625 (Gregarek 1999, 233, cat. D137, with bibliography); the Antonine dancer from El Djem (Thysdrus) now in Tunis, Bardo Museum, inv. C 1026 (Gregarek 1999, 233-4, cat. 138 with bibliography). The lapis basanites replica is in Beneventum, Museum of Samnium, inv. 493. Lauro (1978, 207) identifies it as a "calcare grigio", Gregarek (1999, 234, cat. D139) as composite basalt and probably white stone. The sculpture is not included in Belli Pasqua 1995.

Copenhagen[110] – and in one fragmentary replica of the falling **Iphigenia** composed of white skin portions paired with black stone garments.[111] Excavated at Samos, the black and white sculpture was probably carved in Asia Minor, in the Antonine period, and, thus, probably exploits the dark grey marble from Göktepe. The Copenhagen group has typically been treated as an original of the late Hellenistic period, although its date has been pushed as early as the fourth century BC and as late as Hadrianic.[112]

The other three types of this group all belong to the Niobid cycle, which is preserved in several white marble Roman versions, most notably the Florentine one[113], some white marble possibly Greek originals,[114] and a very fragmentary composite cycle from Hadrian's Villa in white and dark marbles. There is also a fragmentary Niobid cycle known from the villa at Valdetorres de Jarama, Spain, now in the National Archaeological Museum in Madrid, carved from dark grey marble or limestone with composite red marble garments. The figures, however, stand under 1m in height and cannot be considered here.[115] Moreover, they depict the Niobid group as it is represented in Sarcophagus reliefs and paintings, as if the

[110] Hartswick (2004, 85-93) with bibliography and with a thorough discussion of the statue's discovery. An additional possible replica was excavated in Bulgaria: Stoyanov 1990. Related, but with a completely altered and smaller representation of Iphigenia, is the Diana/Luna in the Capitoline Museums, inv. 9778, cf. Hartswick 2004, 91-3, with bibliography.

[111] Samos, Archaeological Collection of the Pythagoreion, Samos: Martini 1984, 204-6, pl. 29 (see 235 on the findspot); Freyer-Schauenburg 1990; Gregarek 1999, 184, cat. B30; Hartswick 2004, 90-1, fig. 3.6.

[112] Cf. Hartswick 2004, 90-1. Fourth-century BC, perhaps from Ephesos originally: Studniczka 1926, 142-5; imperial and as late as Hadrianic: Ridgway 1990a, 283 and 2002, 83, 105, n. 43.

[113] For a complete list of replicas, see *LIMC* VI (1992) s.v. Niobidai (Geominy). On the Florentine group: Mansuelli 1958, 110-23; Geominy 1984; Vierneisel-Schlörb 1979, 473-89. On its early history and reception: Haskell and Penny 1981, 274-8. On the Chiaramonti Niobid in the Vatican, see also Vorster 1993, 77-82, no. 29, pl. 137-44.

[114] The original group seems to be the one that Pliny describes as being installed near the Temple of Apollo Sosianus and whose craftsmanship he attributes to Skopas or Praxiteles (Pliny, *NH* 36.28). The Vatican Chiaramonti Niobid has also often been considered an original (cf. Mansuelli 1958, 112-13 for a review), including by Vorster (1993, 77-82, no. 29, pl. 137-44), who identifies the Vatican Chiaramonti Niobid as a second century original.

[115] Madrid, National Archaeological Museum, inv. 77/72/3: Trillmich 1993, 193ff; Puerta et al. 1994, 183-5, cat. 2, fig. 3-4; Arce et al. 1997, 421, cat. 420 (M.A.E. Barba); Gregarek 1999, 253, cat. E52;). Puerta et. al. suggest the restored height of the Niobid figure at 88cm and that of the archers that accompanied the group at 90cm (1994, 185-7, cat. 3-4, fig. 5-6).

sons were caught astride horses in the middle of a hunt; no other large-scale free-standing sculptural groups replicate these specific forms.[116]

The Hadrian's Villa group, by contrast, more closely compares with the Florentine cycle. Excavated in the Stadium of Hadrian's Villa, the fragmentary remains include the mother/daughter group with Niobe and her youngest daughter, the Pedagogue, the so-called Psyche, the Chiaramonti Niobid, and two Niobid girls stretched out along the ground.[117] The Hadrian's Villa **Niobe and daughter group** is very fragmentary, but seems to follow the model of the Uffizi group.[118] The **Pedagogue** from Hadrian's Villa is identified by his foot and arm, wearing the characteristic shoe and sleeve, but little else is preserved. In white marble, the Pedagogue is preserved as a sole figure, as in Florence and Copenhagen[119], and as a group with a young boy as in Soissons[120], which probably represents the complete version of the statue[121]; the angle of the bend in the black marble left arm indicates that the Hadrian's Villa statue conforms to the latter composition.[122] Significant fragments of two other female types are preserved, the so-called **Psyche**, known

[116] Puerta et al. 1994, 183-5, cat. 2, fig. 3-4; Gregarek 1999, 253, cat. E52. Cf. Robert III, 3 (1919) 373ff.; Renger 1969; *LIMC* VI (1992) s.v. Niobidai, p. 928 (W. Geominy); The falling horse and rider motif derives from Etruscan terracotta imagery (Andrén 1939 pl. 96; Cook 1964, 49, no. 21).

[117] Hoffmann 1980, 76; Raeder 1983, 294; Geominy 1990; *LIMC* VI (1992), s.v. Niobidai, no. 23a-n, pl. 615-16, discussion p. 926-8 (Geominy); Gregarek 1999, cat. E51; Moesch 1999, 2000; Adembri 2002; Diacciati 2005, 2010. They were excavated in the 1950s and the mother and child group was reassembled in the 1970s by M. Frisciotti, but they were not published until 1990 (Geominy). The exact findspot and condition is recorded only by oral tradition (Moesch 2000), but they seem to have been found in the central area of the stadium garden near the remains of a lime kiln that probably accounts for their fragmentary condition (Geominy 1990; on the stadium: Hoffmann 1980).

[118] Most well-preserved in the Florentine Group: Uffizi Galleries, inv. 294: Mansuelli 1958, cat. 70; Geominy 1984, 134-46, and on white marble replicas, n. 366. Niobe's head is preserved in several additional replicas, as in Oxford (Buschor 1914).

[119] Florence: Mansuelli 1958, 121, cat. 82; Copenhagen: Ny Carlsberg Glyptothek, inv. 502; Moltesen 2002, 260-3. For additional replicas, cf. *LIMC* VI (1992), s.v. Niobidai (W. Geominy); Candilio 1990; Geominy 1984, 117-23.

[120] Group from Soissons, now in the Louvre, inv. 1339: Geominy 1984, 129-34.

[121] Geominy (1984, 129-34) and Candilio (1990) point out several details that indicate, for example, that the Florence pedagogue was probably accompanied by another figure, particularly based on the lowering of the (heavily reworked) pedestal in front of the man, allowing space for a secondary figure.

[122] Geominy 1990, 379.

in three white marble versions, including a Florentine one[123], and the **Chiaramonti** type, named after the Vatican example[124] and also extant in the Florentine cycle[125]. The group with two daughters lying on the ground is otherwise unattested as a free-standing group, while it is known from the relief tondo in the British Museum.[126]

Most of the preserved pieces, representing only the garments of the figures, seem to have been carved in the dark grey marble quarried at Göktepe, near Aphrodisias.[127] Cavities for separately attaching arms, necks and heads and feet indicate that the skin portions were carved in another stone (probably white marble) and joined to the garments. However, the stone of one of the figures, the draped bottom of a standing female figure associated with the Niobid group, has been identified as *lapis basanites*.[128] The fine-grained, sedimentary greywacke is easily distinguished by eye from the greyish Göktepe marble with white flecks and veins, but the different stones have only been remarked upon in the material science articles provenancing the stones from Hadrian's Villa.[129] Since the scholars who identified the greywacke sculpture did not link their analysis to earlier publications of the fragments (providing only a storage reference number), it remains possible that the sculpture they tested does not belong to the fragments identified with the Niobid cycle. From a visual analysis of the photograph they reproduce of the tested sculpture, it is not possible to identify this fragment with any of the Uffizi statues. The position of the foot in relation to the drapery seems to exclude that it replicates any of the known Niobid types. Moreover, Roberta Belli Pasqua

[123] *Ibid.*, 379. On the type, Geominy 1984, 171-88.

[124] Helbig[4] I, cat. 598 (W. Fuchs); Geominy 1984, 44-62; Vorster 1993, 77-82, no. 29, pl. 137-44 suggests that it probably came from Hadrian's Villa, but, if so, it must belong to a second, white marble cycle of Niobids in the villa.

[125] Mansuelli 1958, 112-13, cat 72.

[126] British Museum, inv. GR 1877.7-27.1 (Sculpture 2200).

[127] Attanasio et al. 2009a, 340, on macroscopic grounds; Attanasio et al. (2013) use isotopic and EPR values from an sample of one of the two figures of the Mother-daughter group that lie on the ground.

[128] Lapuente et al. 2012, 377, fig. 1, store inventory ref. no. XIV 841.

[129] Attanasio et al. (2013, 4366) confirms that the standing figure tested by Lapuente et al. (2012) is macroscopically different from the two figures their analysis links with Göktepe.

catalogs these *lapis basanites* fragments and does not identify them as pertaining to the Niobid group, discussing them instead as fragments of a chiton-draped female.[130] She suggests they may pertain to an 1880 discovery near the Library Courtyards documented in the Notizie degli Scavi.[131] The art historical literature, moreover, has consistently identified the material of the other Niobid statues as "bigio morato"[132] or "schwarzem Marmor"[133], rather than "basalt" or "basanite" (usually used to indicate greywacke).[134]

It seems most likely that the Niobid identification of the *lapis basanites* fragments is a mistake of association made in the storerooms and conveyed to the materials science researchers. Rather than a single greywacke Niobid among the Göktepe group, these fragments pertain to a draped female carved entirely in greywacke and, perhaps, excavated near the library courtyards. It is possible, but uncertain that this figure was accompanied by a second *lapis basanites* figure, since there is also a fragment of a nude leg which may or may not pertain to this female.[135] At the moment, the chiton-draped figure has not been identified with any known types and should not be counted among this corpus. In any case, the entire group of Niobids from the villa requires a thorough and complete revaluation, with additional isotopic and EPR provenancing and with an approach that could, in particular, take into account the other polychrome, composite group from Val de Torres de Jarama. These dark stone groups, though separated by a nearly century, may make use of the same Göktepe stone[136], may both be creations of Aphrodisian sculptors, and are both tied to the representation of the myth in relief and painting as well as to the freestanding Florentine group.

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[130] Belli Pasqua (1995, 116, cat. 94) lists five fragments of a drapery and a single fragment of a nude leg. The fragment tested by the scientist is recomposed from two fragments, whose attachment Belli Pasqua suggests is not certain.

[131] Cf. Raeder 1983, 138, II, 24 = *NSc* 1880, p. 479.

[132] Moesch 2000; Adembri 2002, 476-9, cat. 187-88.

[133] Geominy 1990, 379.

[134] See the further discussion in Chapter 6 and fig. 6.21a-c.

[135] Belli Pasqua 1995, 116, cat. 94, fragment D. Lacking published photographs and proper identification of the figure type it is not clear if this leg could be a part of a partially draped female figure.

[136] Puerta et al. (1994, 181, cf. n. 4) connected the macroscopic appearance of the stone to Anatolian quarries, fifteen years before the publication of the Göktepe quarries. Their description of the stone is comparable with Göktepe marble.

The originals of the Niobid type may, or may not, be described in the *Natural History*. Pliny speaks of such a group by either Praxiteles or Skopas that was removed from Seleucia to the Temple of Apollo Sosianus in Rome (*NH* 36, 28), which has often been considered the originals of the series replicated in the Roman period. The group attested in Pliny has been associated with two or three different representations of Niobids, although none of the preserved sculptures have been found in the area. First, there is the school that follows Pliny in assigning the Niobids that decorated the Temple of Apollo Sosianus with the hand of Praxiteles, with a fourth century BC date.[137] These are not, according to this theory, to be associated with the Uffizi Group, but with the Niobid types seen in Southern Italian imagery. Second, the kneeling female Niobid in the Palazzo Massimo and the two Copenhagen Niobids have been considered part of a fifth century BC pedimental group, sculpted by two different hands, whose figures were transferred to Rome.[138] If these are the marble originals that once stood near the temple of Apollo Sosianus, the statuary group would date to the fifth century BC, despite the fourth century sculptors to whom Pliny attributes it and despite the excavation of these statues in the Horti Sallustiani.[139] Finally, there is the group of Niobids that is reflected in the Florentine Uffizi group, to which most of the free-standing sculptural types belong. The prototypes of this group likely could not have surmounted the pediment of the temple, but they have been suggested to have stood in the temple precinct.[140] In any case, the archetype for the Florentine cycle is the same as that for the Hadrian's Villa sculptures (with the exception of the mother and daughter group) – whether or not it was Praxitelean and whether or not it is the group described by Pliny in the Temple of

The petrographic and chemical analysis of the Valdetorres de Jarama statues is provided by Martín et al. (1987, sample no. 8).

[137] Corso 2010, 69-78.

[138] For a recent recounting of the findspots/dates and arguments, cf. Hartswick 2004, 93-104.

[139] Cf. Ridgway (1981, 54-8) who considers the Terme Niobid and the Copenhagen male Niobid as fifth century Greek sculptures, but assigns the Copenhagen fleeing maiden (heavily restored) to the Roman period as an addition to an incomplete cycle. See also the discussion in La Rocca 1985.

[140] Geominy 1984, 283-88.

Apollo Sosianus. The Uffizi group's prototype has been dated to the fourth century BC, but, recently, a date as late as the first century BC has found wide favor.[141]

2.1.a.viii White marble, lapis basanites, black stones and colored stones – 1 sculptural type

One sculptural type, the **Serapis of Bryaxis** preserves by far the most numerous sculptures in dark-colored stones and, in its small scale replicas, the broadest range of colored stones (including varieties of alabaster, serpentine, and porphyry in addition to black hard stones, black marbles and limestones, and white marbles).[142] The sculptural type originated in a cult statue of the late fourth century BC, in the Serapeum of Alexandria. The frequency and variety of the use of colored stones for representations of Serapis sets this subject apart from the others examined here and, moreover, many of the black stones have only been identified visually. The material deserves a comprehensive study that includes both large and small scale replicas, utilizes archaeometric examination to confirm material identifications and examine surface treatments, and considers what connection these multiple materials have with the literary tradition that claims the archetype was made of various precious stones and metals ground and mixed together.[143] This section thus provides only an overview of the extant examples in large scale. Moreover, this project's discussion of the less variable instances of the Roman reception of media practices offers a foundation from which to begin an examination of this unusual example. At large scale, the Serapis of Bryaxis is replicated in a wide variety of black stones, in both of its two replica types, which differ primarily in the hairstyle; the *Fransentypus* includes hair partially covering the forehead – like bangs or a fringe (thus *fransen*) while the

[141] *Ibid.*, 233-82 (320s); Weber (1960) was the first to suggest a first century BC date; Ridgway (1990a, 82-5; 2002, 92-4) favors the late date, but allows that, if the group is to be dated to the fourth century BC, it should be assigned to Skopas.

[142] Cf. Gregarek's (1999, 202-8, cat. C50-103, cf. p. 143) summary of the materials exploited for this type. See also Belli Pasqua (1995, 95-6) for a summary of the types and their dating. Hornbostel (1973) collects and categorizes the series; Ridgway (1990a, 95-8) provides a useful summary.

[143] The account, in the late second century AD text of Clement of Alexandria, is problematic and confused, but deserves consideration (cf. Ridgway 1990a, 95-8).

Anastoletypus depicts the hair rising up and back from the forehead in the *anastole* typical of portraits of Alexander.[144] Among the replicas that do not have a head and cannot be thus differentiated, replicas exist in white marble, "basalt" (either lapis basanites or another black Egyptian stone)[145], and black limestones or marbles[146] (sometimes composite with white marble skin[147]). The *Fransentypus* is preserved in a second century AD basalt bust[148], a colossal late Antonine black limestone head now in Bayonne[149], and a "nero antico" head now in Madrid[150] and others in the same materials. The *Anastoletypus* is represented, especially, by a late Antonine "basalt" head from the Alexandrian Serapeum.[151]

2.1.a.ix White marbles, lapis basanites, dark granite with red flecks – 1 sculptural type

Three other sculptural series preserve replicas in white marbles, dark stones, and colored stones. For example, in addition to the numerous white marble replicas of the **Capitoline Aphrodite**[152], the type is preserved in a second century AD *lapis basanites* replica[153] as well as a second century AD replica in dark

[144] Hornbostel 1973.

[145] From Kom Ombo: Gregarek 1999, 202, cat. C50 (as "basalt"); Belli Pasqua 1995, 136-7, cat. III.13, fig. 26 (as "uncertain material").

[146] In the Villa Medici: Gregarek 1999, 202, cat. C51. This material is also popular in miniature statues (under 1m in height): Gregarek 1999, 203, cat. C54-5.

[147] The colossal statue from the Leptis Magna Serapeum, in the Leptis Magna Museum: Gregarek 1999, 202, cat. C52.

[148] Private collection, Cairo. Gregarek 1999, 205, cat. C74.

[149] Bayonne, Bonnar Museum, inv. 61. Gregarek 1999, 204, cat. C60.

[150] Madrid, Museo del Prado, inv. 323-E. Gregarek 1999, 204, cat. C61.

[151] Alexandria, Greco-Roman Museum, inv. 3914. Gregarek 1999, 204, cat. C59 (as "basalt"); Belli Pasqua 1995, 136, cat. III.12, fig. 25 (as "uncertain material").

[152] Felletti Maj 1951; Brinkerhoff 1978; *LIMC* II 1984, 52ff. Nr. 409-12 s.v. Aphrodite (A. Delivorrias); Havelock 1995.

[153] Gregarek 1999, 180, cat. B6. Kaschnitz von Weinburg (1936, 122, Nr. 262, pl. 54) suggests that the provenance is Egypt, but draws this conclusions from the material and the "provincial" craftsmanship that distorts the proportions of the body to a narrower form. The torso, missing the head, arms, and the legs below the knees, stands at a height of 1.025m.

granite with red flecks[154], both of which are now in the Vatican Magazzines.[155] The use of white marble and lapis basanites for replicas aligns with two other Aphrodite/Venus types discussed above – the Venus de Medici and the Aphrodite Kallipgyos – while the sculpture in a dark granite mottled by small red flecks marks a slight departure. The Capitoline Type originates in the Hellenistic period, deriving from the famous, white marble Aphrodite of Knidos by Praxiteles; proposed dates range from the late fourth to the early second century BC.[156]

2.1.a.x White marbles, black limestones and marbles, other colored stones – 2 sculptural types

Similarly, the replicas of the two sculptural types of the **Old and Young Centaur Group**[157] are known in famous sculptural replicas in white marble (like the first century AD Borghese Old[158] and Vatican Young[159]), in black marble (the Hadrianic Capitoline Old and Young[160]), and in composite sculptures that combine portions sculpted in red and in black stones (like the second century AD Doria Pamphilj Old and

[154] Kaschnitz von Weinburg 1936, 123, Nr. 263, pl. 54; Gregarek 1999, 180, cat. B7. The upper part of the torso to the waist is preserved, measuring 38cm in height, which indicates that the statue should be reconstructed to a full height above one meter.

[155] In addition, sixteen statuettes of the third century AD of the Capitoline Aphrodite type in giallo antico were excavated in a workshop in Chemtou, where this stone was quarried (Rakob 1994, 107ff. Pl 116c-117; Gregarek 1999, 180, cat. B8). There is no indication that the type was replicated at a large scale in this material, although there are other Aphrodite sculptures in giallo antico and similarly warm-colored alabaster (Gregarek 1999, 179-82).

[156] Cf. the discussion in *LIMC* II (1984), 52 (A. Delivorrias) and, recently, Gregarek 1999, 180, cat. B6, n. 926. On the latter, note that Brinkerhoff (1971), who dates the type to the fourth century BC, reversing the opinion expressed in Brinkerhoff (1978, 28-9 and 100-7), which is the much later publication of his 1958 doctoral thesis (see its preface on his reversal).

[157] For a full analysis of the replica series: Morawietz 2000, summarized and updated in Morawietz 2005. This series is discussed extensively in Chapter 5, section 5.3.

[158] Paris, Louvre, inv. MA 562: Morawietz 2000, 92ff., fig. 38-40; 2005, 49-50, cat. A2.

[159] Vatican, Sala degli Antimali, inv. 404: Morawietz 2000, 99ff., fig. 41; 2005, 52, cat. J2.

[160] Rome, Capitoline Museums, inv. 658 (Old) and 656 (Young). Morawietz 2000, 89ff., 94ff., 111ff., 129, fig. 31-7; 2005, 47-9, A1 and J1. Additionally, there is a small-scale pedestal in black marble from Göktepe (Ostia storerooms, inv. 55117) with the remains of hooves and a central trunk strut considered to be a replica of one of the Centaur types by Attanasio et al. (2009a, 334-5, tab. 3, no. 17). It may be, but it differs from the type in that neither front hoof is raised and, moreover, its scale as well as the position of the hooves and trunk are comparable to numerous other statues of horses or including others at the museum in Ostia.

Young[161], the former now lost). A fragmentary red marble torso of the Young type now in the Metropolitan Museum of Art[162] likely is also part of a composite replica, since its lower extremity is prepared for insertion into a separately carved horse portion. Red marble may also have been used for the full sculpture of the Young Centaur in the Getty[163], but it is not currently clear how much of the sculpture is the product of restoration and how much is ancient.[164] The archetypes of the Old and Young Centaurs – designed as a pendant pair – have been dated to the second half of the second century BC.[165]

2.1.a.xi Black limestone and red marble – 1 sculptural type

Additionally, one type preserves a replica in a dark-colored stone and a colored stone. The half-herm canephorae, excavated on the Palatine and identified as the **Danaids** of the Portico of the Temple of Apollo Palatinus, are preserved in two mirrored types (counted here as a single type since they differ only in mirrored positioning of the arms).[166] Both versions are preserved in replicas in a red marble and a North African black limestone.[167] Moreover, they are closely related to – but are too heavily modified to belong

[161] Lugli 1920 (1922), 40, Pl. III; Morawietz 2000, 104-6, fig. 46, 47; 2005, cat. J3, p. 52-53 (the lost Old is discussed under the catalog entry for the Young). Neither stone has been archaeometrically tested and surface has been covered with a veneer that makes optical identification difficult, the red is probably rosso antico/Marmor Taenarium (cf. Lazzarini 2007, 183-203) and the black a marble (e.g. from Göktepe, cf. Attanasio et al. 2009a) or, possibly, North African limestone (on black stones see Brilli et al. 2011).

[162] Metropolitan Museum of Art inv. 09.211.6. Morawietz 2000, 108f; 2005, 53-4, cat. J5. The red stone has not been archaeometrically provenanced but may be rosso antico/Marmor Taenarium (cf. Lazzarini 2007, 183-203).

[163] Malibu, Getty Villa, inv. 82.AL.78.a: Gregarek 1999, 238, cat. D168.

[164] Thoresen 2009 is of the opinion that is mostly modern; E. Bartman is of the opinion that much more of it is ancient that has previously been believed (personal communication).

[165] Morawietz 2000, 119ff.; 2005, 55. See also Ridgway 2000, 282-3. On Pergamene bronze originals: Bieber 1961, 140-1, fig. 581, 583-4. Kell (1988, 29-30) suggests that only the Old Centaur is of the second century while the Young is Roman in origin.

[166] Tomei 1990b, 2006. On their identification and the counter-arguments, cf. Chapter 5, section 5.1.

[167] On the identification of the black stone: Agus et al. 2006; Bruno and Pallante 2002, 166. The red marble is probably Marmor Taenarium (on which see Lazzarini 2007, 183-203), but the stone of these statues has not been archaeometrically provenanced.

to precisely the same type as – sculptures in white marble (Siracusa-Nemi type[168]) and in bronze (the Herculaneum Dancers[169]). The Palatine half-herms should be considered a variant of this Canephorae type whose origins can be dated precisely between the vow and the dedication of the Palatine Temple of Apollo, that is, between 36 and 28BC.[170]

2.1.a.xii Black granite and green porphyry – 1 sculptural type

One final sculptural series should be considered among the black stone group, even if it is not precisely an established sculptural type in the traditional way. It is unusual because the model is an Egyptian rather than Greek sculpture, and, moreover, the original Egyptian work is preserved alongside a single replica. The Egyptian sculpture is a black granodiorite **18th Dynasty Sphinx of a Queen** now in the Barracco Museum in Rome[171]. The sculpture is dated by the appearance of the Hathor locks and the vulture crown of the queen to the reign of Tuthmosis III (1479-1426 BC); the cartouche names this pharaoh as well as a certain Hatshepsut, who has been shown by iconographical analyses to probably be an unidentified spouse of Tuthmosis III, rather than the famous queen who was his aunt and initial co-regent.[172] Discovered nearby was a sculpture of the Roman period, probably of the first century AD, in a green porphyry that replicates the Egyptian sculpture, for which it may have been intended as a pendant for display.[173] The

[168] Cf. Trillmich (2010) on the type, its replicas, and its relationship to the Palatine Canephorae; Trillmich suggests that the Siracusa-Nemi type preserves the form of the Danaids from the Apollonian portico, while the Canephorae are merely related figures.

[169] Rumpf 1950; Zanker 1983. Mattusch (2005, 195-215) offers a survey of interpretations of the Herclaneum statues and the analysis of their sculptural type, on which see: Forti 1959; Pandermalis 1971; *LIMC* III,1 340 n.40, s.v. *Danaides* (E. Keuls); cf. also Tomei 1990b, 36, n.3.

[170] See below, Chapter 5, section 5.2.b.

[171] Roullet 1972, 133, no. 278 (as black granite), fig. 290; Lembke 1994a, 225, cat. E15; Swetnam-Burland 2007, 120-3, fig. 2 and 3; Müskens 2017, 210-11, no. 99 (as granodiorite, with additional bibliography).

[172] The inscription is partially lost and cannot be identified with certainty. Cf. Lembke 1994, 225, cat. E15. The sphinx was originally identified with his co-regent (e.g. Barracco 1910 and Roullet 1972, 133, no. 278, suggesting the inscription Meryetre Hatshepsut).

[173] Roullet 1972, 132-3, no. 277, fig. 289; not included in Müskens 2017. The statue was sold at Christie's on December 7, 2010 in the auction of "Antiquities from the collection of the late Clarence Day" (lot no. 25, the catalog

Roman work is clearly an emulation, but it is not, as Anne Roullet cataloged it in 1972, an exact replica of the Egyptian artifact.[174] Not only is the material different, the Roman sculpture is slightly larger than the Egyptian one and lacks the hieroglyphic inscription.[175]

2.1.a.xiii White marbles and colored stones – 2 sculptural types

One sculptural type preserves replicas in white marble and replicas in a colored stone. The **Hanging Marsyas** is preserved in two sculptural types, which are referred to as the Red and the White type in reference to the colored stone of the two sculptures in the Uffizi Galleries.[176] In much of the previous literature, they have been discussed as two types, each of which is extant in a single material. The Red Marsyas type was named after the reddish-purple coloring of its pavonazzetto replicas, like the famous one in the Uffizi, which is a Hadrianic statue of unknown provenance.[177] Two others in the same material and of the same composition are preserved at large-scale: a late Julio-Claudian or Flavian sculpture from the Auditorium of Maecenas, now in the Capitoline Museums[178] and another Hadrianic replica, a colossal statue from the Villa of Voconius Pollio now in Karlsruhe.[179] Lastly, the well-preserved replica recently discovered in the Villa delle Vignacce also formally belongs to the Red Marsyas type; its purplish-red

includes recent color photographs). Swetnam-Burland (2007, 122) points out that the area of the Iseum Campense to which Roullet attributes the sphinx pair cannot be reconstructed with certainty (on the area, cf. Versluys 1997; Versluys 2017). Still, the two seem likely to have been intended as a pair, although they may have been one pair among a larger group of four or more similar sphinxes.

[174] Roullet 1972, 132-3, no. 277, fig. 289.

[175] Swetnam-Burland 2007, 120-3, fig. 2 and 3.

[176] A distinction first made by Amelung (1897, 61-4, n. 87) to differentiate between the two Uffizi statues in red and white marble. Weis (1992) has illustrated that the two types bear significant formal differences as well. See also: Weis 1988; Meyer 1987.

[177] Florence, Uffizi Galleries, inv. 201: Weis 1992, 160ff. nr. 15, suggesting that some of its coloring may actually be post-antique staining rather than colored stone. See also Gregarek 1999, 230, cat. D124.

[178] Rome, Capitoline Museums, inv. 1077: Weis 1992, 93ff. nr. 39; Gregarek 1999, 231, cat. D125, fig. 76.

[179] Karlsruhe, Badisches Landesmuseum, inv. B 2301: Weis 1992, 168ff. nr. 19. See also Gregarek 1999, 230, cat. D123.

marble is suggested to have a provenance in Caria, in Asia Minor, but the exact lithotype and quarry remain, as yet, unidentifiable.[180] The figure is depicted hanging from a tree and awaiting a Scythian, carved separately, to flay his skin in punishment for losing a musical contest with Apollo. The stone's purplish veins evoke the sight of blood dripping down over skin. The White Marsyas type, by contrast, is named for the white marble replica in the Uffizi galleries and is preserved four other white marble replicas.[181]

The two types are related, depicting the same image, but have been attributed differing formal characteristics; Anne Weis refers to them as the red/asymmetrical and the white/symmetrical types.[182] She has shown, moreover, that scholars have been misled by the color of the marble; while the White marble type is extant only in white marble, the Red is extant in both red (pavonazzetto) and white marble replicas. Weis adds the white marble sculpture in the Kunsthaus in Zurich to the list of the Red type.[183] Thus the 'Red' type of the Marsyas statue is counted in this survey, while the white is not. The Red Type is usually considered a reworking of the White. The latter is usually dated to a slightly earlier period and is understood to have been conceived at the end of the third or beginning of the second century BC, as part of a group including the so-called Arrotino and a figure of Apollo; although Weis suggests that it was not created until the first century AD.[184] The dynamic torsion of the Red Type dates it to a later period, most convincingly

[180] See Angoli (2014, 25-49) on this statue among those of the red type and the included analysis of the stone by Gratziu and Moscato (in *Ibid.*, p. 77-81). The scholars compare it to pavonazzetto, but there are several varieties of red marbles quarried in the region as well.

[181] Cf. Weis 1992, 215-16, Index 1.

[182] Weis 1979.

[183] Weis 1992, 206-8, cat. 51.

[184] Angoli (2014, 51-3) offers a summary of the divergent positions and dating; more thoroughly: Maderna-Lauter 1994, 292-8 and 1999, 115-40. Amelung (1897, 61-4, n. 87) first dated the white earlier. Contra: Schraudoph 2007. Cf. Weis 1992, 37-56.

to be associated with the Pergamene court, in a mid-second century BC reworking of white group.[185] However, one scholar has proposed that both types actually derive from a single prototype.[186]

2.1.a.xiv White marbles and composite white and colored stones, possibly bronze – 2 sculptural types

Two sculptural types preserve replicas in white marble as well as in composite sculptures made of varying materials. A statue type of **Kybele enthroned** is preserved in a life-sized white marble example[187] as well as a colossal, Claudian-era composite sculpture that is now in the Palazzo Massimo restored as Athena.[188] The garments of the statue are carved in the Numidian stone giallo antico, while the preserved left foot testifies to the addition of white marble skin elements. Excavators likened the yellow and white to a chryselephantine sculpture and interpreted her as an Athena, thus adding the gorgoneion, as well as a head in white marble and hair in black stone copied from the Athena Carpegna type during the restoration.[189] A statuette that follows the Cybele type uses a similar combination of colored stones; warm alabaster represents the goddess's garments while the skin portions were pieced additions in another material, perhaps

[185] Weis (1992, 59ff., 66f.) suggests that the hanging position has an Italic origin, to be contrasted with the representation of Marsyas *adligatus* (with his wrists bound behind his back) that often appears in gems and ceramics.

[186] Maderna-Lauter 1999, esp. 127-8; a theory generally approved by Ridgway 2002, 86-7.

[187] Now in the Archaeological Museum in Antalya: cf. Koch 1994, 118, cat. 108, fig. 116ff. Gregarek (1999, 190-1, cat. B57) identifies the specific type, linking the Antalya sculpture with a composite colossal sculpture in the National Museum at the Palazzo Massimo and colored stone statuettes (see below), and shows its relationship to other statue types with a raised arm holding a tympanum. See also Naumann 1983, 247ff., 359ff., Nr. 554-79, pl. 41-3.

[188] Rome, National Museum at the Palazzo Massimo, inv. 124495: LIMC II (1984) 1093, no. 274, s.v. Athena/Minerva (Canciani) Schürmann 1985, 10, n. 94; Schneider 1986, 159 n. 1190; Koch 1994, 51, 199, no. 42; Gregarek 1999, 190-1, cat. B57.

[189] Gregarek 1999, 190-1, cat. B57. On the Athena Carpenga type: LIMC II (1984) 1085, no. 144b, s.v. Athena/Minerva (Canciani).

in white marble, although none are preserved.[190] The high placement of the goddess's belt date the archetype to the Hellenistic period, likely in the middle or second half of the second century BC.[191]

The **Artemis of Ephesos** sculptural type is extant in white marble versions[192], including the two sculptures excavated at Ephesos[193], but also in several composite sculptures that make use of white or warm yellowish stones for her garments and varying materials for the skin portions. In the second century AD sculpture in Naples, the garments are in alabaster while the head, hands, and feet were added in another, unknown material that is now replaced with bronze.[194] The patinated dark bronze of the restoration may indicate the presence of a dark material that the restorers sought to recreate – perhaps darkened bronze or a black stone. The combination of a black limestone or marble skin with light colored garments is attested in the Claudian statue now in the Villa Albani, although the dress is carved from white marble.[195] It also attested in one second century AD small-scale replica of the type, now in the Sala delle Colombe in the Capitoline Museums[196], and two statuettes.[197]

[190] Dresden, State Art Collections, Albertinum, Herrmann-Verzeichnis 216: Gregarek 1999, 191, cat. B58, with literature.

[191] Koch 1994, 116-7; Gregarek 1999, 190-1, cat. B57.

[192] The replicas and the various types of the Artemis Ephesia are catalogued most fully by Fleischer 1973, 1978. See also, LIMC II (1984), 755-63, s.v. Artemis Ephesia (R. Fleischer); Lidonnici 1992.

[193] Both the Prytanion, one in large-scale: Selçuk Museum, (with two inv. Numbers), inv. 718 and 1637 and one in small-scale: Selçuk Museum, inv. 717: Fleischer 1973, no. E46 pl. 18-23 and no. E47, pl. 24-8; LIMC II (1984), 760, no. 73 and 74, s.v. Artemis Ephesia (R. Fleischer).

[194] Naples, National Archaeological Museum, inv. 6286: Gregarek 1999, 183, cat. B25; LIMC II (1984), 759, no. 49 s.v. Artemis Ephesia (R. Fleischer); Fleischer 1973, 8f., no. E23, pl. 11, with literature.

[195] Rome, Villa Albani, Galleria del Canopo, inv. 658 (H: 1.58m): Fleischer 1973, 13, no. E41; Bol 1982, 352ff., pl. 195-7 (A. Linfert); Gregarek 1999, 184, cat. B26, fig 45.

[196] Rome, Capitoline Museums, Sala delle Colombe, inv. 49 (inv. Albani A 48), garments in Luna marble, head, hands and feet in bigio morato, H: .86m: Stuart Jones 1912, 157ff., no. 49, pl. 38; Fleischer 1973, 10f. no. E31; LIMC II (1984), 759, no. 58, s.v. Artemis Ephesia (R. Fleischer). Gregarek 1999, 184, cat. B27.

[197] Paris, private collection, garments in alabaster: LIMC II (1984), 759, no. 56, s.v. Artemis Ephesia (R. Fleischer); Gregarek 1999, 184, cat. B28. Rome, Magazzines of St. Prisca: Fleischer 1973, 418, no. E44a; Gregarek 1999, 184, cat. B29.

2.1.a.xv White marble and terracotta – 2 sculptural types

Two sculptural types are each preserved in white marble replicas and very fragmentary terracotta replicas. In the terracotta version of the **Artemis Colonna**, well known in white marble versions[198], only a small fragment of drapery that includes the strap across the goddess' torso can be certainly identified with the type.[199] However, there are also fragments of a female head that is very close to that of the Artemis Colonna and, given the drapery, should likely be associated with the same statue.[200] The sculptural type has been dated to the second half of the fourth century BC.[201] Terracotta fragments of a male head present a classicizing take on the Apollo dell'Omphalos that is closest to the **Capitoline Charioteer**, including enough of the distinctive hairstyle to identify consistency with the marble charioteer.[202] The Capitoline Charioteer sculpture, at least the head, is most likely a first century BC severizing variant of the Apollo dell'Omphalos, a statue of 470-460BC.[203] The two terracotta replicas were excavated in the same deposit on the Palatine Hill, along with several other fragments of nearly life-size terracotta sculptures.[204] One of

[198] Cf. *Polyklet*, 611ff. (A. Linfert); Giuliano 1979, I,I, 77, nr. 61 (J. Papdopoulos); *LIMC* II (1984), 638-9. no. 163 s.v. Artemis (L. Kahil); Fuchs 1999, 221, fig. 239.

[199] Palatine Museum, inv. 379671: Tomei 1992, 195-6, nr. 6.

[200] Palatine Museum, inv. 379686 (hair): Tomei 1992, 195-6, nr. 5 and inv. 379563 (face): *ibid*, 198-9, nr. 8.

[201] Fuchs 1992, 1696: 440-430 BC. Bieber (1977, 88-9, fig. 356-7) recounts proposed dates from the first half of the fourth century BC to the last third of the same century.

[202] Palatine Museum: inv. 379564: Tomei 1992, 184-8, nr. 2; Tomei 2014a, 183, cat. 19.2. On the Capitoline Charioteer, see: Paribeni 1951; Guerrini 1959b; La Rocca 1987, collecting replicas of the type p. 27-30). The Palatine head differs from the Capitoline one principally in that the terracotta braids cross over one another at the back of the head (like those on the Kassel Apollo or the Kouros Pisoni), while the marble ones are superimposed. Still, its closest parallel is the Capitoline Charioteer (La Rocca 1987; Tomei 1992, 187).

[203] Cf. La Rocca (1987, esp. 37-47), highlighting the unique nature of this statue's severizing character: either, it accurately borrows severe forms from several different statues (rather than pairing certain severe features with those of other periods), or, it copies a Greek original of the Severe style. The head, however, is clearly related to and, many consider, derived from the Apollo dell'Omphalos: von Steuben and Zanker 1966; Ridgway 1970, 60ff., fig. 94-5; Zanker 1974, 91, n.5. On the Apollo dell'Omphalos: LIMC II,1 (1984), 257, nr. 599 s.v. Apollon (E. Simon); Stewart 1990, fig. 285-6.

[204] Tomei 1992, 1990a. On this excavation and all of these terracotta sculptures, see below, Chapter 3, section 3.3.

these replicates the Hera Borghese, discussed below, while another closely parallels an Apollo type from the fourth century BC.

2.1.a.xvi White marble, terracotta, and plaster cast – 1 sculptural type

The so-called **Hera Borghese** is extant in white marble replicas, like the eponymous sculpture in Copenhagen[205], as well in a fragmentary replica of the head in terracotta[206], and in one fragment of a plaster cast from Baia that replicates a portion of the drapery from the front torso of the figure.[207] The sculptural type, representing an Aphrodite rather than Hera, has been generally agreed to date to the period 430-410 BC, although it has been attributed both to Agorakritos and to a north Peloponnesian school.[208] Those who attribute it to the Parian Agorakritos generally subscribe to the opinion that the original sculpture was carved from marble.[209]

2.1.a.xvii White marble and plaster casts – 9 sculptural types

Several sculptural types are preserved in white marble replicas as well as in fragmentary plaster casts excavated in the Baths of Sosandra in Baia (ancient Baiae). This deposit seems to represent a destroyed and dumped collection of positive plaster models – produced from negative casts taken of bronze sculptures – that once belonged to a marble sculptors' workshop that was active in the first and second centuries AD.[210]

[205] Copenhagen, Ny Carlsberg Glyptothek inv. 473: Moltesen 2002, 46-8. There are fifteen replicas (two with the head), three heads alone and a statuette. On the type, cf: Wichmann 1977; Zancani Montuoro 1933; Landwehr 1985, 88-94; Delivorrias 1993 and 1995; Pasquier 2004.

[206] Palatine Museum, Inv. 379562: Tomei 1992, 188-90, nr. 3; 2014a, 185, cat. 19.4.

[207] Landwehr 1985, 88-94, cat. 53, pl. 54, 55.

[208] Cf. Landwehr 1985, 88-90. Full critiques of the series (with a few missing entries added by Landwehr 1985), can be found in Zancani Montuoro (1933) and Wichmann (1977).

[209] E.g. Schlörb 1964, 40, n. 51.

[210] Richter 1970; Landwehr 1985; Gasparri 1995.

C. Landwehr's study of the more than four hundred fragments was able to securely recognize the remains of known sculptural types. Two of these have already been mentioned above, the Mattei Amazon (preserved in white marble, lapis basanites, and a plaster cast) and the Hera Borghese (preserved in white marble, terracotta, and a plaster cast).[211] One other Amazon type, preserved in white marble, plaster, and in a bronze partial replica, will be discussed in the following section. Additionally, the Hera Borghese, discussed above[212], is preserved in white marbles, a plaster cast from Baia, and a terracotta replica.

Nine sculptural types are preserved only in white marble replicas and in fragments of plaster casts from Baia. The types represented include both those well-represented in marble replicas and those that preserve only a few copies; they replicate sculptural types whose originals date to the early fifth century BC and those that are creations of the fourth century BC or later. The plaster casts testify to the replication of famous, identifiable sculptures as well as that of familiar bodies that, however, cannot be securely identified among known, named ancient works.

Among the most famous and definitely the oldest of the sculptural types represented are the figures of both **Harmodius** and the **Aristogeiton,** figures from the Tyrannicides group[213] that once stood in the Athenian Agora. The bronze originals of the type were sculpted by Kritios and Nesiotes in 477/476 BC as a replacement for the original bronze statue that was removed to Persia by Xerxes.[214]

Plaster fragments also preserve portions of the so-called **Westmacott Ephebe**, known in white marble replicas, which replicates a youth that has been ascribed to Polykleitos or his school as a bronze of the period 460-400 BC.[215]

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[211] See supra, section 2.1.a.iv, p. 57-58.

[212] Supra, section 2.1.a.xvi, p. 78.

[213] Richter 1970; Landwehr 1985, 27-47, cat. 1-8, pl. 2-11. On the original statue, its sources, and the replica series, see also: Brunnsåker 1971.

[214] Brunnsåker (1971, 36) discusses the ancient sources identifying the artist, cf. no. 9 (Pausanias) and no. 11 (Lucian). On the history of the group: Landwehr 1985, 94-100.

[215] Landwehr 1985, 94-100, cat. 54-8, pl. 56-7. On the type, see also: Hafner 1955; Arias 1964, fig. 16-29; Lorenz 1972, 31-40, pls. 14.2, 16-17; Zanker 1974, 17-24; Ridgway 1995, 192-3. There is a fragmentary torso in the Museum

The so-called **Narcissus** is preserved in a fragmentary plaster cast from Baia as well as more than forty white marble replicas.[216] Like the Westmacott Ephebe, the original has been associated with the school of Polykleitos, dating to approximately 410-400 BC.

A figure of Persephone, or possibly Demeter, in the type known as the **Korinth-Mocenigo Mantle-figure (III)**[217], is preserved in numerous small fragments of plaster from Baia. None of the replicas have preserved a pertinent head, so differentiation between the goddesses remains uncertain.[218] The figure type may be first developed around 450 BC but the Corinth/Mocenigo type's severizing form may belong to the first century BC.[219] Opinions diverge about the material of the original, but a bronze likely existed at one time given the tendency of the Baia casts to reproduced bronze works.

The so-called **Sosikles Amazon**[220], named after the signed replica in the Capitoline Museums, is fragmentarily preserved in the plaster casts; pieces of all of the Amazon sculptural types known in free-standing versions (but not the one only represented on the Ephesos relief) were found in this cache.[221] The archetype of the Sosikles Amazon is the only one that most scholars agree dates to the original fifth century

of Samnium, Beneventum, inv. 1930, that may represent a lapis basanites replica of the type: Belli Pasqua 1995, 114-5, no. 91, pl. 84.

[216] Landwehr 1985, 100-2, cat. 59-62, pl. 58-9. See also: Zanker 1974, 26-27.

[217] Landwehr 1985, 47-60, cat. 9-28, pl. 12-25. Named after the copy in Corinth, Museum inv. 68 (Johnson 1931, 14f. Nr. 7) and the life-size Terme copy (Giuliano 1979, 333-4; and with a discussion of the issues surrounding the type:; Giuliano 1985, 359-63, VIII,i (de Lachenal); Palagia 1989).

[218] Some head types have been suggested, but are not certain: Paribeni 1955; Berger 1974, 135, n. 23.

[219] Palagia (1989) dates the original to 450-25BC, but discusses those authors proposing classicizing dates (*Ibid*., 327, n. 37). On the severizing nature of the variant and the possibility of no true prototype: Ridgway 2002, 167-9, n. 38-40.

[220] Landwehr 1985, 70-6, cat 40-1, pl. 26-43. The eponymous statue, signed by Sosikles, is in the Capitoline Museums (Helbig[4] II, Nr. 1393; Weber 1976, Nr. 1). On the attribution of the Amazon types, supra, p. 57-58, n. 77.

[221] On the Mattei Amazon, which is also preserved in white marble and lapis basanites, supra, section 2.1.a.iv, p. 57-58, and on the Sciarra/Lansdowne Aamzon, preserved in also in white marble and bronze, infra, section 2.1.a.xviii, p. 82-83.

BC dedication, probably between 440-430 BC, although opinions vary about the sculptor to whom it should be attributed.[222]

Plaster fragments preserve various portions of the **Athena Velletri**.[223] The original sculpture, probably cast in bronze and known in several Roman replicas[224], has been given various dates. Most likely, the type originated in a late-classical work of the years 440-400 BC, which has been attributed to several different artists of both Attic and Peloponnesian schools.[225]

Additionally, the fragmentary plaster torso of the toddler **Ploutos** testifies to the presence of a plaster model of the Eirene and Ploutos group[226]. The bronze original of the type, carved by Kephisodotos, appears on Panathenaic amphorae of the year 359/360 BC and must have been completed by this date.[227]

The **Apollo Belvedere** sculptural type is the latest of those certainly preserved in the plaster casts.[228] Known only in the Vatican marble statue and in one replica of the head now in Basel[229], the original has been attributed to Leochares and dated to c. 330 BC.[230] Recently, some scholars have favored the possibility that the statue might instead be a Roman creation, particularly since, they claim, the body type is not known in other replicas; this assertion fails to acknowledge the existence of the plaster casts, since these scholars have claimed that the Vatican statue is the only known sculpture of the type, while the head type could have

[222] Pheidias, Polykleitos, and Kresilas have been proposed, though Polykleitos currently finds the most acceptance.

[223] Landwehr 1985, 76-88, cat. 42-52, pl. 44-53.

[224] See the updates to earlier replica lists in Landwehr (1985, 76, n. 364). See also Vierneisel-Schlörb (1979, 136-47) on the Munich statue (Munich Glyptothek Bust, inv. Gl. 213), with a discussion of the type and literature.

[225] Landwehr 1985, 76-7. Vierneisel-Schlörb (1979, 139-40) identifies Kresilas as the sculptor.

[226] Landwehr 1985, 103-4, cat. 63, pl. 60. See also Vierneisel-Schlörb 1979, 255-74 on the type.

[227] First identified by Brunn (1867in [Brunn 1905]). See also: La Rocca 1974; Landwehr 1985, 103; Stewart 1990; 14, 173-74, pls. 485-87. Pliny the Elder (*NH* 34,50) ascribes a statue of this subject to Kephisodotos.

[228] Landwehr 1985, 104-12, cat. 64-7, pl. 61-4. Note that the cast of a left hand (cat. 67) is only suggested to belong to the type, since the left hand is not preserved in the Vatican statue but is a restoration (Mattusch 1996, 141-9).

[229] On the Vatican statue: Helbig[4] I, Nr. 226 (Fuchs). On its discovery and early reception as a Greek original: Haskell and Penny 1981, 148-51, no. 8. For the head in Basel: Bloesch 1943, 178.

[230] First attributed by Winter (1892). Contra: Deubner 1979. On the history of interpretations: Mattusch 1996, 141-9; 2002, 99-101.

been reproduced separately for other bodies.[231] The plaster casts, however, replicate the right hip, the genitals, and the right knee, testifying to the existence of a model of the entire body. As this workshop has been shown to have produced multiple marble replicas by reference to a single plaster cast in its collection[232], it is probable that this cast too, was intended to inspire full-figure reproductions of the Apollo Belvedere type in white marble. Moreover, the plaster casts from Baia can often be shown to have been created from negative molds of finished bronze statuary, suggesting that a bronze statue of the Apollo Belvedere may once have existed.[233] For now, it remains unanswered whether such a bronze statue was the original that lay behind the Vatican statue (or vice versa, or whether both copy an earlier statue) and, regardless of that fact, whether the original – in whatever material – may be dated to fourth or the first century BC, or even later.

2.1.a.xviii White marble, plaster cast, and bronze(?) – 1 sculptural type

Finally, the **Sciarra or Lansdowne Amazon** is known in several white marble replicas which have given the type different names, as well as the fragmentary remains of a plaster cast from Baia.[234] An extraordinarily complete replica of the Hadrianic period, missing only the fingertips of the left hand and preserving several indications of polychromy, was exacavated at Écija in Spain in 2002.[235] Unusually, this series includes a second white marble versions with well-preserved painted decoration, the one recently

[231] Mattusch 1996, 141-9; 2002, 101; Perry 2005, 6. On the head type see: Fink 1964; Marvin 1997.

[232] Gasparri 1989, 1995.

[233] For the identification of the material of the statues from which the casts were taken, see Chapter 3, section 3.2.a. When it can be identified, it is always bronze, although the fragments of the Apollo Belvedere preserve none of the markers available in other casts (largely due to which portions of the body are preserved).

[234] Landwehr 1985, 61-4. The "Sciarra" type is so named after the Copenhagen replica (Ny Carlsberg Glypothek, inv. 54: Weber 1976, Nr. 2; Moltesen 2002, 207-11); it is also referred to as the Lansdowne Amazon type, after the statue in the Metropolitan Museum of Art (Richter 1954, no. 37, pls. 34-6) or the Berlin type after the copy in that city (Berlin, State Museum; Blümel 1928, Statue K176; Weber 1976, Nr. 3). The type is generally associated with Polykleitos - on the type and attributions, see above, p. 50 n. 77.

[235] Cf. León 2008 (with bibliography regarding the excavation); Østergaard et al. 2014 (regarding its polychromy).

discovered at Herculaneum.[236] Moreover, loosely affiliated with the type is the bronze Amazon herm excavated in the Villa dei Papiri.[237] While the face diverges from all of the known Amazon types, Carol Mattusch argues that the hair is nearly identical to the Sciarra/Lansdowne Amazon type.[238] The archetype has been discussed both as a part of a fifth century BC sculptural contest or, more controversially, as a dedication of the late Hellenistic period or, even, by Augustus.[239]

2.1.b Patterns and open questions

The section above illustrates the wide variety of sculptural types that were replicated in multiple materials and illustrates a few patterns in the Roman use of materials. The most clearly identifiable pattern is the prevalent use of *lapis basanites* or black limestones and marbles for the reproduction of a variety of sculptural types that date to a wide range of periods. This tendency has already been acknowledged by many scholars and has encouraged some to think that the use of dark-colored stones was intended to allude to the bronze material of the original. In some cases, this explanation is plausible; it does not seem to be a coincidence that Roman replicas of athlete figures whose archetypes would likely have been bronze are extant only in bronze, white marble, and dark-colored stones. However, this theory cannot explain why there are replicas in dark stone of sculptures whose archetype was made of white marble (like the various Venus types descended from the Knidian Aphrodite) or, even, of terracotta (like the Herakles Albertini, replicated in a colossal lapis basanites statue for the Domus Aurea). Moreover, it does not sufficiently explain why the replicas of Hellenistic bronze archetypes (e.g. the Young and Old Centaur; the Hanging Marsyas) are produced in a wider variety of materials than those of classical bronze archetypes. The reddish

[236] Ascione and Pagano 2000, 127; Pagano 2000, 22-23; Mattusch 2005, 280-1, fig. 5.196;.

[237] National Archaeological Museum of Naples, inv. 4889.

[238] Mattusch 2005, 278-282, fig. 5.191-93. Previously, the head has been considered divergent from but related to the Mattei type (Ridgway 1974, 4-5, n. 20 with bibliography), which has always been found headless.

[239] Ridgway (1974, 14-5, 17) suggests that Augustus may have dedicated it, along with the pendant Doria-Pamphilj Amazon, alongside several architectural improvements to the sanctuary.

stones used for some replicas of these types have also been explained as a reference to the colors of the bronze original, without accounting for how this allusion worked across time, space, and aged materials.[240]

2.2 Toward a methodology for materials

As described in more depth in the introduction, materials and their analysis have played varying roles in the study of Roman sculpture. Among scholars of the Neo-classical period, the snowy white marble of sculptures reflected their purity and grandeur. To those of the late 19th and early 20th century, marble copies were poor substitutes – of clumsy or excellent quality – for the bronze originals they replicated in a statically inferior material. Colored stones have often been understood as a special kind of conspicuous consumption, thanks in large part to Pliny the Elder's disapproving remarks.[241] More recently, scholars have investigated them as representative of the vast economic power of the Roman administration, as symbols of empire, and as creative emulations or allusions to other materials.[242] Studies of ancient quarry sites have identified the provenance of the majority of stones exploited by the Romans.[243] The ever-growing list of publications on the polychromy applied to white marble sculpture and the ancient surfaces of bronze statuary provides promising data for a more accurate understanding of the appearance of sculpture in antiquity.[244]

The results of these investigations, however, often remain unexploited or unknown to the majority of the field. While a few remarkable works manage to integrate sensitive studies of materials with formal

[240] Old and Young Centaurs: Morawietz 2005; Hanging Marsyas: Weis 1992.

[241] Cf. Wallace-Hadrill 1990; Carey 2003.

[242] Schneider 1986, 2002; Gregarek 1999; Russell 2013.

[243] Recent summaries: *Radiance in Stone;* Lazzarini 2007; Pensabene 2013. Building on the foundational work of J.B. Ward-Perkins (cf. Ward-Perkins 1992 and 1971).

[244] Among many others, the following have special relevance for the Roman context: Lahusen and Formigli 2001; Brinkmann et al. 2010; Formigli 2013b; Østergaard 2014.

and iconographic investigations[245], many address the image without comment upon its material. The lack of concern for precise identification is most evident in the fact that most museum catalogs fail to name or discuss the materials of works in their collections, even those whose stones they have allowed to be scientifically provenanced. There are few texts that bridge the gap between material and formal, historical, or iconographic analysis. Assertions of material meanings and exploitations often rely upon modern evaluations whose relevance for ancient viewers remains unexamined.[246] In general, scientific analyses are marginalized among art historians, interpretive investigations are usually focused on single examples whose conclusions rarely transfer to other situations, and the field's single attempt to classify and categorize the ways that Roman art exploited materials to create meaning is a brief article published only in 2015.[247] There is no established methodology for the investigation of Roman sculptural materials that could help scholars integrate materials analysis with other scholarly questions.

This section offers a theoretical foundation for the method of investigation utilized in the case studies of the following chapters; specifically, it offers an approach to the study of Roman sculptural materials that is grounded in historical reception and reception aesthetics.[248] That is, this methodology is premised upon the concept that materials are evaluated in a highly relational and contextual manner that demands a two-fold investigation of, first, the historical context that conditioned the reception of a new sculpture's material and, second, of the ways in which the sculpture's craftsmanship attempted to augment or negate relationships between the material of the new sculpture and the pre-existing landscape of material exploitations.

Regarding the first point, this section outlines the parameters for attempts to reconstruct a historical context of materials that, like the Roman sense of *decorum* or Bourdieu's *habitus*, is both a background that

[245] E.g. Stewart 2003.

[246] See discussion in Chapter 1.

[247] Allen 2015.

[248] Cf. Trimble (2015) for a history of the application of these methods to the study of the Roman adoption of Greek styles and compositions.

structures response and a generative foundation for innovation. However, the material context can be discussed as a singular entity only for distinct sites encountered by specific interpretive communities; works within the city of Rome are necessarily evaluated against the material context of the city but experienced differently by members of varying social, economic, or religious groups. The material context can be further specified either by considering this viewer or audience group (e.g. cult initiates) or by the more local context of display (surrounded by works in similar or different materials). In this case, it is useful to consider that the *habitus* is made up of multiple *mediascapes*, that is, spatially and/or temporally specific contexts within which a work's materials were evaluated. The material of each sculpture or other artwork is defined in dialogue with these *mediascapes*, which range from the diversity of a site of display to the historical exploitations of the same material or to representations of the same subject in a different material, that are known to the viewer via existing statues or, even, literary descriptions. Moreover, this section proposes that one of the most crucial mediascapes for the evaluation of each material must have been its adherence to or divergence from its particular history of use as understood by the contemporary audience; it is only in this sense that the idea of medium specificity is applicable to the ancient world. The modernist notion that each medium (broadly considered, e.g. painting or sculpture) has a particular identity or goal that it strives to attain was unknown to the ancient world.[249] Instead, each different material should be considered a distinct *medium* in the sense that it is a specific technology that had a history of exploitation, often dependent upon its physical and technical idiosyncrasies, that provided a material-specific mediascape.[250]

Regarding the second point, this section offers a theoretical foundation for the investigation of material reception aesthetics. While scholars of Roman art have extensively investigated the ways that styles of representation can help ensure that a sculpture is received within a specific frame of reference, for the most part there have only been connoisseurial discussions of the way that materials were exploited for

[249] Allen 2015. Cf. the sculptures discussed in Ridgway (1990a) that finish marble sculptures with bronze attachments and Roman bronze sculptures designed with the supports of marble works. See also Köpcke 1964.

[250] This meaning for the term medium is established among scholars of new media (infra, section 2.2.a, p. 99-100).

the same purposes.[251] Too often, scholars have applied the terminology and approach of formal analysis to their material studies and have uncritically identified material imitation or allusion. While a subject or style can be nearly identically replicated, even in another material, scholars have failed to ask how, exactly, a stone can imitate bronze or whether it matters that a similar visual effect might only be achieved in two diverse materials via quite different technical means. This section proposes that a more media-centric methodology is required to examine the ways in which such trans-material connections are generated. In particular, it suggests that a modified version of the concept of *remediation* is best able to examine material reception aesthetics, that is, the way in which craftsmanship sought to structure the reception of sculptural materials via the creation of relationships to existing material mediascapes.

The investigation of material relationships must engage both of these perspectives, investigating the material context against which the sculpture would be evaluated and examining the handling of the material in a particular sculpture that might have structured its reception via relationships with that context. Given the multiplicity and variability of mediascapes, further complicated by factors of preservation, it would be futile to attempt to reconstruct the innumerable mediascapes that must have existed within the city of Rome. Instead, this chapter offers a broad analysis of the Roman mediascape, which is particularly well-documented via archaeological or textual sources. Moreover, the appendices provide surveys of a few specific mediascapes that are not treated in other sections of the dissertation. Appendix B, for example, provides a more in depth discussion of the numerous dark-colored stones that were frequently utilized for Roman ideal sculpture, articulating the contours of an as yet undervalued mediascape and clarifying many points regarding stone identification and characterization. Appendices C and D, meanwhile, survey the evidence for the superficial adornment of sculpture in white marbles and stones and in copper alloys.

[251] Schneider's (1986) analysis of the polychrome garments of barbarians is a notable exception, although many of his interpretations appeal to a sense of 'naturalism'. Gregarek (1999) offers helpful summaries of material exploitation, but her interpretations of how those patterns were exploited are often subjective suggestions, like the visual similarity between rosso antico and wine.

The case studies examined in each chapter illustrate the practical application of the methodology described in this section. Each chapter analyzes the ancient materiality of a one or more sets of replicas extant in more than one material and then traces the potential relationships to various mediascapes: of the replicas of the same type or subject; of the archaeological context, when known; of works in the same material; of works in similarly colored materials; of works that utilize similar superficial adornment; and more. The case studies demonstrate a method for conducting historically contextualized investigations of individual and groups of sculptures that examines material exploitation alongside stylistic, formal, and socio-historical issues.

2.2.a Part 1: Mediascapes of historical reception

The study of historical reception was spearheaded by the work of Hans Robert Jauss, a literary scholar who sought to identify the "horizon of expectations" that informed an audience's engagement with a text.[252] He sought to characterize how the specific historical context against which a text is read impacts its reception and, as this context changes over time, results in shifting interpretations of an unchanging text. His work finds many parallels in Roman art historical scholarship that seeks to identify the socio-historical context of artworks and has been picked up in the work of classicists who identify the interpretive communities of ancient texts.[253] The many different contexts of historical reception that have already been considered for Roman art range from the conventions of genres (like portraits[254]) to viewing conditions and inherited or stereotyped forms (like period styles[255] or rank-specific gestures[256]). It is a simple extension of

[252] Jauss 1982.

[253] On historical reception in the study of Roman art, cf. Trimble 2015. Perry (2005) discusses the expected knowledge of Roman viewers gained through education. Regarding classical texts, Wheeler's (1999) reading of Ovid depends on Stanley Fish's (1980) concept of an interpretive community.

[254] E.g. Hallett 2005b.

[255] Hölscher 2004.

[256] Brilliant 1963.

this type of investigation to suggest that it must also be possible to trace the set of expectations that pre-conditioned the Roman reception of a work's material. What remains is, however, to establish exactly how to investigate and identify the kinds of information that would contribute to a 'material context' of this kind. Only a few ancient texts deal directly with materials that were used for sculpture and these can only very rarely be connected with extant ancient artworks and, even when they can, there are often contradictions. For example, the sculpture of Laocoön with his sons now in the Vatican was famously identified from a passage in Pliny the Elder (*NH* 36.37), but Pliny's amazement that it was carved *ex uno lapide* is contradicted by archaeological work's piecing of several blocks. The work has been subject to a shifting interpretations since its rediscovery.[257] At its heart, Jauss's concept relies on the ability of the modern reader or viewer to reconstruct the experience of a particular period, a challenge even for the scholar who strives to account for and counter the strong influence of her own historical and material context. Moreover, even if successful at reconstructing a general context, it is difficult to allow for the varying perspectives of individuals, social or economic classes, or religious groups. These concerns can be partially, although not fully, addressed by a turn toward more recent theoretical writings on media that seek to articulate more personal contexts of reception that selectively draw on a shared historical context.

One of the most relevant of these is the concept of *mediascapes*. The term mediascape was coined in A. Appadurai's 1996 *Modernity at Large: Cultural Dimensions of Globalization*. Appadurai discusses mediascapes as one of "five dimensions of global cultural flows", alongside ethnoscapes, technoscapes, financescapes, and ideoscapes.[258] The terms are intentionally plural, since Appadurai conceives of them as ever-changing and multiple, emphasizing that the suffix –scape indicates the perspectival nature that can be specific to nation-states, diasporic communities, religious or communal groupings, villages, families and, even, the individual. Building on the work of B. Andersen[259], Appadurai envisions these 'landscapes'

[257] On its long history: Settis 1999; Brilliant 2000.

[258] Appadurai 1996, 33. Appadurai's terminological discussion extends from p. 33-7.

[259] Anderson 1983.

as the building blocks of "*imagined worlds*, that is, the multiple worlds that are constituted by the historically situated imaginations of persons and groups spread around the globe".[260] For Appadurai, the multiplicity of imagined worlds thanks to globalizing technology, rather than smaller, imagined communities, is a critical facet of modern life. While there are innumerable differences between the modern situation and the Roman one, the idea that a mediascape allows and/or directs certain aspects of the imagined life of a community can be usefully applied to the ancient world. Mediascapes refer both to the type and availability of certain kinds of media as well as to the "images of the world created by these media".[261] Perhaps most relevantly, Appadurai envisions mediascapes as

> "image-centered, narrative-based accounts of strips of reality, and what they offer to those who experience and transform them is a series of elements (such as characters, plots, and textual forms) out of which scripts can be formed of imagined lives, their own as well of those of others living in other places. These scripts can and do get disaggregated into complex sets of metaphors by which people live (Lakoff and Johnson 1980)[262] as they help to constitute the narratives of the Other and protonarratives of possible lives, fantasies that could become prolegomena to the desire for acquisition and movement."

It is this sense that mediascapes may be most productively considered in the Roman period. For generations, scholars have been studying how the sculptural media brought to Rome from Greece – paired with art historical literature that commented upon them – shaped the Roman opinion about Greek art, allowing them to imagine a specific kind of Greek past that shaped their media representations of Roman present.[263] Yet such works have studied, almost entirely, the images created by media, the content rather than the medium. Studies of technology and production have traditionally been separated from those that deal with content, style, and meaning.[264] The present project seeks to emphasize the physical aspect of

[260] Appadurai 1996, 33.

[261] *Ibid.*, 35.

[262] Lakoff and Johnson 1980.

[263] Most notably: Pollitt 1978; Zanker 1988; Hölscher 2004.

[264] Recent decades have seen greater collaboration between the two fields, notably, the work of Carol Mattusch (esp. 1996) and that of the Copenhagen Polychromy Network led by Jan Ostergaard (for an updated list of publications and access to preliminary reports, cf.: www.trackingcolour.com/publications). Still, as long as the educational paths for art historians remain sharply divided from those of conservators or scholars of materials science, it will be difficult to substantially transform this tradition.

Roman mediascapes as equal in importance to the images, to study the intricacies of their means of communication as much as what it is that they communicate.

As a point of clarification, this project does not study the "media everyday" of R. Grusin, a term which blends Appadurai's mediascape with daily practice and places a heavier emphasis on the agency of media, their affective role, in establishing the habits of modern life.[265] While it would be useful to imaginatively reconstruct the variety of media with which a Roman interacted on a daily basis and the various impacts those media might have had, this would not precisely be the same project as establishing Roman mediascapes. Grusin's term refers to the specifically intensive and constant nature of our contemporary interaction with media, to the extent that "our everyday experience is now increasingly a media experience".[266] Grusin can work through such daily media practices because he has the benefit of analyzing the contemporary era, for which scholars of new media, himself included, have already delineated the contours of various perspectival mediascapes. The present project, by contrast, must begin with an investigation of specific Roman mediascapes and the media practices they engendered. Additional studies of other Roman mediascapes might, eventually, make it possible to study the media everyday of Roman life.

The contrast between Appadurai and Grusin's concepts are, however, crucial. Whereas the former's mediascape sometimes seems to be a passive background, from which humans select in order to constitute narratives, Grusin emphasizes the agency of various kinds of media to affectively transform humans. Somewhere behind and between both of these concepts is P. Bourdieu's *habitus*, most fully expressed in the description he gives in his 1990 *The Logic of Practice*:

> "Systems of durable, transposable dispositions, *structured structures* predisposed to function as *structuring structures*, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the *operations* necessary in order to attain them. Objectively

[265] Grusin 2010, 90-121.

[266] Grusin (*Ibid*., 90, n. 3) clarifies his concept of the "media everyday" in relation to Appadurai's mediascape and Michel de Certeau's practices of daily life (de Certeau 1984).

> "regulated" and "regular" without being in any way the product of obedience to rules, they can be collectively orchestrated without being the product of the organizing action of a conductor."[267]

This formulation is thoroughly modern and structuralist, but it has parallels in the ancient world. In Rome, the closest is the concept of *decorum*, a set of accepted socio-cultural norms; a 'structuring structure' whose rules are regularly practiced and collectively enforced, but not intentionally orchestrated. 'Rules' of decorum existed for artistic styles and materials, too. E. Perry's analysis of decorum in the realm of the visual arts of ancient Rome describes its strongly prescriptive nature that imposed "on artists and patrons alike a requirement to respect tradition and to justify all decisions to innovate."[268] She argues that Roman 'visual conservatism' was founded in notions of decorum that had their origins in the rhetorical and literary sphere, even while allowing that the need to suit new contexts and subjects required innovation (that was, of course, based in tradition). Perry's book describes a kind of invention within continuity, particularly in strategies of adapting sculptural types or recombining them in the so-called eclectic manner. Employing the description offered by Perry's analysis, *decorum* can be considered the habitus of Roman sculpture.

Decorum has also been argued to structure a patron's selection and deployment of materials in architecture and sculpture.[269] In particular, M. Popkin's analysis of the materials used in Republican victory temples suggests that the principles of *decorum* explain the dynamic meaning of materials, that is, the way that their significance is dependent upon the relationships to other materials and aspects of their environment.[270] The status of the patron, the function of the building, the architect, the intended audience, and the particular socio-historical context of the temple all cooperate to determine which norms pertained to each temple's construction. Each of Popkin's case studies is a thorough analysis of the building's materials, their possible connections with the materials of preceding buildings or structures, and an attempt to account for their choice of materials in a way that takes into account the various aspects mentioned above.

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[267] Bourdieu 1990, 53.

[268] Perry 2005, 49. The principle of decorum lies at the heart of her project, cf. esp. chapters 1 and 2.

[269] Gregarek 1999, 2002; Schneider 1986, 2002; Popkin 2015.

[270] Popkin 2015.

Each study is convincing on its own, but taken together they reveal the difficulty of using *decorum* as an heuristic tool for the study of materials.[271] Often, Popkin's conclusions can seem contradictory. She argues that principles of *decorum* can account both for prioritizing marble for the construction of one temple (paired with a stuccoed tufo portico) and for the use in a later period of stuccoed tufo for a temple (paired with an acrolithic cult statue that uses Parian marble for its head).[272] The marble of the temple can be considered part of a pious dedication, while the portico is lower in the hierarchy of the sacred complex; the Italic style of the tufo temple can encourage the use of typically Italian – instead of Greek – materials, while the island marble might have been preferred to emphasize the Classicizing style of the sculpture. In other words, based on the variability of other circumstances, tufo can be perfectly acceptable and even desirable as the primary material for a temple or it can be considered too cheap and simple of a material to sufficiently honor the deity.

The arguments of Popkin's article are specific and correct, namely that a material's significance is relative to its deployment and that the principles of *decorum* pertaining to the socio-cultural context of the monument regulate the exploitation and significance of its materials. However, her analysis falls short in two related ways. First, she does not consider how the rules of decorum came to be established, that is, how these specific rules became the organizing principles that could explain or regulate selection and deployment. Second, she offers no consideration of how the rules could change over time – that is, how ideas about materials and tastes for them could evolve. For example, when the three kneeling Parthians, probably intended for an Augustan tripod victory monument, were carved from pavonazzetto, they were the first extant sculptural employment of this stone in the city and were among the earliest imperial public or private dedications of colored stone statuary.[273] Their material was eye-catching and precedent-setting.

[271] *Ibid.*, (p. 17 of 45); Perry 2005, 37.

[272] Popkin 2015: Metellus' Temple of Jupiter Stator and the Porticus of Metellus, later the Porticus of Octavia (p. 10 of 45); the Temple of Fortuna Huiusce Diei, Temple B in Largo Argentina (p. 16 of 45).

[273] Cf. Schneider 2002; Other early public dedications include the red and black canephorae that were dedicated along with the Portico of the Temple of Palatine Apollo in 28 BC (infra, Chapter 5, section 5.2).

More than a century later, the barbarians of the attic porch of Trajan's forum were carved variously from pavonazetto, serpentino, and nero antico.[274] Even the combination of their many materials may not have been as impressive and shocking as the material of their kneeling ancestors had been, since generations of imperial commissions using colored marble had redefined the norm. The reception of a sculpture's material, and a viewer's experience of it, is necessarily conditioned by the viewer's frame of reference.

The material context must be understood as an evolving fabric. As Perry noted, decorum allows for innovation based upon tradition. Over time, such interventions change the rules of decorum. Likewise, the *habitus* provides a foundation for innovation. In an earlier work, Bourdieu described *habitus* as:

> "A system of lasting, transposable dispositions which, integrating past experiences, functions at every moment as a matrix of *perceptions*, *appreciations*, and *actions* and makes possible the achievement of infinitely diversified tasks, thanks to analogical transfers of schemes permitting the solution of similarly shaped problems."[275]

A crucial aspect of this formulation is that of analogical transfers. Novelty is made comprehensible via existing points of reference. O. Lizardo has illustrated that habitus has a dual role in the writing of Bourdieu: "the *habitus* as a *perceptual and classifying* structure, and the *habitus* as a generative structure of *practical action*."[276] If this is correct, in order to understand the meanings of the material in a given sculpture or architectural monument, especially novel materials or uses, it is crucial to have as comprehensive a knowledge as possible of the existing exploitations of materials at the moment in which a sculpture is made. Otherwise, it is impossible to judge what analogical transfers an audience might employ to evaluate the new work.

Moreover, each sculpture or new architectural work represents an intervention that alters that context. It is impossible to speak of a single material context of the city of Rome, or even of a single villa. As one object darkens with age, a freshly painted work is set up next to it, reclassifying the first as older.

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[274] Schneider 2002 and 1986.

[275] Bourdieu 1977, 95.

[276] Lizardo 2004, 379. Contra, regarding this aspect of Bourdieu's theory as contradictory to his purposive social agent: Alexander 1995, chpt. 4, p. 128-217; King 2000.

Maintenance might increase the darkening of a bronze statue, even while it adds to its shine. On the other hand, it might transform an old work, revitalizing and modernizing it with a new superficial adornment. The new style of the addition stands in dialogue with the older, or its novel material makes a contrast in color or treatment. Each sculpture enters into the physical environment, defining itself against the background of existing possibilities. The environment of previous material exploitations determined the reception of new works, while the new works redefined the earlier ones and became a part of the environment against which future works could be judged. Articulating each dimension of the material context at each moment in time is a futile endeavor. The only feasible pathway for such a project to proceed is, instead, by analyzing classes of objects that clearly shaped a broad and general set of expectations and, then, in the examination of individual sculptures, to seek out as many connections to these mediascapes as possible and to evaluate their relevance in defining the materiality of the sculpture at hand.

The most prominent of these broad mediascapes must be the wealth of statues and architectural ornaments brought to the city of Rome as the spoils of war. Alongside literal wealth of gold and silver, ancient authors, especially Livy, describe the thousands of artworks brought to the city in this manner. Military triumphs brought huge numbers of artworks to Rome from Etruscan Italy, Magna Grecia and, in far greater numbers, those from the sculpture-rich eastern Mediterranean.[277] The practice dates back to Rome's early wars with Etruria and sped up with the expansion of conquest wars beginning in 327 BC. Roman authors date the height of this activity from the fall of Syracuse in 211 BC (Livy 25.40.1-3; Plutarch, *Marcellus* 21.1) to Mummius' sack of Corinth in 146 BC (Strabo, 6.381; Pliny, *NH* 35.24). However, the pillaging of cities and sanctuaries continued long after these major events and seizure of specific statues is documented even into the empire.[278] A single triumph could bring hundreds of statues into the city, like that of Aemilius Paullus' after conquering Pydna in 168BC, for which Plutarch claims the parade required 250 wagons to move the statues alone (Plutarch, *Aemilius Paullus* 32-33). Surely some of figures are

[277] Pape 1975; Pollitt 1978, esp. 156-7; Bounia 2004; Miles 2008, 44-104; Holz 2009.

[278] Cf. Bounia 2004; Harris 2015.

exaggerations, but others are more specific and may derive from inventories, as in Livy's totaling of 285 bronze and 230 marble statues in the triumph of M. Fulvius Nobilior (Livy 39.4.13-16). This early period of conquest filled the city of Rome with "an enemy horde" of statues and monuments.[279] Distributed throughout the city, dedicated in temples, or stood up in porticoes and gardens, these works populated the city of Rome with a stolen grandeur.

While these works became public testimonia to conquest and positioned Rome as the inheritor of Hellenic culture, they also posed a moral dilemma for a people who considered themselves soldiers and statesmen rather than connoisseurs of the arts. The literary sources detail the distinct consciousness that high art was something foreign to Rome that, once adopted, transformed the character of the city and its inhabitants (Livy *Ab Urb.* 25.40.1-3; Pliny *NH* 33.148, 37.12-4; Plutarch, *Vit. Marc*. 21.5; Augustus *De civ. D.* 3.21). As Horace famously put it, "Graecia capta ferum uictorem cepit et artes intulit agresti Latio" (*Ep.* II. 156-7). Somewhere around the end of the second century BC, the Roman demand for *ornamenta* outstripped the availability of spoils, and a real market for sculpture and other artworks arose.[280] The production of sculptural copies, both intentional replicas and adaptations, took shape around this time, with the earliest example being the Diadoumenos, sculpted around 100 BC, excavated on Delos.[281] The Mahdia and Antikythera shipwrecks, as well as the cache of statues excavated in Piraeus, testify to the production of sculpture intended to serve this new Italian market.[282] These seem largely to have exploited the same materials as the antiquities, meant to restock the exhausted supply.

Upon reaching Rome, these sculptures encountered the materials of the productions of Etruria and Magna Grecia, forming a particularly striking contrast with their terracotta, which retained an aura of Italic

[279] A remark attributed to Cato (Livy *Ab Urb.* 34.4.3-4). For a collection of the statues and their locales in Rome: Bravi 2012.

[280] Harris (2015, 397-404) details the evidence for this transition. Cf. Miles 2008.

[281] Bourgeois and Jockey 2005; Bourgeois et al. 2009; Abbe 2011.

[282] Mahdia: Hellenkemper Salies et al. 1994. Antikythera: Bol 1972. Piraeus: Fuchs 1999, 9-22; Mattusch 1996 (Contra: Hartswick 2000).

identity into the empire.[283] The contrasting material histories were tangible to the Roman audience; Livy remarked upon the parade of bronze and marble past terracotta antefixes and Augustus was proud of his restoration projects that transformed brick temples into marble ones.[284] The Augustan period also introduced a more widespread use of colored stones for sculpture. Quarried from around the Mediterranean and brought to Rome at extensive cost, there was little direct precedent for their sculptural use.[285] Only a few sculptures, like the Isis from Palestrina[286], provided models for their use in classicizing sculpture. On the other hand, colored stones populated the sanctuaries of Egyptian deities. Both antiques and new sculptures could exploit a wide range of Egyptian stones or colored marbles.[287] Regarding the Egyptian antiques, there is even less textual information regarding the Roman reception of these stones, but there is significant archaeological evidence for their presence within the city. Even after massive fires in the imperial period, the use of Egyptian antiques and materials was central to the identity of these spaces, as in the Domitianic reconstruction of the Iseum Campense.[288] The rich natural resources of Egypt were displayed elsewhere in the city, particularly in the Flavian period, which saw the installation of colossal greywacke sculptures in the Forum of Peace as well as in the Aula Regia of the Palatine.[289]

The city fabric changed dramatically from generation to generation. To speak of the material environment of the city of Rome requires a periodization of materials in a constantly changing city that must always have been under construction or refurbishment. To articulate the mediascape of the city of

[283] de Angelis 2008; Touchette 2015.

[284] Livy *Ab Urb*. 34.4.1-4. Suetonius records this famous turn of phrase (*Aug.* 29). On its ancient reality, cf. Strazzulla 2010.

[285] An understanding of the massive variety and quantity of colored stones imported to Italy can be gained from the *I Marmi Colorati* exhibition catalog and from the survey of quarry sites and their histories of use by P. Pensabene (2013).

[286] Bruno and Pallante 2002, 172-3; Lazzarini 2007, 97; infra, Appendix B, p. 480.

[287] Cf. Roullet 1972; Lembke 1994a; Lollio Barberi et al. 1995; Müskens 2017.

[288] Cf. Lembke 1994a; Swetnam-Burland 2015a; Versluys 2017.

[289] Belli Pasqua 1995, 89-90, 98-99.

Rome is to tell a history of material exploitation – first or different uses of exotic marbles, or the infamous archaism of the terracotta plaques associated with one of the early phases of the Palatine complex of the House of Augustus and the Temple of Apollo – that is conscious both of the presence of the antiquities that represented a history of art in the city and of the destructions and refurbishings that rewrote that physical history. While additional mediascapes would enrich the analysis of the sculptures under examination here, the ones highlighted here and the more lengthy ones in the appendices provide a foundational point of departure.

Even these brief surveys illustrate the peculiar character of the Roman mediascape. While Rome had its own organic growth of artistic traditions, the city's public spaces were full of imported antiques from various places around the Mediterranean. Literary sources indicate that these were viewed as foreign, the Egyptian antiques perhaps especially so. At the same time, with control of the mines and quarries that had produced this "enemy horde" of sculptures, the materials were adopted for new sculptures by the Romans, so that even the greywacke precious to pharaonic portraiture was somehow incorporated into the Hellenistic tradition and the Roman concept of empire. The Roman mediascape is characterized by its multiple and multi-layered acts of reception of foreign material traditions.

These groups of imported work presented, to the Roman audience, pre-fabricated examples of the historic uses of materials: Greek classical athletes and warriors in bronze; sculptures of deities in marble; Egyptian gods and pharaohs in greywacke, granite, and diorite. They came *en masse*, rather than organically developing. A system of evaluation for the materials of the Greek tradition likewise came pre-formed in the art historical literature, while priests and scholars might have provided a framework for understanding the Egyptian material traditions. From a macroscopic perspective, the materials of the sculptures spread throughout the city formed a mediascape that helped to establish the expectations of the Roman viewing audience. Each new sculpture could be understood in relation to the broad material context as well as, more specifically, in relation to the other sculptures of the same material. Certain physical properties dictated technical limitations or effects of aging, while the imported sculptural traditions displayed histories of how the material had been used in the past. The mediascape that pertains to the visible uses of a particular

material must be one of the most critical aspects of the context that determines the reception of a new work's material. It is in this sense that each sculptural material should be understood as a distinct medium, a technology with a history of use that depends upon the abilities and limitations of its physical characteristics.

This definition of a medium is derived not so much from art history or criticism but from the media studies that follow the tradition of M. McLuhan.[290] Though McLuhan would have identified sculpture as a single medium, distinguishing the materials of sculpture as separate media can be understood as an extension of his critical tradition. McLuhan established that the content of any medium is another medium; to understand a new medium, the content must be distinguished from the effects of the medium – what it does rather than what it represents. Distinguishing materials as media allows us to investigate the media practices of Roman art and to study what the material does – and how it does it – in contrast or cooperation with what the sculpture represents. As media scholars from McLuhan onward have consistently shown, the effects of media – of changing practices of engaging with content – can completely shift cultural norms, so much so that it possible to identify massive social change with the introduction of, for example, the printing press or the internet. One media scholar connects major shifts in academic publishing with the decline of "book culture" in the face of digital media and the internet.[291]

This use of the term medium, moreover, should be differentiated from its definition in modernist art criticism. It has been well-established that there was no concept comparable to twentieth-century medium specificity in the ancient world.[292] Painting, sculpture, poetry, and even rhetoric borrowed from one another extensively without concern for boundaries of what was proper for each. The more relevant consideration is whether there was a kind of "material specificity" that structured how sculptors approached their medium. For example, the lower tensile strength of marble has encouraged scholars to think that stone

[290] McLuhan 1964; Bolter and Grusin 1999, 45;

[291] Cavell 2016, 33.

[292] Kopcke 1964; Allen 2015.

sculptors should have prioritized stability in their composition.[293] However, Roman sculptors consistently attempted compositions that required extensive support, either by external struts or by piecing, showing no desire to restrict their work for this reason.[294] Instead, the relevant kind of material specificity is in the unchangeable characteristics of the material – its color, ability to take a polish/patina/pigment, hardness, reaction to oxidation (both stones and metals). These define bronze as a different medium from marble and even colored marbles and stones as different from white marbles. These technical considerations dictated the possibilities of the medium and implied a relationship with previous exploitations of the same material. Sometimes, material traditions carried meaningful historical associations[295] since they also helped to orient the use of the materials in a specific way, as in the way that Romans considered bronze particularly suitable for honorary portraits thanks to its durability.[296] From another perspective, the geological constraints could impact their histories of use, as the location of quarries and the hardness of the stone could add extra cost to their procurement and manufacture and restrict their use to the upper echelons of society. Each material is a media technology, whose individual history of exploitation makes possible the nuanced and sensitive reprisals of media practices that this dissertation documents. In the examination of the case studies of the following chapters, the evaluation of sculptural materials is conducted with thorough attention to the mediascape of each sculptural medium and the physical characteristics that help circumscribe its history of use. The study of relationships to other materials, via production, imitation, or allusion, proceeds along the same line of inquiry, examining a variety of mediascapes that might contribute to the reception of the sculptures' materialities.

[293] Ridgway 1966; Rockwell 1993.

[294] Claridge 1990; Hollinshead 2002; Rockwell 2003; Anguissola 2013.

[295] Allen 2015, 163-4.

[296] Pliny *NH* 34.15-18.

2.2.b Part 2: Remediation as reception aesthetics

While historical reception emphasizes the articulation of the context that conditioned reception, reception aesthetics examines the issue from the opposite direction, considering how the work can orient itself toward a specific reception. Following the work of Wolfgang Iser, again in the reception of literary works, reception aesthetics sees the pre-structuring of the text as a potential that, however, must be activated by the viewer.[297] Following this approach requires a two-fold method that considers the means by which an artwork might manipulate the material in order to condition the viewer's engagement with it and, on the other hand, considers how the viewer's individuality (knowledge, experience, interest) responds to that conditioning.[298] It is difficult to identify the viewers of much Roman art, especially for the majority of these sculptures collected above, whose ancient display context is no longer retrievable.[299] In the analyses that follow, the potential viewer is considered in a general way, by tracing as many material relationships and mediascapes as possible and allowing for multiple or conflicting meanings and resonances of the material. While cataloging and highlighting the most relevant connections, this approach also allows for the suggestion of diversity of experience. On the other hand, it is much more possible to discuss the ways in which the material could be molded to suit specific deployments. In previous scholarship, this has been done in individual cases; the lack of broad contextualization has often failed to adequately consider the difference between ancient and modern appearances of materials.[300] The only way to even partially divest oneself of contemporary judgments and more accurately identify pre-structuring responses is to evaluate them by reference to pre-existing mediascapes.

For example, at the most general level, the pairing of a specific material with a certain subject or style engages with pre-existing traditions and conditions the viewer's understanding of the material. If a

[297] Iser 1974, 1978.

[298] Kemp 1985, 1998; Holly 2002.

[299] The socio-historical approach has been productively pursued for many other types of material. For a recent summary of these approaches, see: Trimble 2015, 614-17.

[300] Many instances will be discussed in the case studies of the following chapters.

sculptor uses bronze for an honorary portrait, this conforms to viewer's expectations and assures a certain reception of the work's material; the same image in gold or silver, by contrast, was not assured the same reaction. Although technically a small shift, the comparative rarity and costliness of the materials could cause them to be judged un-decorous and engender their destruction. Suetonius (*Aug.* 52) describes Augustus' melting down of portraits of himself in silver and his use of the coin to pay for golden tripods that he dedicated in the Palatine Temple of Apollo. The histories of each material's use, defined by its physical characteristics, have contributed to the set of expectations for genre and type of object. For this reason, subjects and sculptural styles must be an integral part of investigations into materials.

Sculptural materials, however, did not react solely to their own media histories. The identities of bronze, silver and gold are constructed relative to one another. Novel uses of, for example, colored marbles seem to have been understood because their uses made appeals to traditions established in other materials. Identifying the other means by which materials could be manipulated to pre-condition their reception relies, in large part, on the analysis of inter-media relationships. These have been most thoroughly theorized by scholars of new, primarily digital, media. Referential, imitative and competitive relationships between different media forms have long been recognized and studied, but the details of these interactions have received renewed attention in the wake of the burgeoning internet, which re-capitulates nearly every pre-existing medium. In 1999, J. Bolter and J. Grusin published their landmark *Remediation: Understanding New Media*, coining the term remediation and attempting to describe the logic behind these varied inter-medial interactions and their myriad effects. In simplest terms, remediation "is meant to describe the complex relationships of rivalry and cooperation among forms and genres in a media economy" and "can and often does involve creative and even radical refashioning."[301] Bolter and Grusin's take on remediation identifies and critiques various types of these relationships, but their goal is not to summarize or categorize.

[301] Bolter 2014, 427.

Instead, they seek to identify the mechanisms, which they call the "double logic of remediation", that drive the establishment and exploitation of these relationships.[302]

The logic of remediation is double because it is organized around the two competing, opposing goals of immediacy and hypermediacy. A medium aims at immediacy when it seeks to erase the act of mediation by presenting what is represented as real, truthful and experienced firsthand by the viewer. Virtual reality, photography, photorealism, and film at times all strive to present the real in a transparent medium. Painted or sculpted realism or naturalism have similar aims. A Second Style Roman trompe l'oeil painting of an outdoor architectural vista, for example, attempts to efface its own artistry, presenting itself as a window onto a tangible world, thereby erasing the pigment and painting of representation in favor of immediate access to the represented. By contrast, hypermediacy multiplies the layers of representation, drawing attention to and expressing a fascination with media and the act of mediation. Collage, photomontage, and even painting styles like cubism and pointillism make the viewer intensely aware of the fact of mediation by multiplying layers. The two goals are simultaneously at work, even if one might be dominant in a given work. The very ability to erase the medium of a trompe l'oeil painting, for example, to make present the cool, polished surface of marble by means of color and shadow alone signifies the mastery of the painter's hand and reveals a fixation on the ability to mediate, returning the attention to the medium and its manipulation by the artist.

Bolter and Grusin clarify that remediation is not a new phenomenon that is peculiar to the current media environment. Rather, it can be recognized throughout most of modern visual culture as well as, in specific instances, in periods ranging back to medieval manuscripts and ancient ekphrasis.[303] The highly ornamented initial capital letters of the former bridge text and image while the latter is "the verbal representation of visual representation".[304] Both cases appeal to a desire for hypermediacy, since they rely

[302] Bolter and Grusin 1999, 5, 21-50.

[303] Bolter and Grusin 1999, 11-12, 45.

[304] Mitchell 1994, 151-2.

upon the audience's consciousness of the layering of representations and of types of media. The same is true of Dutch or Roman paintings of interiors that incorporate illusionistic representations of globes, glass bowls, letters, mirrors, and other objects. They use one medium to represent another. At the same time, however, they seek to make the painted medium transparent, providing the illusion of 'immediate' access to the depicted. Bolter and Grusin emphasize the spectrum of relationships between media that can occur, ranging from a new medium aiming to provide 'transparent' access to the content of a preexisting medium (e.g. an e-book) to the creation of a 'mosaic' in which the viewer is simultaneously aware of both the new medium and the old, as well as of the remediation thus enacted.[305]

A single medium, moreover, may remediate a preexisting work in the same medium, as when a painting includes a painting or makes more subtle references and repurposings of elements of pre-existing works. This kind of remediation has long been a focus of art historians, literary critics, and film critics as they identify artists' refashioning of their predecessors work. Recently, for example, Alexander Nagel has explicitly adopted the term remediation as a title for a chapter of his book *The Controversy of Renaissance Art*. Nagel is insistent on treating Renaissance art as a series of negotiations and experiments in both art and religion.[306] Although only the title of his fourth chapter, "Re-mediations of the Altarpiece", explicitly makes use of the terminology of remediation, his argument is clearly informed by its premises.[307] He discusses cinquecento altarpieces by Fra Bartolommeo and Raphael as the staging of visions and as archaizing refashionings of icons and gold ground paintings and mosaics. Both remediate earlier media – that is, sacred visions – and Raphael's works are inspired by and rework elements of the friar's altarpieces. These and other archaizing and remediating tendencies are intended as a reformist approach to Christian art, intended "to reconstruct and reinstate it on incontrovertible grounds."[308] Reading these remediations as reformist and

[305] Bolter and Grusin 1999, 45-7.

[306] Nagel 2011, 1-10.

[307] Nagel 2011, 73-100.

[308] Nagel 2011, 93.

revisionist, moreover, is perfectly in keeping with Bolter and Grusin's delineation of the term.[309] Rivalry between media goes hand in hand with reform, which can constitute either the improvement upon an earlier medium – more transparent, more expressive – or the social or political change instigated by a new medium. Digital culture may promise the opportunity for more directly democratic institutions, offering immediate voting in place of the current representational system in which elected officials vote by proxy for their constituents.[310] It seems hardly a coincidence that another of Nagel's chapters treats the connections between religious reform and practices of art restoration. The physical remediation of a single work of art via restoration participates in the revision of the identity of Christian art.[311] Remediation via recontextualization of antiques, restoration, reproduction, and refashioning characterizes Roman engagement with Greek and Egyptian sculptural traditions.

Remediation is explicitly premised on McLuhan's discussion of the content of any medium as another medium.[312] Beyond the individual subjects represented, the content of Roman ideal sculpture was Greek or even Egyptian sculpture. Scholars have often articulated how Roman collectors, even of original Greek works, were less interested in the depiction than they were in its ability to be deployed as a decorative sculpture in its new, Roman context.[313] Portraits adopted the bodies of sculptures as attributes rather than realistic depictions.[314] On some level, sculptures represented sculptures rather than real or even idealized bodies. New works gained their meaning from a network of resemblance and difference from formal and material traditions established by the masses of sculptures imported to the city. At the same time, the Roman empire gained access to a previously unknown wealth of natural resources. Self-conscious of their city's rustic appearance by comparison to the marble-rich cities of the East and the colored-marble rich Hellenistic

[309] Bolter and Grusin 1999, 56, 59-62.

[310] Bolter and Grusin 1999, 60.

[311] Nagel 2011, 30-72.

[312] McLuhan 1964. For recent reassessments and confirmations of this position: Darnton 1999; Cavell 2016, 27-37.

[313] Bartman 1991; Bounia 2004; Rutledge 2012.

[314] Bonfante 1989; Hallett 2005b; Perry 2005.

capitals of North Africa, leading Roman aristocrats undertook a campaign to refurbish and modernize the city with marble works.[315] Augustus' famous claim that he had made a city of marble from a city of brick indicates the tenor of this transformation.[316] Rome sought out both white and colored marble quarries for adornment of the city.

Sculptors worked at the intersection of formal retrospectivism and an influx of materials, including colored marbles that had rarely been exploited for statuary. These new media take historical sculptures as their content, remediating them for a modern audience and spurring reassessments of traditional materials like bronze and terracotta. While these sculptures might adapt the archetype or add attributes to redefine the statue for its Roman context, it is in their creative use of materials that these sculptures point to the innovative features of Roman sculpture. Invention occurred in a different aspect of representation, where the color and character of sculptural materials was used to represent other materials in a conceptual manner. The pavonazzetto garments of the Augustan kneeling Parthians are sculpted in a realistic rendering of their forms, but the colored veining of their stone is not, as is often suggested, a naturalistic imitation of the rich colors of barbarian garments.[317] Instead, the stone appears *as* the garments. This is a subtle but crucial point. The material is not a support for naturalist pigmentation or patination, but functions as a part of the act of representation. The golden Numidian marble of the Claudian enthroned Cybele (restored as Athena) does not imitate gold or exotic garments.[318] The composite statue utilizes giallo antico *as* the dress. In both of these cases, there is a shifting concern in sculpture that prioritizes the medium as a material and draws attention to the act of representation. The particular use of these stones for the Parthians and the Cybele, moreover, are made intelligible by means of analogical transfers from existing *mediascapes*. As Rolf Schneider has fully demonstrated, the rich coloring of the pavonazzetto – though not a naturalistic

[315] La Rocca 2012; Kuttner 2013.

[316] Recorded by Suetonius (*Aug*. 28).

[317] Schneider 1986, 2002.

[318] Gregarek 1999, 190-91, cat. B57.

representation of real Parthian garments – connected with the expectation that the real textiles were boldly colored.[319] Similarly, the colossal composite Cybele, with her white marble skin and yellow marble dress had a visual resonance with colossal chryselephantine sculpture.[320]

Remediation describes the mechanisms of material reception aesthetics. It enables the identification of multiple, co-existing material relationships to pre-existing mediascapes that structure the viewer's response. The following case studies conduct their investigation of sculptural materials according to this premise. With their detailed investigations of the processes by which these remediations are enacted, however, they expand upon existing literature on reception and remediation. While the concept of remediation turns on inter-media imitation, refashioning, and critique, there has been little focused attention on how these relationships are constructed, that is, how they are made intelligible to the viewer. The case studies that follow examine precisely these issues. They articulate the way such relationships are generated or severed by technical processes of production, critique the concept of material imitation and distinguish its practices, and trace the persistence of tradition alongside innovation in the physical environment. In this respect, this dissertation contributes a methodology for the study of the reception of media practices.

[319] Schneider 1986 and 2002.

[320] Gregarek 1999, 190-91, cat. B57.

Chapter 3

Inter-mediary: sculptural models and formal replication

According to Pliny the Elder, sculpture had its origin in the modelling of a man's likeness in clay (*NH* 35.151). Early sculpture and architectural ornament in Italy, before the influx of luxury from the East, was made of terracotta.[1] Simple and rustic, the *mores* of Roman society were bound up with this common but noble material; imperial authors contrasted its piety with the luxury of later periods: "these golden temples sprang from clay gods".[2] Clay was esteemed as the source of sculpture, even in Pliny's own day, as it was used to form the model that would then be cast in or chiseled from another medium. He records that the artist Pasiteles said that "clay-modelling was the mother of chasing and of bronze statuary and sculpture", noting that "although he was eminent in all these arts, Pasiteles never made anything before he had made a clay model" (*NH* 35.157). Pliny also describes how the clay models (*proplasmata*) sculpted by Arcesilaos "used to sell for more, among artists themselves, than the finished works of others" (*NH* 35.156). For the Romans, terracotta was conceived as an originary and generative sculptural medium.

By contrast, in scholarly accounts of Roman ideal sculpture, the medium given primary power is almost always the bronze in which the sculptural achievement of the Greek masters was effected. The idea of "lost bronze originals" shaped the direction of both Greek and Roman art history for nearly a century and defending or overturning its power has often occupied scholars during the last fifty years.[3] Particularly from the material point of view, the discourse around the study of Roman replicas as a search for the underlying Greek originals differentiated sculptural reproduction – taking casts from a finished statue – from production from scratch. For a long period, it established the former as derivative and involved in a

[1] Recently, cf. La Rocca and Parisi Presicce 2010a. Compare the terracotta adorned temple archaic temple of Jupiter Optimus Maximus and the version that replaced it in the first century BC (Perry 2012).

[2] Propertius 4.1.5; see also Livy, *Ab Urb.* 34.4; Pliny, *NH* 35, 157-8; Ovid, *Ars Am.* 3.113.

[3] For a summary of recent research on ideal sculpture and the relationship between Greek and Roman sculpture cf. Anguissola 2015.

desire to imitate the material of the sculptural archetype, while awarding authenticity and originality to the latter and its material. C. Mattusch's work has taken aim at this false dichotomy, establishing the serial nature of ancient sculptural production in bronze.[4] Casting a bronze statue via the lost-wax method requires a master model in wax, for direct casting, and, for indirect casting, a second wax inter-model produced from the negative master-molds taken from the master model, perhaps in clay.[5] Bronze-casting, she points out, is inherently reproductive, involving positive and negative editions. The numerous materials of these molds and models make the process also multimedia, requiring the exploitation of the vastly divergent physical characteristics of clay, wax, and plaster, as well as both molten and solidified copper alloys. Even the production of an 'original' marble sculpture probably often involved a model in clay or another material; stone sculpting was too expensive to risk avoidable mistakes.[6] The kind of serial reproduction of a finished statue that became common in the Hellenistic period and came to define a large portion of Roman sculptural practice is an extension of the techniques that are inherent to indirect methods of bronze-casting. The materials of sculptural reproduction were largely the same as those of earlier artworks: clay, wax, plaster, copper alloys, marbles, and limestones. Even the newest and most luxurious materials, like the colored stones sourced from around the Mediterranean, differed primarily in color and appearance rather than in working technique. Although some unusually hard lithotypes, principally those from Egypt, may have made special tools desirable, iron or even copper ones would have been sufficient.[7] The innovations of Roman ideal sculpture are, generally speaking, not technological; rather, they put established practice to different use in a way that both maximized economic efficiency and catered to the retrospective taste of the times.

[4] Mattusch 1988, 1996; See also *Power and Pathos*[a] and Ridgway 2015, 2016. Contra: Rolley 1983, 19, 33; 1990, 407; 1994, 349; Barr-Sharrar 2016.

[5] Bol 1985; Haynes 1992, 24-33; Formigli 1999; Mattusch 2008.

[6] Cf. Ridgway 1966; Claridge 1988; Rockwell 1993, esp. 8-13. Generally, on the supply of stone: Russell 2013. Citing Varro, Pliny records the fact that the first century AD sculptor Pasiteles never made any work without first making a clay model (*NH*, 35, 156).

[7] Rockwell 1993 with drawings of the tools; Claridge (2015, 108) notes that while the tools remained the same as those of Greek sculpture (cf. Blümel 1969; Nolte 2006), the quality of the iron, its tempering, and forging had improved.

However, tilting the scales toward a greater prevalence of serial reproduction over serial production from scratch had significant consequences. While these processes have much in common, there are crucial differences that play out more specifically at the level of a work's material and may result in adaptations to the sculpture's form. For example, in serial bronze production, the clay and wax models are designed with the intention of casting them in bronze. The form is intended to be stable and achievable in that medium. In the reproduction of an existing bronze statue, the same design may be carved into marble. As has often been addressed in the literature, the tensile strength of the stone might not be able to achieve the same composition without significant risk of fracture to projecting or otherwise unsupported elements. Adapting the composition to execution in marble, by adding external struts or by piecing with internal iron pins, has often been described as an act of 'translating' form from one material into another.[8] Second, the models used to create bronze statues in series were carefully worked to precisely the desired appearance of the statue and the negative molds taken from these models probably did not circulate very far but were quickly used for production. By contrast, the process of reproduction involved modifications to the existing statue, to protect it during the taking of the molds, and necessitated wide circulation of the negative molds.[9] Once they reached their destination, the negative molds might be used in a variety of ways. Plaster positives could be cast from them, like the ones excavated at Baia (ancient Baiae), which served as models for reproduction of the sculptural types in marble.[10] Alternatively, they could be used to make wax positives, which could be reworked and used either to cast bronze replicas or to make further, more precise negative molds.[11] These

[8] Ridgway 1966; Hollinshead (2002) suggests that the use of struts expanded the models available for the sculptor. Anguissola (2013) notes however, that struts are often present in areas which do not strictly require them for static purposes. Claridge (1990) illustrates that joining separately carved marble pieces, secured with an iron pin, may be more stable than an external marble strut.

[9] The circulation of negative molds is supported by Plutarch, *Mor. De soll. An.* 984a as well as by the Campanian production site of the positive casts excavated at Baia (Landwehr 1985, 18-25, 181; discussed infra p. 138). On modifications to the statues, see Landwehr 1985, 2010.

[10] Richter 1970; Landwehr 1985; contra Claridge 2015, 110-2.

[11] Mattusch (1996, 197-202) argues that statues like the so-called Florence torso could be cast directly from plaster molds taken from bronze statues, but this does not seem likely with the amount of modification to the archetype that Landwehr (1982, 16-17; 1985, 14-19) describes as necessary for the production of the negative cast. At the least, the more detailed portions, like the face, would require an intermediary wax model that could be reworked.

negatives could be used, for example, for the production of wax positives for bronze-casting or, in one unusual case, for the production of the terracotta statues excavated in the Domus Tiberiana on the Palatine.[12]

Compared to serial production, serial reproduction involves additional layers of interaction – between various artistic materials and techniques of production – that take place over greater distances and lengths of time and that often have been overlooked in modern evaluations of the final product. Scholarly investigations of the materials of formal replication have undervalued these intermediary stages, focusing instead on the materials of the final and the archetypal works. Due in part to the available evidence, the field's prioritization of bronze and marble is, however, too heavily indebted to the practices of *Meisterforschung* and *Kopienkritik* that tend to 'look through' the marble replicas for evidence of their bronze archetypes.[13] While bronze and marble may have been the predominant materials of the existing statues that served as the originals for reproduction, and they may also have been the most common materials of the finished ideal sculptures, their *production* was a multi-media affair. As the above examples show, ancient authors were well aware of the role that models in other materials, particularly clay, played in this process. Plaster and wax, too, make an appearance in Pliny's art history and he clearly describes their role in production and reproduction.[14]

The process of serial reproduction drew materials into layered relationships in which production in one material was predicated on a positive or negative mold in another. The intricacies of these relationships and the effects they might have had on sculptures, sculptors, and viewers have never been thoroughly investigated. The groups of Roman sculptures and large-scale sculptural models that are directly relevant to these questions have been examined only under other lenses. For example, while C. Landwehr's study of the casts excavated at Baia is a feat of connoisseurship and a crucial art historical contribution, she is the

[12] Tomei 1990a, 1992.

[13] On the historiography of the study of Roman marble copy series relating to Greek bronze originals, cf. Fullerton 2003; Marvin 2008; Anguissola 2012, 31-8, and 2014.

[14] Pliny (*NH* 35.153) describes Lysistratos' invention of taking a plaster cast from a living person and using it to make a wax model that he could re-work for casting.

only person to have published an intensive study of the group of casts.[15] The focus of her landmark work, moreover, was categorization and identification of the various sculptural types represented. She was particularly interested in illustrating that the casts were taken from bronze originals and that they were used for the reproduction of those sculptures in marble. In many ways, Landwehr uses the marble replicas to look through the plasters to the bronze originals in the same way that scholars previously examined the marble replicas, confirming that these plasters fill the gap between bronze and marble. Her discussion of the casts in the monograph and later articles describes the complex facture of the models and the differences between them and their Roman followers, but her conclusions are limited by her adherence to traditional methods of copy critique.[16] By focusing on the lost bronze originals and the marble replicas, her examination marginalizes the particular evidence about ancient sculptural models – rather than their ancestors and descendants – that these casts provide, especially in conjunction with other groups of works affiliated with sculptural models, few as they are. Moreover, the only life-sized terracotta replicas of known sculptural types, the so-called Palatine terracottas excavated in the Domus Tiberiana on the Palatine hill in Rome, have been published by Maria Antoinetta Tomei, but are seldom otherwise mentioned either in works on copies or on sculptural production.[17] The latter context is particularly relevant since Tomei has argued that these sculptures are copies of *nobilia opera* of the classical and Hellenistic periods and, furthermore, that they might be highly-prized *proplasmata*, like the terracotta models of Arcesilaos mentioned above.[18] Additionally, Tomei briefly mentions that the Palatine terracottas are produced by a method similar to the Baia casts, but neither she nor others expand upon this observation with a thorough

[15] Richter (1970) had only limited opportunity to study the casts, before they were categorized by Landwehr. Gasparri (1989, 1995) focuses on the marble sculptures carved with reference to the casts and to the chronology of the workshop that might have owned them; his analysis relies on the identification of sculptural types in Landwehr's monograph rather than his own examination of the casts.

[16] Landwehr 2010.

[17] Tomei 1990a, 1992, 2014a, 181-5, cat 19.1-4; Fuchs 1999, 69-72.

[18] The thesis that they are proplasmata has been advanced almost singularly by Tomei, in her full publication of the statues (1992) as well as more recently (1999, 259; 2013, 22; 2014, 181).

comparison or discussion of the implications of this shared technique.[19] Each of these two groups of works deserve further study; together they offer an opportunity to examine the place of the positive model in the Roman reproduction of large-scale sculptures and the intricate material relationships that belong to the process of serial reproduction.

This chapter examines the impact of the technical processes of formal replication in the generation, intensification, and severing of material relationships in ideal sculpture. In particular, it examines the facture of sculptural models as a locus of such relationships, focusing on the plaster casts excavated at Baia and the Palatine terracottas, both of which have been identified as positive models used in serial reproduction. Illuminating the nature of connections between materials at play in the sculptural model, moreover, reveals the ways in which the process of producing sculptural replicas shifted sculptors' and patrons' engagement with materials and their expectations for sculptures. This change is characterized by creative exploitations of established techniques and materials, as well as the inventive use of new materials, revealing a contemporary interest in facture and media that is intricately linked with the taste for formal repetition.

The analysis of the Baia plasters confirms the hypothesis that they were made to serve as models rather than, as some have argued[20], sculptures in their own right. A detailed explication of the modifications made to the archetype in preparation for cast-taking, the piecing of the plaster positives, and their unusual supports articulates the peculiar materiality of these models. Their surfaces bear the evidence of their blending of the construction techniques used in bronze and marble, as well as those specific to plaster. Preserving a modified version of the original's form in a colorless amalgamation of technique, the plaster casts dematerialize the archetype. By conveying form without offering a model for the replica's materiality, the casts provided a blank canvas that created space for the copyist's creative experimentation with materials in new productions. Making present the form of the archetype without the physicality of its medium and used as a reference during the production of sculpture in another, more permanent medium,

[19] Tomei 1992, 216.

[20] Claridge 2015, 110-2.

these models present themselves as sculpture while declaring themselves not-sculptures (or at least, not ones finished for display). Ontological instability is embodied in the materiality of this particular kind of Roman sculptural model and it exerted a powerful impact on the sculptures carved by reference to them.

By contrast, the conspicuous display of intensive technique and the once-vibrant polychromy that characterizes the terracotta replicas from the Palatine contradicts the idea that they would have been used as artist's models. Still, the sculptures display a rich and intentional connection with proplasmata, traceable in both their facture and form. Studying the techniques used to produce the terracottas reveals crucial similarities and differences with the process used to model the Baia plaster casts. Both make use of a technique developed from the piece-molding used for the creation of molds in lost-wax bronze-casting, a step that in turn relied upon the existence of a model that was often made in clay. While their style has been said to imitate bronze, their facture reflects upon the act of reproduction and its inter-mediary nature. These works are an attempt to bring terracotta statuary up to the level of bronze and marble by reconsidering its method of production in a way that is conditioned by the contemporary fixation on replication and its technical processes. At the same time, this reevaluation of terracotta exploits its traditional roles as generative model and originary substance. In the Augustan world, when fascination with Greek styles was attended by a rhetorical return to rustic simplicity and old Roman values, the Palatine terracottas blend the achievements of high art with its origins. Intensive skill meets simple material and finished sculpture encounters its model. The material is given more power to signify by its multi-media relationships and it does so by embodying the categorical instability of sculpture and model that serial reproduction engendered. In a period when the replication of existing sculptures was exploding, any finished sculpture could quite easily become a model.[21]

[21] The sight of cast-makers covering a statue in pitch, to enable the smooth release of their molds, was common enough in the second century AD that it became fodder for Lucian's ridicule (*Iupp. Trag.* 33).

The industry of sculptural replication had wide-ranging effects on Roman taste, encouraging, for example, serial and pendant display or eclectic combinations of elements from different periods[22]; this chapter reveals that it also impacted and even drove shifting attitudes toward traditional and new sculptural materials. As the empire's growth made new materials available, sculptors produced art using a reference collection of ontologically unstable and dematerialized plaster formal models. Rather than looking to the materiality of the archetype, sculptors sought material models in the contemporary environment, where thousands of masterpieces imported from around the Mediterranean stood as *ornamenta* and dedications. Experimentation with materials added a new dimension to a well-established formal repertoire and offered sculptor and patron the opportunity to distinguish themselves from the competition. New materials could be paired with established subjects and old materials, like terracotta, could be reprised for the modern era by altering techniques and augmenting details.

3.1 Models and molds: terminology and production

The practice of relating both the Baia plasters and the Palatine terracottas to 'sculptural models' suggests, in some sense, a false equivalency. Likewise, calling the plasters from Baia 'casts' (which may also refer to negative as well as positive works in gypsum) or 'plasters' does not fully reflect their ancient situation; molded in precise pieces and carefully re-joined together, they are crafted products, not solely cast impressions, and they are composed of numerous materials. More precise terminology already exists among scholars of ancient sculptural production, even if it is not in widespread use in the study of ancient ideal sculpture. With a bit of additional specification that is particular to the practices of Roman replicative production, the following set of terms offers the opportunity to differentiate between the different moments in the process of production that these groups of objects represent. The following section follows the process of sculptural production and reproduction, specifying the technical terminology used throughout this

[22] Bartman 1988; Marvin 2008; *Serial/portable classic*.

chapter. In casual reference, however, it will be convenient sometimes to refer to the group from Baia as casts or plasters and to the Palatine works as sculptures or terracottas, as these names have common currency.

In the earliest stage of production, working out the composition and appearance of the projected sculpture, the artist probably created one or more *draft models*. Reworked and adapted in various versions, draft models probably employed wax or clay (but possibly other materials) and were likely first executed at small-scale. When the form of the sculpture was finalized, a sculptor intending to make a bronze statue via the lost-wax method would need to create a *master model*, whose material varied according to its purpose but whose scale must have matched exactly that of the intended statue.[23] If the artist planned to cast a single sculpture from the model in direct casting, without preserving the full-scale form for the production of additional versions, the master model would be in wax. When it was finished, the model was sectioned, cored, given an armature if necessary, metal chaplets, and a gate system in wax, before being encased in a clay investment and having the wax melted out – destroying the master model – and bronze poured in. By contrast, if the artist intended to produce multiple identical or adapted editions of the same sculpture via indirect casting, the master model might have been made in wax or clay. Negative *master molds*[24] were then taken from the master model, allowing its form to be replicated to produce one or multiple positive *inter-models*.[25] Wax inter-models could be reworked and cast without destroying the master model,

[23] The 'model' (Haynes 1992, 57-64), 'initial model' (Formigli 1984, 108), or 'artist's model' (Mattusch 1996, 10) is not precise enough. 'Master model' is used here as the counterpart of the 'master molds' that are made from it (Mattusch 1996, 10) and the term has the advantage of distinguishing this model from the drafts and the inter-models (below). Regarding imperial portraits, 'Mustermodell': Lahusen and Formigli 2001, 460.

[24] Mattusch 1996, 10-18. The German equivalent is 'Hilfsnegative', roughly the auxiliary negative (Lahusen and Formigli 2001, 485-6); in Italian, Formigli (1984) uses 'i calchi ausiliari'.

[25] 'Inter-model': Haynes 1992, 65-74; Barr-Sharrar 2016. 'Working model': Mattusch 1996, 10-18. 'Wachsmodell': Lahusen and Formigli 2001, 496-8 (also discussing additional terminology for the various methods of its preparation). In combination with master model, inter-model more clearly establishes the hierarchy of models and the term is already in use. Although there is still intensive debate about whether indirect wax casting was used for serial production (via multiple adapted inter-models), the wax inter-model is the defining characteristic of indirect lost-wax casting. A related type of model not attested in antiquity (Frederiksen 2010, 17-18) is that called 'original model', used since the 17th century to describe a model created to display to patrons (Symmons 1984, 57-8). Contrary to the name's implication these were produced from master moulds of a master model and were intended solely for show, not for use in further production; once purchased the statue would be executed in another material.

producing several related editions from a single master model. Likewise, the term inter-model can be applied to the wax model created in the negative 'master molds' taken from life, that is human 'master models', attested in ancient sources[26] and, perhaps, archaeologically[27].

In the production of a marble statue from scratch, the master model might be simply the final edition of the draft model, even at small-scale. Using careful measurement and increasing the size by a chosen ratio[28], the sculptor could produce a life-size marble work from a statuette or half-sized master model. A full-scale terracotta or wax model could be useful to the marble sculptor, but was not necessary. Likewise, the production of replicas or editions of a marble statue did not require the production of full-scale, replicative models if the master model or the final work was available for measurement and comparison.

When a sculptor wished to reproduce an existing sculpture, without access to its model or the molds used in its production, as was the case for the creation of most Roman ideal sculpture, negative molds were taken directly from the sculpture. These negative molds should be called *second generation molds (2G molds)*, since they are produced from a molding over of the finished statue rather than taken from production models.[29] The 2G molds might be directly distributed to distant workshops, or they might have been used locally to produce multiple positive *second generation models (2G models)* that could then be sent to

[26] Pliny *NH* 35.153.

[27] Konstam and Hoffman 2004; Mattusch 2005, 270-2; 2015, 148. The famed ancestor masks of the Romans have often been considered to have been so-called 'death masks', produced in this manner, but none are extant (Flower 1996, esp. 5-9; Pliny *NH* 35.6-7; Polybius *Historiae*, 6.53). Plaster portraits that may derive from death masks are common in Greco-Roman Egypt, a continuation of Egyptian tradition, and at least one is known from a tomb on the Via Prenestina in Rome (D'Alessandro and Persegati 1987, 50-4, fig. 6-7; Frederiksen 2010, 18). The plaster portrait seems to have been reworked and the wax 'masks' may have been too; both might better be considered some form of sculpture rather than a model, since they are not intended to be used for further production.

[28] On enlarging or reducing by ratio, cf. Bartman 1992.

[29] Adapting the nomenclature used to describe generational molds and models of small scale terracotta production (cf. Erlich 2015). Another alternative might be 'over-mold' in keeping with the use of the term overcast, which refers to the reproduction of finished bronze statues in this manner (discussed below). However, due to the subsequent series of models and molds discussed below, generational terminology is the most efficient representation of position within the production sequence. On the identification of ancient overcasts of bronze statues see: Mattusch 1978, 1996, 197-206 (on the Florence and Met bronze torsos); Kluge 1927, I.117, n.2. Usually, this is referred to simply as mold or matrix (e.g. D'Alessandro and Persegati 1987, esp. 23 "matrice").

markets around the Mediterranean.[30] It should be noted that the 2G models are similar to inter-models in that they facilitate the production of a finished statue – either as the wax model that will be directly employed in bronze-casting or the plaster or clay that will be referenced in marble-carving. Still, 2G models should be differentiated from inter-models because they descend from the form of the finished sculpture rather than directly from the master model.[31] They may thus, unless reworked after casting, preserve relics of the sculpture's finished material (like patches repairing casting flaws) or superficial attachments (like inlaid eyes) that would not be present in an inter-model. This practice of taking molds from finished statues and using them to create models is clearly attested for the Roman period reproductions, in both stone and bronze, of earlier sculptures in various media.[32] The trade in 2G molds and models must have been extensive, even if the actual objects are largely missing from the archaeological record due to the rapid deterioration of plaster.[33] The demand for these models and for new works derived from them was great and it is not surprising that it led some entrepreneurial sculptors to create models for sale to their colleagues.[34] Working from an existing model is far easier and more economical than creating a composition from scratch, and the intentional creation of inter-models or highly worked 2G models for sale to other workshops could have been a lucrative business.[35]

[30] Both practices are attested, although many scholars think the former was most common. On the Campanian production of the Baia casts: Landwehr 1985, 18-25, 181; discussed infra p. 138.

[31] In previous literature, these are simply referred to as plaster casts (gessi or calchi, Abgüsse), wax models, or sculptural models or some version thereof. These terms are too broad in that they can also refer to works that are produced from molds of master models or inter-models, whereas the term 2G mold specifies the reproduction of completed statues. In discussing them alongside bronze overcasts, Mattusch (1996, 202) writes of them as "intermediary plasters" coming the closest to labelling their specific role in production. The replication in the matrix of details of the finished work is attested in the Baia casts (Landwehr 1985, 14-16, 27-35) and in the appearance of rivets in casts of metalware: Rubensohn 1911, 4-5; Richter 1958, 62.

[32] Specifically, in the Baia plasters and in the evidence of over-casting described by Mattusch (1978; 1996, 197-206).

[33] D'Alessandro and Persegati 1987, 69-74, 81-3.

[34] E.g. Arcesilaos (Pliny *NH* 35.156), who also completed works in terracotta, like the Venus Genetrix, and in marble (Pliny *NH* 35.155 and 36.41).

[35] The cooperative specialization of sculptural labor is often attested via inscriptions, as in the large workshops on Hellenistic Rhodes (Goodlett 1991), but it is inherent to the variety of types of work required from modelling to casting or carving to adding polychrome final details (Mattusch 1996, 194; Østergaard 2015), as for the *fabri oculariarii* who seem to have been responsible solely for producing the inlaid eyes of statues (cf. CIL IV 9402.9403 = ILS 7714.7713;

Numerous types of models and molds are archaeologically attested, like the master mold of the back of a torso found in Cyprus.[36] Wax master models and inter-models are attested only through the relics visible on the bronzes cast from them.[37] Plaster master molds, 2G molds, and 2G models have been excavated in various locations throughout the Mediterranean, but are best attested in Egypt and North Africa because of the dry climate. These finds, as well as the caches from Greece and Afghanistan, largely relate to metal plate rather than sculpture, although some statuettes are represented.[38] Terracotta molds and 2G molds are also well attested, but largely for votives and small-scale works from statuettes to lamps.[39]

The Baia plasters are the best example of large-scale sculptural 2G models preserved from antiquity, since, for reasons discussed below, they cannot have been sculptures intended for display. They are positive casts produced in negative molds that are clearly derived from existing statues and were used in the production of new statues. The high quality of the impression, evident, for example, in the fine grooves marking the hairs of Aristogeiton's beard (fig. 3.1), suggest that the 2G molds used to produce the Baia plaster casts may have been taken directly from the bronze statue. If they were produced from an already existing 2G model, the precision of these details might have suffered in the successive impressions, as even Pliny the Elder was aware.[40] The Palatine terracottas, if they are models, should be technically

Blümner 1979, III, 209ff.). Horace (*Ars.P* 32-5) refers to a sculptor who could only fingernails and wavy locks, but not the whole statue.

[36] Nicolaou 1972, 315-16; Mattusch 1978, 101, n. 9; Frederiksen 2010, 21, n. 27.

[37] Mattusch (1996, 15, fig. I.11) shows the interiors of two fragments of bronze that display brushmarks, splatters, and drips from the application of wax to master molds for the creation of the inter-model. See also Lahusen and Formigli (2001, 498) on wax drops and the traces of joinings of the various parts of the wax model.

[38] Cf. Compared to the rarity of negative moulds of large-scale sculpture – a category principally represented by the Cyprus torso – plaster casts taken from Greek metal ware are much more numerous. Groups of positive plaster casts and negative moulds have been found in Memphis in Egypt (Rubensohn 1911), Begram in Afghanistan (Reinsberg 1980; Menninger 1996), Sala in Morocco (Boube 1986), and Sabratha in Libya (Barone 1980, 1994) while single examples, often from Egypt or undocumented, have also made their way into museum collections. For a collection of the relevant evidence, see: Frederiksen 2010 and, although dated, Richter 1958, 1959b.

[39] Cf. Uhlenbrock 1990; Erlich 2015. Mattusch (2008, 433-55) summarizing the evidence from Olympia, Athens, and Corinth.

[40] *NH* 33.157, writing of cups whose decoration was so delicate that impressions were not allowed to be made from them.

classed as *third-generation models (3G models)*. Since they were produced in molds and several of the terracottas replicate, with slight differences, known sculptural types, like the Hera Borghese and the Capitoline Charioteer, it is clear that these statues were produced using 2G molds and, thus, their relationship to a pre-existing sculpture should identify them as generational models rather than master- or inter-models. However, they involve an additional layer of mold and model, since, as will be shown below, they were produced in negative molds taken from a re-worked 2G model deriving from a 2G mold (taken directly from a sculpture).

3.2 The Baia plaster casts as second generation models

Although the plaster casts from Baia were excavated in 1954[41], and G. Richter signaled their relationship to Greek classical sculptures in 1962 and 1970,[42] the entire group of casts was not fully studied and published until the 1980s. In a series of articles and books, especially a 1985 monograph, C. Landwehr drew attention to the crucial importance of the casts for modern knowledge of Roman copy production.[43] The Baia discovery represents the only archeological evidence of positive models of ancient sculpture demonstrably produced from negative molds taken from large and life-size bronze sculptures, as Landwehr has illustrated.[44] Their value as 2G models was further augmented by the studies of C. Gasparri in 1989 and 1995, which collected the marble replicas found in the region of Baia and Rome that correspond to the sculptural types represented by the casts.[45] Following clues in the carving styles of the marble sculptures, Gasparri's articles posit that a single workshop owned the collection of Baia models and reconstructs the output of the workshop in different periods. With bronze antecedents and marble descendants identified,

[41] Napoli 1954, 10; Landwehr 1985, 1-7.

[42] Richter 1962, 1970.

[43] Landwehr 1982, 1984, 1985, and 2010.

[44] The other caches include impressions of metal-plate and small statuettes, for bibliography, see supra, p. 119, n. 38.

[45] Gasparri 1989, 1995.

most scholars have viewed the casts as archaeological confirmation of the process of sculptural replication that was long hypothesized. For decades now, scholarly discussions of Roman copy production have almost always referred to the Baia casts with this interpretation, but few have dedicated more than paragraphs to their analysis.[46] For example, the casts are mentioned several times in the recent *Oxford Handbook to Roman Sculpture*, in the sections on marble carving, bronzes, and ideal sculpture[47], but there is no chapter dedicated to plaster and its use for modelling and cast production. On the other hand, at least one scholar remains unconvinced that the casts were produced as workshop models, arguing instead that the Baia plasters represent a collection of sculptures intended for display.[48] This argument, which will be discussed below, is also limited to brief sentences rather than treated to extended analysis.

The plaster casts have undoubtedly suffered a lack of direct engagement from scholars. In part, this is the result of the kind of tunnel vision described above. Scholars found ample evidence to slot them into the void between bronze original and marble replica and complete the well-established narrative. That they have not received additional attention after that analysis must be partially due to their geographic marginalization. The Museo Archeologico di Campi Flegrei, where the casts are housed, is not precisely central, situated as it is in the Castello Aragonese, halfway between Pozzuoli and the Cape of Misenum. The latter was the western seat of the Roman imperial fleet, lying on the promontory that forms the northwest termination of the Bay of Naples, and was a thriving region in antiquity. Currently, the museum is almost impossible to reach on public transportation and is only able to open in the mornings. The museum houses thousands of objects from excavations of the ancient surroundings that few students and scholars have the opportunity to see or study. Moreover, the deteriorating state of the two rooms within the upper levels of the castle that house the majority of the Baia plasters forced their closure in 2010 and, while the museum administration is eager to address the damage (and, in the meantime, is welcoming to scholars who

[46] Ridgway 1984, 37 n.7; Mattusch 1996, 191-2. Anguissola (2015, 251-3) devotes a few pages to a full description, but it is information gleaned from Landwehr and Gasparri.

[47] Claridge 2015, 110; Mattusch 2015, 140; Anguissola 2015, 252-3.

[48] Claridge 2015, 110.

seek access to the objects[49]), various difficulties prevent this work from moving forward. The renovation and reopening of the rooms is not even yet projected; most worrisome is the lack of climate control in these rooms, especially in light of the rapid deterioration of plaster, the effects of which are already observable in the cracking and the powdery disintegration that has begun to affect several of the casts.[50] This unfortunate museum situation has caused a scholarly undervaluation of the plasters and the wealth of information they preserve about the Roman production and use of large-scale sculptural models.

Taking the long view, the Baia plaster casts are one step in a long series of positive and negative molds.[51] At the very least, they were cast in a negative mold that was taken from a completed sculpture. Additional steps may have intervened – e.g. a wax positive 2G model may have been made from the first negative 2G mold in order to produce additional negatives for dispersal without the potential of damage to the statue[52] – but it would be difficult to detect their existence on the plaster positives except as degradation of the precision of the impression. It is clear, however, that the Baia plasters descend from casts taken from complete, bronze statues. Details about the process of producing the Baia plasters and evidence about the material of the statues they replicate are tangibly preserved in their form. Even visual examination reveals the adaptations required for the production of the negative cast, like the filling in of cavities and the detachment or encasing of projecting features. The production of the negative molds and the reconstruction of Baia models required a piecing together of various elements as well as sometimes elaborate approaches to an internal armature. Moreover, examination of the composition of the plaster and the superficial treatment reveal the intended final appearance of the Baia plasters, confirming their use as sculptural

[49] I am grateful to Dr. PierFrancesco Talamo, Funzionario Responsabile of the Museo Archeologico di Campi Flegrei, for his willingness to arrange for me to study the casts over the course of several days in November 2016 as well as for the insightful comments he offered in discussion of several of the casts.

[50] On the difficulties of preservation and restoration: D'Alessandro and Persegati 1987.

[51] Landwehr 1985, 12-25.

[52] The repeated taking of plaster casts would coat the statue in bitumen, which allows the mold to release from the surface when dried (Lucian, *Iupp. Trag.* 33). Moreover, the continued application and removal risked damage to the finer details of the statue. Pliny mentions that it was prohibited to take casts from a highly valued set of bowls or cups because their most delicately worked portions could be ruined (*NH* 33.156-7).

models. Although all of these details were identified by Landwehr, several were discussed only briefly and their importance has gone unremarked in subsequent literature.[53] A thorough recounting of the facture of these casts and their relationship to the archetype directly informs the following discussion of the purpose and ontology of the Baia casts and the effect of plaster casts more generally on Roman ideal and retrospective sculpture.

Building upon the principally technical observations of C. Landwehr, the following discussion of the facture of the plaster casts addresses the construction of their materiality. It shows how the processes of molding and recomposition borrowed techniques from bronze-casting and marble carving, while employing a wide variety of other materials for support. It illustrates how the stages of their production obscured and distanced the materiality of the bronze statues from which the 2G molds were taken; the plaster 2G models preserve only relics of bronze manufacture (like the presence of inlaid eyes), without conveying details of color, polish, or patina. The 2G models used for marble sculpture, if they are typified by those excavated at Baia, are uninterested in descriptive presentation of the materiality of the archetype. Instead, their plaster materiality – shown here to be intentionally unfinished but protectively conserved – presents the form of the archetype as if on a blank canvas, amenable to elaboration in any material and with any superficial adornment deemed appropriate for the new sculpture's context. The use of a novel material or adornment could thus only rarely be a comment on the material of the archetype, for example when the latter was famous or its material directly available for reference. Instead, the materials of new works were selected and evaluated by reference to the contemporary mediascape. In this respect, the Baia plaster models diverge from Neoclassical and many modern plaster casts, despite their similar visual appearance. Modern scholars are still embedded within the tradition of Neoclassical casts that early Roman art history inaugurated and interpretations of the Baia casts have mistakenly assumed parity between the two traditions of cast-making. However, Neoclassical casts express a desire to present the materiality of their models in a way that is at odds with the evidence presented here for the Baia casts. Separating the two traditions clarifies the

[53] Landwehr 1982, 1985, 2010.

foreignness of a technically rather similar practice of production. The Baia plaster casts testify to a completely different type of engagement with the materiality of the sculptural prototype than has been expected.

3.2.a The facture of the Baia second generation models

Landwehr's identification of several famous archetypes shows that the statues from which negative casts were taken could be both highly valued antiques and more recent creations; in either case, careful preparation was required before the casts were taken. The necessary modifications to the archetype – removing, encasing, or filling in various portions – are clearly visible in the Baia models. These artifacts demonstrate the careful steps involved in producing the negative casts and, sometimes, reveal details about the material of the archetype. For example, the first sculptural type recognized among the casts, by Gisela Richter in 1970, was the face of Aristogeiton (fig. 3.1a-c), one of the two commemorative statues of the Athenians who famously attempted to end the tyrannical reign of Hipparchus and Hippias in 514 BC.[54] Additional fragments of his body and of the figure of his accomplice Harmodios were eventually identified.[55] The plaster face of Aristogeiton preserves two clear indications that the negative cast was taken directly from a bronze statue, probably the one that stood in the Athenian Agora. Sculpted by Kritios and Nesiotes in 477/76 BC to replace the first monument, which was removed to Persia in 480 BC by Xerxes, this statue was several centuries old by the time the Baia casts were made. Although it would seem surprising that the taking of casts from such a prized monument was allowed, the thick rim around Aristogeiton's right eye and the finely traced incisions that mark the hairs of his beard indicate that the model for the molds was a finished bronze statue. The rim around Aristogeiton's eye denotes the presence of bronze eyelashes on the archetype (fig. 3.1a-b).[56] Made of a thin sheet of bronze bent into a wedge, filled

[54] Museo Archeologico dei Campi Flegrei (MACF), inv. 174.479: Richter 1970.

[55] Landwehr 1985, 27-47, no. 1, with a history of the type. Cf. also Brunnsåker 1971.

[56] Landwehr 1982, 16; 1985, 14-16.

with precious materials that represented the eyeball, iris, and pupil, and inserted into the eye socket, the protruding portions were somewhat delicate.[57] They also created an overhang that would make it challenging to remove the hardened plaster negative without causing damage. Thus, before the cast was taken, the eyelashes were encased in clay, which takes longer to harden than plaster and could be applied as a protective layer that also partially filled in the overhang beneath the lashes. The bronze eyelashes, and the inlaid eyes that they indicate, could also be found on marble statues in Greece and Rome[58], but the narrow and precise incision of the hairs in Aristogeiton's beard (fig. 3.1a and c) could only have been created by incising them into wax or clay and casting them in bronze, not by carving them in marble. The definition of these hairs is today only visible on a few of the locks of the beard since damage to the cast, probably the result of contact with water in a deposition context, has smoothed the surface of most of the locks into globular shapes that do not reflect the ancient surface of the 2G model.[59] Together, these two elements strongly suggest that the archetype was made of bronze.

Some of the other Baia plasters preserve similar indications of the way that archetypes were prepared for cast-taking. Projecting hair curls that had been cast separately in bronze and attached were detached from the sculpture and separate impressions in plaster were taken of these elements.[60] For the eventual production of the Baia 2G models, even these small, separate elements were all recreated and attached. This complex process was not always necessary, but was carried out for the most complicated hairstyles, like the fragmentary head with an archaic or archaizing hairstyle with curls that hung loosely from his temples (fig. 3.2a-c).[61] The curls are now lost, but the holes where they attached are clearly visible

[57] Mattusch 1996, 24, pl. I; Lahusen and Formigli 1993, 2001, 462-4.

[58] Ridgway 1966, 1990b; Freyer-Schauenburg 2002.

[59] Many of the plaster fragments display similar damage and it is likely that they encountered this water damage in their deposition environment, in the substructures of the Baths of Sosandra. On the deposition context, supra p. 120-21.

[60] Landwehr 1982, 16; 1985, 14-16.

[61] MACF inv. 174.482. Landwehr 1985, 112-14, no. 68.

on the outside of the head. Inside the hollow head, the metal pins are partially preserved, protruding from the holes that run straight through the wall of the model. The ends of these pins, driven through the plaster, are bent over the internal surface as an anchor (fig. 3.2c). Smaller curls that lay closer to the head, by contrast, were treated in a simpler fashion, with their cavities filled in or encased in clay like the eyelashes of Aristogeiton.[62]

The practice of filling in cavities was also extended to other portions of the statues. In particular, it was used within the hollow columns created by the folds of drapery falls (fig. 3.3).[63] Clay or another material was pressed into the empty space on the archetype, preventing the plaster from flowing inside the statue and hardening in a way that would prevent the easy removal of the mold. The use of clay could be necessary to fill small, deep areas, where the extraction of the negative cast might be difficult if the plaster seeped too far in, like in the area beneath the foot where it just starts to lift off the ground. However, it was not an absolute necessity in this area since several models preserve even the modelling of the undersides of individual toes (fig. 3.4a-b).[64] Clay may also have been used, as Landwehr argues, to temporarily fill the space below an upraised heel, forming the kind of plinth beneath the foot that is often found in marble replicas (fig. 3.5).[65] Such a plinth would not be necessary for the taking of the negative cast, but it would aid in the re-composition of a 2G model produced from the casts. The other cast elements of the statue would provide sufficient information about the angle and disposition of the foot, but the reference to the flat basis would be useful for constructing the 2G model in wax, clay, or plaster. The plaster casts also used this support to hide an internal armature that ran from plinth up the entire leg into the torso (e.g. the canal

[62] Landwehr 1982, 16, abb. 11.

[63] *Ibid.*, 17, abb. 12; 1985, 15 and taf. 101a (Nr. 192 and 197).

[64] For plinth just behind the ball of the foot, cf. Landwehr 1985, Nr. 40, Taf. 42a and for the modelling of individual toes *ibid*, Nr. 137, Taf. 100f.

[65] *Ibid*., 14-15, cf. Nr. 62, Taf. 59e.

between the two halves of the foot in figure 3.5).[66] Still, the widely varying shapes, sizes, and approaches to these under-foot supports in the Baia models suggests that several solutions were in use, probably including both temporary clay plinths created during cast-taking as well as the creation of plinths during the production of the plaster model. Landwehr's astute observations of the modelling of the underside of the feet, however, is illuminating as to the material of several of the archetypes. She convincingly argues that the presence of sculpted areas beneath the toes and under the arch of the foot indicate that the casts were, in many cases, taken from bronze feet rather than marble ones. The toes of marble feet are carved only until the point where they join the base, whereas bronze toes could be more freely and three-dimensionally modelled since the tenons that secured bronze feet to a statue base were confined within the foot.

The Baia models provide the only tangible evidence of the physical difficulties that ancient sculptural reproduction encountered in its first step, the taking of negative casts of the archetype. They detail the complex preparatory steps taken to ensure the safety of the statue, which was often a highly valued antique, and the difficulties that cast-makers must have encountered. The process involved a dismantling, a coating the archetype in pitch, and filling select areas with clay, the production of the negative casts, then the removal of clay and most of the pitch from the archetype, the reattachment of dismantled pieces, and, probably, a cleaning and polishing of the whole statue. Once the archetype was fully prepared, the entire statue was covered with a layer of bitumen or vegetable resin.[67] This allowed the plaster, pressed firmly against the sculpture, to record even the finest details of carving and then to smoothly release from the surface of the archetype. Still, repeated cast-taking from even a metal statue further risked dulling and blurring of details, like that visible in the degradation of metal printing plates throughout a series, as well

[66] Feet recomposed around a central rod running through the foot and plinth: *ibid*, Nr. 33, Taf. 31a (the Amazon Sciarra); Nr. 62, Taf. 59e (the so-called Narcissus); with the foot placed flat on the ground: Nr. 142, 143 and 144, Taf. 82-3 (unidentified feet).

[67] Donati 1990.

as increased darkening from the application of bitumen.[68] While some statues may have often been subject to cast-takers, as Lucian describes,[69] it stands to reason that revered statues like the Harmodios and Aristogeiton group would have been more protected. Perhaps cast-taking of such works was limited to special occasions, during a move, or a cleaning or restoration project, for example. Moreover, it should be considered that the risk to the archetype, indexed by the several preventative measures visible in the Baia models, might encourage the production of one or multiple 2G model(s) specifically for the purpose of taking further sets of negative casts for distribution to sculptural workshops elsewhere. Perhaps such re-use of casts or models caused the softening of the details visible on the fragmentary cast of the aegis of the Athena Velletri (fig. 3.6a-b)[70], upon which incisions aiming to restore the delineated scales were added after the plaster 2G model was removed from the 2G mold. Such instances of refining the surface of the plaster casts seem to be rare among the Baia models; the current lack of detail on much of their surfaces appears to have been caused by water damage in their deposition environment. The Baia casts should be considered to derive from high quality 2G molds, consistent with the status of the commissions affiliated with the workshop that owned them, which Gasparri has connected with even imperial patrons.[71] Less prestigious workshops, however, may have been working with much lower quality 2G molds and models, perhaps helping to account for the diversity in the quality of the replicas.

It is most likely that the negative impressions of the archetype were taken directly into a layer of plaster. A vegetable resin might have been able to achieve a malleable mold, but most scholars agree that this technical invention was achieved only in the modern period, with the invention of plastic materials.[72]

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[68] On the darkening effect of maintenance treatments, see Appendix D.

[69] *Iuppiter Trageodus*, 33.

[70] Landwehr 1985, nr. 42 and 43, inv. 174757 and 174758.

[71] Gasparri 1989, 1995.

[72] Haynes 1992, 62, n. 31; Landwehr 2010, 37;; Contra, cf. Marchini (1973a, 1973b), hypothesizing Donatello's use of an elastic matrix for reproducing casts of the marble bas-reliefs of the pulpit of the Duomo of Prato, since the casts do not preserve the curvature of the pulpit. This divergence is suggestive, but alone does not prove the existence of a malleable medium for casting (D'Alessandro and Persegati 1987, 28-9).

The type of plaster used to produce the negative molds could vary, but the best was the mixture of pulverized or even roasted gypsum and water that has been called 'plaster of Paris' since the gypsum deposits under that city were widely exploited in the 18th century.[73] The blend is much older than the name; it is described by Theophrastus, writing around the turn of the fourth to third century BC and the deposits of the eastern Mediterranean were used much earlier.[74] Its main advantage is that it sets to firm quite quickly and dries completely within a few days.[75]

Generally speaking, the production of negative molds is achieved with piece-molds, a process called '*a tasselli*' in Italian (fig. 3.7).[76] In order to avoid damage to or deformation of the impression or to the archetype, non-malleable molds need to be able to be pulled off of the statue in a single direction. Overhangs, volumetrically curling hair, overlapping drapery, and projecting elements make this a complicated endeavor and reduce the possible size of each individual cast.[77] Thus, to produce a full set of casts whose borders align perfectly with one another, cast-makers would apply plaster to small areas and then regularize the edges into a quadrangular shape. The edges were marked with small depressions and a thread or metal pin inserted into the external surface of the cast to aid in its removal. Once the first mold slightly dried, plaster could be applied to the adjacent areas, slowly covering the entire surface. The plaster filled in the depressions in the edge of the adjacent mold, keying the pieces together. In some cases, the piece-molds of a portion of the statue, the head, for example, could be covered with a *madreforma*, matched to the pieces beneath by the iron pin or similar depression on their external surfaces. Once all had been removed from the surface of the statue, the piece-molds could be reassembled and secured in the

[73] In antiquity gypsum referred both to the mineral anhydrite, the plaster produced when it was mixed with water, and even the cast bearing the three dimensional image (Juvenal, *Satyr*. 2.4-5). On the various types of gypsum and its products, cf. Schwiete and Knauf 1969; Landwehr 1985, 13-15; D'Alessandro and Persegati 1987, 69-73; *The New Pauly* s.v. gypsum (Hünemörder).

[74] *De lapidibus*, 64, 1.82; Frederiksen 2010, 14 with bibliography. On the Roman exploitation of a deposit in Egypt: Harrell 2010.

[75] The same plaster is used today for medical casts to set broken limbs.

[76] D'Alessandro and Persegati 1987, 76-9.

[77] Landwehr 1985, 16-17, 2010, 37.

madreforma, allowing clay, wax, or plaster to be poured into the hollow cast. This form of piece-molding and casting has been described as the main method of producing plaster casts of statues from antiquity to the present day.[78] However, while Landwehr does describe the Baia plaster casts as being produced in small pieces, there are important differences between the *a tasselli* method and the archaeological evidence.

While the negative 2G molds that were used to produce the Baia 2G models were almost certainly taken in pieces[79], they only in certain cases seem to have been reunited within a madreforma so that plaster could be poured in to cast, for example, an entire head in the round. Even though some of the plasters are quite large pieces, they often show no evidence of joins between negative tasselli, which would exist as ridges on the positive casts. Compare, for example, the grid of slight ridges that cross the surface of the funeral mask of Leo XII (fig. 3.8), separating his features into numerous small squares, against the plaster cast of Aristogeiton (fig. 3.1a), which represents the entire right side of his face without a hint of such ridges.[80] The practice was certainly known in antiquity, as shown by the faint traces of such ridges that can be observed on the back of a reworked plaster portrait found in a tomb on the Via Prenestina (fig. 3.9) and sometimes identified as a 'death mask' since the cast seems to have been taken from a human face.[81] Since the Baia plasters were not reworked even to remove unnecessary additions like the clay that filled drapery cavities or the eyelashes of Aristogeiton, it seems unlikely that all traces of such junctures would have been studiously removed. Thanks to the modifications described above, moreover, the face of Aristogeiton could have been produced in a single, large mold, pulled downward out of the negative mold.

Additionally, the borders between pieces do not always conform to the kind of large areas that could be produced easily by reuniting tasselli within a madreforma. For example, different parts of the head were sometimes cast individually with cut borders and then subsequently fixed together (instead of casting

[78] D'Alessandro and Persegati 1987, 13-45.

[79] Landwehr 1985, 16-7.

[80] Compare, for example, the ridges left on the bronze overcast of a Donatello sculpture produced via piece molds (Lahusen and Formigli 2001, 484, fig. 18.).

[81] Bacchielli 1977, 103-4; Drerup 1980, p. 87, 38.39, 1.2; D'Alessandro and Persegati 1987, 50-4, fig. 6-7;.

the head whole as is common in the *a tasselli*). The fragment of the hair of the Athena Velletri is perhaps the best example (fig. 3.10, 3.11).[82] The wavy locks pertain to the area just above her left temple, surmounted by her helmet. The plaster cast preserves a cut border at this join with the helmet, suggesting that the two were cast separately. Likewise, the face of Aristogeiton seems to preserve some of its original borders, suggesting that it was cast separately from other parts of the head that were joined together after hardening. Even large areas of drapery and the torso seem to have been worked in this manner and subsequently joined together. Seams are clearly visible in other body parts, like the one that sections off a portion of the chest of the toddler Ploutos of the Eirene and Ploutos statuary type (fig. 3.12).[83] The drapery of the Corinth-Mocenigo Persephone statuary type are modeled in complex forms that would seem difficult to cast in single piece moulds, but the drapery around both arms preserves this method of production (fig. 3.13a-b).[84] For each side of the body, one mold was taken of the drapery on the shoulder and upper arm and one of the garment below the arm, and then they were cast in plaster separately. A rounded cavity was created for the insertion of the arm, which at its apex is pierced by a square or round hole that would have secured a tenon running between arm and torso. Though the modelling of some of this drapery is quite volumetric, the pieces seem to have been cast using a single mold as they do not preserve any ridges of junctures between piece molds. Each of these large casts was, moreover, provided with a clear and regular border where it met the adjacent cast. The borders, whose corners have worn down to a rounded shape, probably would have met even more precisely in their original form.

On the other hand, some parts of the statues were produced by reuniting two negative 2G molds and pouring in plaster, in keeping with the 'a tasselli' method. This kind of production seems especially to have been used for limbs, like the hand that bears a ridge down its back (fig. 3.14), showing that the hand

[82] Landwehr 1985, nr. 44, pl. 47a-b, inv. 174487.

[83] *Ibid.*, 18, Ploutos: Nr. 63, pl. 60a, 101d.

[84] *Ibid.*, nr. 14, inv. 174687(left); and nr. 19, 174678 (right).

the forearm were cast by joining two molds together and pouring plaster inside.[85] This method seems to have been used for limbs that were relatively small in diameter, like the forearm of the Sciarra Amazon (fig. 3.15a-c).[86] The border of the two molds is barely distinguishable, but it cannot be coincidence that a break runs nearly linearly from the wrist toward the elbow, splitting this part of the forearm into two halves that would reconcile to two halves of the 2G mold. Though the arm seems to be cast in its entirety, this rough join between the two halves suggests that one half might have been poured and allowed to partially dry before the second mold was secured onto the first and the remaining cavity filled. This would have allowed for easy insertion, for example, of the bone or wood rods that are often found embedded in the middle of similarly cast limbs as supports. The middle portions of feet and heels were often cast full in this manner and their still malleable plaster cores were pressed together around a cane or wood rod that continued into the torso as an armature (fig. 3.5).[87] A similar process is visible in the construction of the right arm of the Narcissus cast (fig. 3.16a-c).[88] The surface of the external portion of the arm is relatively smooth, aside from some damage and an air pocket, and was clearly cast in a mold (fig. 3.16b); this surface continues toward the internal portion of the arm, stopping just where the profile would turn in. The internal surface of the arm is rough (fig. 3.16c), showing globs of plaster, and is irregularly rounded. This internal portion of the arm seems not to have been a part of the mold. Rather than using two molds together to pour the arm, it was solid-cast in a single mold. Plaster was poured in to fill the mold, the structural bones were laid into this plaster and covered over with a lumpy, perhaps more dry plaster roughly rounded above the edge of the mold to approximate the shape of the inner arm.

This method of making positive casts from individual tasselli, rather than reuniting them within a madreforma as was common practice in later periods, extends beyond the realm of large scale sculpture,

[85] *Ibid.*, 18. Hand: Nr. 96, Pl. 72a, 73b, inv. 174512.

[86] *Ibid.*, nr. 30, inv. 174504.

[87] *Ibid.*, Nr. 33, Taf. 31a (the Amazon Sciarra); Nr. 62, Taf. 59e (the so-called Narcissus); Nr. 142, 143 and 144, Taf. 82-3 (unidentified feet).

[88] *Ibid.*, nr. 59, inv. 174497.

and should perhaps be considered a common practice in the ancient Mediterranean.[89] The post-Renaissance method of cast production, by which casts spread throughout Europe, represents a related, but different phenomenon.[90] Even some of the plaster positive 2G models of metalware vases from Begram illustrate that the 2G molds taken 'a tasselli' over the entire surface of an object were used to produce individual positives rather than reunited in a madreforma.[91] The area of the surface that these 2G piece-molds selected, moreover, was sometimes quite random rather than aimed at replicating specific scenes. One positive from Begram represents two figures that turn away from each other and must belong to two unrelated groupings on the original artwork.[92] Contrary to the practice of the Baia examples, the edges of these 2G models were left rough – the clay was folded over the edge of the 2G mold creating a rim around the 2G model – and there was apparently no desire or attempt to reunite the positive tasselli into an 2G model of the entire vase. Instead of a desire to reproduce an entire work as a model, the sculptors who used these casts would have selected groupings or individual figures whose forms suited the needs of their project. These are figural models that were meant as templates for further recomposition and elaboration rather than models intended for the production of copies of specific works. Still the point holds that the *a tasselli* method of production that reunites the negative piece-molds within a madreforma was not the single method, but rather co-existed with the production of individual pieces of 2G models whose borders conformed to the area reproduced by each negative tassello.

The individually cast pieces of the Baia 2G models were, as has already been briefly mentioned, affixed together in a wide range of ways depending upon their size and their relationship to the internal armature. Some basic patterns of assembly emerge. Most standing sculptures seem to have employed an

[89] Barone (1980, 49-57) and D'Alessandro and Persegati (1987, 21) note the shared techniques between the Baia casts and some casts found in Pompeii.

[90] D'Alessandro and Persegati 1987, 30. Described by Vasari (Chapt. 4 *Della Scultura*) and Cellini (*Trattato della Scultura*, chapt. 3) as critical to the lost-wax method of bronze production.

[91] Kurz 1954, 139, nr. 113, 142-3, 147, 148bis, 212, and V (fig. 282-8; cf. also fig. 406).

[92] *Ibid.*, 139, nr. 142, fig. 406.

armature that was, in broad strokes, similar to that employed also for bronze statuary (e.g. the Riace bronzes, fig. 3.17).[93] Long rods, perhaps of wood rather than metal, were secured to the base and extended up each leg into the torso. One of them likely continued upward to support the head, or a second rod ran from the base of the torso to the head.[94] The lower torso of the Westmacott Ephebe plaster cast preserves the impressions of the end of a rod that ran up through his leg and stopped just behind the lower abdominal muscles (fig. 3.18a-b).[95] Unlike bronze, the armature of the plasters also often extended into the arms, as is indicated by the cavities running through the shoulders of the Persephone cast (e.g. fig. 3.13a-b).[96] These rods were attached to the hollow plaster casts either by being embedded within the wet plaster of solid cast portions, like between mid-foot and heel of the Sciarra Amazon described above, or by being affixed to the interior of the hollow model with the application of a thick paste of rougher plaster with coarse aggregate. For example, the impression of the cane on the interior of the lower torso of the Westmacott Ephebe rests in a thick gray plaster that is pressed against the internal surface of the fine, white plaster of the cast (fig. 3.18a-b).[97] This thick plaster was also poured into the hollow cavities of limbs, securing the internal rods and fixing together separately cast pieces of, for example, upper and lower legs and arms (e.g. fig. 3.19a-b).

These limbs, moreover, were cast with reassembly in mind and perhaps even the negative molds took this into account. Most of the joins in arms, legs, and even feet show a stepped profile at the join.[98] On numerous feet, most of which have not been identified with a specific type, there is a join across the midfoot

[93] Formigli 1984.

[94] Evidence of these rods can be see in numerous fragments. Supra p. 132, n. 87 on those running through feet. See also Landwehr 1985, nr. 109, 115, and 248.

[95] *Ibid.*, nr. 57, inv, 174492.

[96] *Ibid.*, nr. 14, inv. 174687; nr. 19, 174678; nr. 3 (the upper arm of Aristogeiton, see fig. 3.19).

[97] *Ibid.*, nr. 57, inv. 174492.

[98] Cf. Landwehr 1982, 19.

that is linear with a small step on the inside upper part of the foot (fig. 3.5).[99] On the arms and legs, the stepped join is more significant, amounting to one half of the limb extending 2-3cm higher than the other (fig. 3.19a-b).[100] Other portions of the bodies show angled joins, like that between the drapery above and below the arms on the Persephone type (fig. 3.13), on the neck of the Athena Velletri (fig. 3.20) or the torso of the Ploutos of the Eirene and Ploutos group (fig. 3.12).[101] In every case, it seems clear that the negative molds followed these same boundaries, which differ from the typically simpler cuts used in the piece-casting of bronze statues even if they sometimes occur in similar locations. The joins of the upper arms of bronze statues, for example, tend to be cut straight, directly across the arm without a stepped profile (cf. the Riace Warriors, fig. 3.17). The several feet that are cast in two separate pieces, divided over the arch of the foot, moreover, is a practice inherited from bronze-casting; the molten metal did not flow well into these portions of the mold and they were often executed separately.[102] The 2G molds, it seems, were taken with the expectation that they would be used to cast models whose medium would benefit from the interlocking system of their joins.

Bones and other materials were inserted as tenons between the various pieces, sometimes cursorily, as in the arm of the Narcissus (fig. 3.16), described above, but sometimes with careful attention to the securing of a join. For example, a fragmentary right hand, which Landwehr ascribes to Aristogeiton on the basis of style, once brandished a sword (fig. 3.22a-c).[103] The rectangular guard of this sword hilt rests on top of his closed fist, the fingers below wrapping tightly around the hilt and obscuring it from view. As the piece is broken just below the second finger, it is not clear if the hilt would have extended out from beneath the fingers. On top of the sword hilt, where the blade should project outward, is instead a rectangular hole

[99] Landwehr 1985, nr. 137, inv. 174533a-b.

[100] *Ibid.*, nr. 3, inv. 174501.

[101] *Ibid.*, nr. 191, inv. 174678; nr. 45, inv. 174487; nr. 63, inv. 174496.

[102] Cf Lahusen and Formigli 2001, 460ff.; On several separately cast feet from Olympia: Mattusch 1988, 137, no. 67.

[103] Landwehr 1985, 37, Nr. 6, Taf. 3d,e. Currently displayed in the case of fragments of Harmodios.

(fig. 3.22b). At 2.5cm wide, the hole continues 4cm deep, running through the hilt and into a globby mass of plaster inside the hollow interior of the hand (fig. 3.22c). Vertical striations and long ovoid cavities, made by the stretching and popping of bubbles inside the plaster, mark the wall of the rectangular hole. Each stage of production is clearly indexed. A fine plaster was poured into a negative mold of the front of the hand and the sword hilt, which was prepared for the insertion of the sword by leaving open a wide hole created by a protrusion outward from the wall of the mold. The sword was cast separately and, because of its narrow profile, was probably cast solid around a long, narrow support. This tenon extended out the bottom of the sword and would be inserted into the plaster hilt and the hand. In order to secure the attachment, wet, globular plaster was poured inside the hole left in the hand/hilt and the sword's support was pushed into it, creating the vertical striations and elongating and popping air pockets in the wet plaster. The back of the hand might have been cast separately and attached, but the broken edges of the fragmentary hand do not preclude that the hand was cast whole as has been indicated above for other limbs. The two piece molds, the front and back of the hand, could be temporarily fixed together and filled with plaster. Once the external centimeters had partially dried and hardened, the still-liquid center could be poured out, leaving the smooth internal surface visible here. Unlike in other fragments, there is no rough layer of plaster on the inside of the fragment that suggests the front of the hand was secondarily joined to the back half of the hand.

Finally, in addition to the relatively traditional armature and tenons, there are numerous examples of the use of bones inserted into the plaster to provide internal support in various areas. These appear both in the shell of relatively thin casts, like a fragment of the aegis of the Athena Velletri (protruding from the lower right corner in fig. 3.6a), as well as in thick pieces of swelling drapery like that of the Persephone (crossing in an arc from left to right, visible through the tenon cavity and protruding at right in fig. 3.13b). As a means of strengthening and reinforcing, this use of bones has a lengthy history. Clay molds used for bronze-casting that were excavated in the Athenian agora likewise employ bones in their aggregate.[104] All

[104] Mattusch 2008, 433.

the bones in the Baia casts that have been studied come from animal sources, including numerous rib bones and other tubular long bones of dogs, goats, and sheep, as well as deer antlers.[105] Their selection seems to have been determined by the shape and size of the cast requiring support and their employment was occasional – wherever it was deemed necessary to strengthen the plaster and reduce the amount of plaster and, thus, weight required – rather than according to a specific pattern.

Finally, the external surfaces of the Baia plasters show evidence of a superficial coating that forms a smooth, less friable surface that today often appears a light yellow or yellowish brown in color. While this superficial treatment is quite easy to detect in visual examination, it does not show up very well in photographs (fig. 3.14, 3.23) and it has been left unmentioned in the literature subsequent to Landwehr's 1985 study. In that volume, Landwehr publishes her own assessment of the coating as well as a summary of its minero-chemical analysis by Elisabeth Schmid.[106] Schmid suggested that the veneer was composed of either oil or wax but could not chemically distinguish between the two. Experimenting with both, she found that oil used alone penetrated more deeply into the plaster material than was evidenced in the Baia casts, while wax alone did not penetrate into the pores, even when warmed before application. Schmid posits that the casts were coated with an oil-wax emulsion – two parts oil to one part wax – that, in her experiments, approximated the consistency, penetration into the pores, and the sealing effect of the coating visible on the Baia plasters. No other superficial treatment has been identified on the plaster casts, either visually or scientifically. The oil-wax coating, moreover, should be considered an intentional superficial treatment, rather than a remnant of the resin or oil that was applied to the interior of negative molds to aid in the release of the positive cast. As Landwehr points out, traces of the coating on the casts seems to have covered over the joins of the reconstructed casts, suggesting that it was applied as a final treatment. Considering this as a type of 'ganosis' applied to plaster, Landwehr rightly suggests that it was employed as a protective measure, safeguarding the plaster from the accumulation of dirt as well as insulating it from

[105] Landwehr 1985, 203-6 (E. Schmid).

[106] Landwehr 1985, 23-4, 203.

the destructive effects of water and atmospheric humidity. This coating even helped preserve the plasters in the damp conditions of the substructures where they were deposited.

The minero-chemical analyses that Landwehr had conducted also revealed that the Baia plasters were produced locally, somewhere in the region of Campania. Generally speaking, it is not as easy to determine the provenance of fine plaster, especially compared to the identification of marbles or the characteristic soils and inclusions in ceramics. However, many of the inclusions in the aggregate of the plaster – visible to the naked eye particularly in the rougher grey layer but, more rarely, in the fine white outer layer – were found to be volcanic. Their particular composition is typical of the inclusions well attested in the ceramic production of Campania, providing a quite strong indication that the manufacture of the positive casts occurred in the region. Landwehr does not raise the many potentially unanswerable questions about their origin, including, for example, whether the marble sculpture workshop that owned the casts was responsible for their production or whether they purchased them from a workshop that specialized in the manufacture of models. The latter is more likely, since not a single one of the hundreds of fragments of plaster can be associated with a negative mold; all of the fragments represent positive casts.[107] The local production of all of these positives suggest that a model-producing workshop, that owned a collection of negatives, might have existed in Campania, furnishing sculptural workshops with pre-fabricated plaster 2G models. Perhaps this was a side business for an entrepreneurial bronze workshop that produced ideal sculpture, since this activity would require a collection of negative molds to create positive wax 2G models for reworking and casting.

The plaster casts constitute a massive store of information about the production, intention, and use of sculptural models in the production of ideal sculpture. First of all, they confirm that the Baia plasters should be classed as 2G models that were intended for use as a reference in the manufacture of other sculptures, most likely in stone. This interpretation has only rarely been challenged, in particular by Amanda Claridge, who argues that there is no evidence on the sculptures that shows they were used for

[107] *Ibid.*, 18-25, 181.

production[108] and that these are more likely to have served as sculptures, which she notes are attested from the ancient world.[109] Both points have merit, but the evidence is overwhelmingly against the possibility that the Baia casts could have been displayed as finished sculpture. Claridge's first point concerns, in particular, the lack of indicated measuring points on the plaster casts that could be used as a reference to ensure fidelity to the model in the marble carving.[110] These measuring points are well-attested in marble sculpture, with examples showing that as few as one measuring point, as on the back of the Augustus of Primaporta, or as many as twenty-seven, like those on an unfinished statue of a Dacian in the Vatican, might be used.[111] These bosses are usually erased in the finishing of a sculpture and are normally preserved only on unfinished or training pieces. Logically, the points should also be preserved on sculptural models, whose primary purpose was to act as a reference; a preserved training piece excavated in Rome clearly shows the presence of points on both model and copy.[112]

Claridge is right to be suspicious of the lack of any such bosses or indicated measuring points on the Baia plasters, but this fact is something of a red herring. First of all, the casts are extraordinarily fragmentary and only limited, random portions of any one body are preserved, although, this situation alone cannot quite account for the absence of a single measuring point on nearly 400 fragments. However, it should be remembered that the casts are produced from negative 2G molds taken directly from a bronze sculpture. Any measuring points that were required for the production of marble sculpture would need to be added to the positive 2G model after its removal from the matrix. This raises the possibility that the points were not sculptural, as on the marble examples, but might have been represented with more fugitive

[108] Claridge 2015, 110-11.

[109] Cf. D'Alessandro and Persegati 1987; Barone 1994. Frederiksen (2010) is in favor of considering that there was more plaster sculpture in antiquity than it is now possible to trace.

[110] On measuring points and methods of copying into marble: Pfanner 1989; Touchette 2000; Claridge 2015, esp. 110-12. See also Anguissola 2012, 34-5.

[111] Cf. Claridge 2015, fig. 2.2.1, Museo Gregoriano Profano ex Lateranense, inv. 10543.

[112] As on the Hadrianic piece excavated in Rome (Lorenz 2009; Claridge 2015, fig. 2.2.2).

means, like paint.[113] The use of paint as a copying guide is attested on a positive 2G model from Memphis, which, however, uses a grid system instead of dots.[114] If the addition of painted measuring points occurred after the application of the oil-wax emulsion, it would have been subject to the environment and has likely disappeared. The incredibly damaged surfaces of many of the casts do not even preserve the superficial coating and, in these cases, any pigment applied beneath the veneer must now also be lost.

Moreover, several details of the facture of the Baia plasters strongly suggest that they were never intended for a display as sculpture. The first and most important of these is the oil-wax emulsion that covered their surface. This coating sealed in the soft, friable white plaster and gave it a warm yellowish color, certainly with age and perhaps even slightly so when it was first applied, as was demonstrated in Schmid's experiments.[115] As there are no traces of any other non-sculptural surface treatment, the casts seem to have presented a warm, creamy monochromatic appearance. As this sealing veneer was intended as a preservative, it seems likely that if pigment had been used to widely re-color their surface or even highlight details, it would have been applied before the oil-wax mixture. Instead, as Landwehr notes, the treatment seems to have slightly softened the harsh white color of the raw plaster in a manner that could be compared to the wax coating, ganosis, applied to white marble surfaces. Yet this observation requires some qualification. Ganosis was used selectively, often for portions of the stone that were intended to represent skin, while other elements of the statue from hair to drapery would be painted.[116] A statue of Mars that appears in a wall painting in the House of Venus in the Shell in Pompeii (II 3,3) may illustrate this polychrome approach.[117] Yet for the Baia casts, even when the veneer is preserved on portions of the statue

[113] A metal nail or another insertion could also mark the point, but there is no evidence of unexplained holes that might have served such a purpose in the preserved casts.

[114] Reinsberg 1980, 244, 258, n. 42, fig. 61. The grid of red lines could be used to aid copying the image freehand rather than by casting.

[115] Landwehr 1985, 203 (E. Schmid).

[116] On ganosis and the coloring of skin, cf. Richter 1928/29, 1944; Reuterswärd 1960, 70-4; Koch-Brinkmann et al. 2014a; Blüme 2015, 43-7, 49-56.

[117] Blüme 2014, 179, fig. 18.

that would normally be colored, like drapery or facial features, there is no indication that any pigment was applied. Instead, the sculptures have an unusually homogenous surface that presents itself as a creamy, pale, neutral canvas of solely sculptural form. Given the ubiquity of polychromy on ancient sculpture, the Baia casts would present a striking anomaly if they were displayed as finished sculptures rather than models.

The lack of polychromy is paralleled by the lack of sculpted finishing of the details that were protected by clay during the production of the 2G molds, both of which denote the unfinished nature of the Baia plasters. The fact that it is possible to trace the modifications to the archetype, like the addition of clay around the eyelashes or in cavities of drapery, and to identify places where the wet plaster has been smudged on its removal from the mold[118] indicates that there was little concern for retouching and finishing the casts as sculptures for display. This fact stands in direct contrast with the few plaster sculptures known from antiquity. The male head excavated in a tomb on the Via Prenestina (fig. 3.11), discussed above, apparently derives from a cast taken from a human head, perhaps as a so-called 'death mask' or funerary mask.[119] Whether the mold was made from life or death, the bust was heavily retouched, especially around the eyes, nose, and ears, transforming the impression into a portrait. As a funerary portrait in plaster it is nearly unique and, without further scientific analysis, it is currently impossible to judge whether it may once have displayed colors. A similar situation pertains to the plaster bust of a man that is now in the Getty in Malibu.[120] No traces of pigment are currently visible, but it is evident that there was significant sculptural reworking of the cast taken, probably, from life. The life-cast face, moreover, is paired with a hairstyle produced in a negative 2G mold taken from a marble sculpture. Together with the lack of polychromy, this combination of elements suggests that this object should perhaps be considered a model for the production of a portrait in another material. Plaster statuary with a more expected polychrome nature is, however,

[118] Landwehr 1985, nr. 22 and 69. Landwehr argues that these smudges could only be caused by the deformation of a malleable mold, but the deformation of the mold or the cast could occur if the plaster was removed before it was completely dry as clay is often removed from a mold at the leather hard stage.

[119] D'Alessandro and Persegati 1987, 50-4, fig. 6-7; Supra, p. 130, n. 81

[120] J. Paul Getty Museum, inv. 79.AI.114: Frel et al. 1982, 91; D'Alessandro and Persegati 1987, 54, fig. 8.

attested in Pausanias, who describes a painted statue of Dionysus that he saw at a private home in Creusis in Beoetia.[121] Juvenal's criticism of ignorant men's collections of plaster busts of Greek personages should probably be considered to refer to similarly painted, sculpturally finished works.[122] The use of plaster for sculpture generally seems to have been rare, especially since it is not clear whether Juvenal's satirical testimony should be taken at face value to indicate that there were ancient collections of plaster casts; his comment will be discussed further below. Generally speaking, while sculpture in plaster is attested, it seems never to have been common, even if plaster was a ubiquitous material in artistic production.[123]

3.2.b The Baia plasters: materiality and ontology

The Baia casts, it seems clear, were not intended for display as finished sculptures, but, at the same time, they were carefully recomposed with studious attention to details of form. The effort that was employed, for example, to separately cast loose hair curls and reattach them via metal pins (fig. 3.2a-c), draws a vivid picture of the kind of attention paid to the Baia 2G models. The goal of producing the Baia casts was the re-composition of a complete formal model. Even small elements like the hair curls or other aspects that could easily be imagined based on real life objects, like the sword of Aristogeiton, were each cast and reintegrated with the statue. Although fragmentary now, the Baia casts were produced as parts of a whole destined to be reassembled, not as individual pieces that could be mixed and matched to create new statuary. The type of eclectic recombination allowed by practices of piece-molding – like those of the life-cast face and over-cast hair of the plaster head in the Getty and practiced especially by the school of Pasiteles

[121] Paus. 9,32,1. The other plaster statue that Pausanias (1,40,5) describes is an unfinished cult statue of Zeus at Megara whose face was chryselephantine and other parts were made of clay and gypsum while the wood that would have supported the ivory and gold of the rest of the statue laid nearby; the costly materials were never afforded because of the Peloponnesian war. The use of plaster here seems to have been solely functional and was not intended to be see in the completed work.

[122] Satyrica, 2.4-5.

[123] D'Alessandro and Persegati 1987, 24.

– is not reflected in these casts.[124] The complicated stepped joins, for example, show that the limbs were produced as keyed elements for reassembly. While scholars have emphasized that the practice of piece-molding allowed for the creative recombination of elements and have thus concluded that the Baia plasters provide further evidence of such eclectic approaches, the keyed elements of the Baia casts suggest they were intended to match their adjacent pieces. None of the Baia casts have been shown to join to a piece from another statue, but rather seem to pertain to entire statues, although preserved only partially.[125]

In fact, this should not be so surprising. The creative recombination of elements from disparate statues seems to have been an innovation of the Italian peninsula that exploited an existing repertoire of complete statues. It relied upon knowledgeable selection and recomposition in the act of producing a model. The producer of piece-molds, whether located in Italy or the eastern Mediterranean, could thus satisfy sculptors of replicas or eclectic recombinations with the production of piece-molds that pertained to single, complete statues. A 'copyist' could use the 2G molds to produce exact, full-scale models of individual works in plaster, as in the case of the Baia casts. A sculptor creating a new, eclectic composition could make use of the same 2G molds to create a composite statue, but he would need to do so in a more malleable medium.[126] Quick-drying plaster positives produced in a keyed fashion were perfect for creating a reference collection to be used in marble sculpting. The process of adapting and joining elements from different statues, by contrast, required a lengthy process of reworking, revising, and attenuating that would be better effected in wax or even clay. The plaster of the Baia 2G models fulfill a different technical desire, one that did not prioritize reworking in the model. For example, the face of Aristogeiton (fig. 3.1a-c) is a good example: the beard preserves the precise delineations of the hairs while the eye and eyelashes are left

[124] Contra: Ridgway 1984, 33; Landwehr 1990, 152; Tomei 1992, 216, n. 262. The adaptation of plaster 2G models to suit contemporary tastes is attested in other periods, as in the Renaissance models in the Mantova Benavides collection in the Museo del Livano in Padua (Candida 1967; D'Alessandro and Persegati 1987, 32), but these are produced in a more lengthy process that perhaps includes intermediary stages and concludes with painting and ornamentation.

[125] Landwehr (1985, 181) counts 24-35 discreet statues among the fragments.

[126] On the reworking of wax models, cf. esp. Mattusch 1996.

roughly described thanks to the protective clay encasements whose position is preserved in the negative cast. Likewise, the arm of the Narcissus (fig. 3.17) is reproduced in its position, form, and size, but the internal surface is rough and estimated based on the edge of the deep single mold rather than precisely modelled with two half molds of the limb.

The plaster bodies from Baia are full of these apparent contradictions. They are both carefully and cursorily produced; they replicate precise detail in some areas and approximate expected shapes in others; they aim at a complete form while not bothering to re-work details or add color; their unfinished state is contradicted by the protective veneer that seals their surface and that, in effect, defines them as finished. For all of these reasons, the plaster casts are ill-suited to the role of sculpture for display and seem clearly marked out as sculptural models. Moreover, they offer very clear evidence about the kind of attention paid to the archetypes, about what aspects were relevant and of concern to the copyist and which were less so. Landwehr's studies have already shown that the dimensions of the casts and those of the marble replicas could vary widely.[127] The Roman taste for thicker thighs and buttocks in marble replicas, for example, testifies to a willingness to transform the silhouette of the archetype, at least from certain perspectives. This adaptation may be attributed either to Roman taste or to a desire to increase the stability of the stone statues, but it reveals a lack of a certain kind of fidelity to the model and, thus, to the archetype. Landwehr's analyses of the conformance and divergence, however, have been primarily concerned with how the marble replicas formally differ from the bronze archetypes that lie behind the plaster casts. The analysis that follows examines, instead, the materiality of the plaster casts and argues that its peculiar nature had a fundamental impact on Roman practices of formal replication.

The materiality of the Baia plaster casts is dependent upon several relationships to other materials. First and foremost, they are related to bronze, whose forms they replicate. They are also connected to marble, as models for the production of sculpture in that medium. They derive from plaster negatives and their construction and stability relies upon a fine and a coarse plaster, as well as bones, reeds, wood, cloth,

[127] Landwehr 2010.

and pins and rods in iron, bronze, and lead.[128] Their production is perhaps the most multimedia affair of any ancient sculptural works, but it is the specific way these various materials were employed that is most important. As described above, even though plaster was ubiquitous in production, large-scale positive sculpture in plaster seems to have been quite rare; the variety of solutions and the haphazard borrowing of techniques from a variety of other sculptural traditions reveals this lack of an established, meticulous practice for producing plaster 2G models. Moreover, the amalgamation of technique contributes a certain volatility or instability to the physicality of the finished cast.

As regards material relationships, earlier studies have emphasized the preservation of features of the bronze archetype, overlooking explicit technical connections between the casts and the marble sculptures that would be carved from them. The sculptors who made the plaster casts drew on techniques of production for both, for example, in their approach to structural support. Most of the feet with upraised heels make use of a plinth that provides a stable connection with a flat base, a trait that is easily identified with marble production. However, since the plaster plinth is not physically a part of the base, as is a continuous marble support, the sculptors still needed to make use of an internal armature with a tenon that secured the under-foot support to the base. The extension of this internal armature into the torso and to the head, moreover, follows a similar technique to those employed in bronze sculpture. Even the length and placement of the rods is comparable, as was described above.[129] The hollow, pieced-together format of the plaster casts resembles the re-composition of separately cast bronze pieces. In many cases, the divisions between plaster piece-casting even echoes that of bronze – joins in the mid-foot and the upper arm just below the shoulder (fig. 3.4a-b, 3.19a-b) – but additional sectioning was sometimes necessary and utilized stepped rather than straight joins, which were the norm for bronze. Moreover, the supports beneath the foot are the only external struts employed on these sculptures; indeed, one is tempted to think that the plinths

[128] Landwehr 1985, 18-19.

[129] Supra, p. 134.

beneath the heels were not part of the negative, as suggested by Landwehr, but were added specifically to obscure and secure the tenon of the necessary armature for the plaster 2G model.

It is the use of this internal armature in the plaster 2G models that is responsible for the wide variety that exists in the placement, size, and shape of external struts in marble ideal sculptures.[130] It was easier, in the plaster models, to expand the internal armature rather than add external struts to the cast forms and thus the marble-sculptors had no model to follow in the placement of struts. However, the armature and the attachment of pieces is not solely derived from bronze-working practices. Plaster pieces could not be welded to one another and their solid rather than hollow character required a different approach, one that is clearly connected with the technique of piece-production used for marble statues. This is particularly evident in the securing of arms in the plaster casts, whose junctures are frequently constructed as ball-and-sockets augmented with joining tenons. The garments that cover the shoulder of the Corinth Persephone, for example, preserve the socket for the attachment of her nude arms (fig. 3..13a-b). The point of attachment is concave beneath the garment, while the end of the arm would have been shaped to suit this cavity and secured with a central tenon, probably wood, in this case, since there are no traces of iron corrosion. The point of this join and the method by which it is secured is directly comparable to practices of joining projecting arms to bodies in marble sculpture.[131] Of course, in the case of marble sculpture, the tenon was normally made of iron and its insertion required a drilled hole whereas the plaster required sometimes only wood and the tenon could be inserted into or surrounded by the malleable wet plaster. In the case of the Persephone, the join was obscured at the edge of the drapery and skin, a practice common both to bronze and marble sculpture. Moreover, it should be pointed out that the lack of struts that characterizes the plaster 2G molds is not unique to bronze sculpture, since this technique of piecing marble statues negates the need

[130] Hollinshead 2002; Anguissola 2013.

[131] Claridge 1988; 1990, esp. 148-50.

for external supports, for example, for projecting arms. This approach was common in the first century AD, while the taste for elaborate, even sculptural, external struts develops in the second.[132]

The separate casting and then attachment of smaller elements, like individually cast hair curls, was a necessary result of the process of taking the negative casts but it testifies, perhaps most explicitly, to a derivation from bronze technique. The same can be said of the eyes, whose oddly thick and roughly described shape must have contrasted sharply with the precision of the replicated hairstyles and other features. The preservation, in the finished 2G model, of this relic of the production of the 2G mold stands as an index of the transformation of bronze into plaster. Still, these features of production – which are significant even if small in size – that draw connections to bronze must be seen within the full context of the plaster sculptural model. These plaster casts were produced locally in the region of Campania, from negative 2G molds taken from bronze statues that were often distant in both space and time. If, as suggested above, the marble-sculpting workshop that owned these plaster casts purchased them prefabricated from another workshop, the connection to the bronze of the original was an additional step away. Even if the workshop produced the casts themselves, they did so from imported 2G molds that preserved a fragmented form in a negative, colorless medium. Perhaps most importantly, the models show little evidence that clues about the archetype's material, which has been considered so significant in scholarly discussion, were prioritized in any way. For example, there is no interest to preserve information about the color of the bronze and no attempt to convey the inlay of details on the lips or other superficial additions. The eyes make this point explicit; their inlaid nature is evident only as a relic of the 2G mold production, not as a carefully preserved form to be imitated in future sculptural production.[133] The pale, homogenous color of the plaster 2G models indicates that they are designed to convey form, in both a detailed and a general way. The Baia casts fossilize certain aspects of bronze that are replicated as part of the form, but they do not

[132] Claridge 1988, 149 (observing that larger marble blocks became available at this time), 1990, 2015; Hollinshead 2002; Anguissola 2013, 13-4.

[133] The wide variety of possibilities for inlaid eyes in Roman sculpture is demonstrated by the analysis and collection of photographs in Lahusen and Formigli (2001, 462-4, fig. 1-73).

show a desire to clearly convey information about the specific material or materiality of the archetype. The relics of the bronze of their archetype increases their authenticity as 2G models, but the premise of their fidelity rests on their ability to convey form, not material.

Compare, for example, the many modern plaster casts whose surfaces are painted in imitation of the material of their archetype. The plaster replica of a porphyry head of a tetrarch (discovered at Felix Romuliana in 1993) in the Ashmolean Museum at Oxford is completely painted to take on the white-flecked purple ground of the royal stone.[134] 18th and 19th century casts of bronze statues, moreover, could be painted black to reflect the contemporary appearance of their darkened, restored surfaces.[135] In these casts, the traces of production are carefully erased and the viewer is encouraged to interact with the cast as if it *were* the statue. The cast seeks to be a substitute, a simulation or a presencing of an absent statue. This contrasts starkly with the Baia casts, which make little attempt to imitate the materiality of their bronze predecessor. Nor are there any clear adaptations to the Baia casts that would signal an effort to plan ahead for the translation of the form into marble. There are no measuring points in relief, no indication of where struts should be located, and no drafts of polychromy. Only the warm color of the veneered plaster links them to the materiality of the marble sculptures, whose color will, eventually, move beyond its unfinished white to a richly-colored finish. In the Baia 2G models, plaster is treated as inter-mediary; it literally stands between other media and is meant for consumption as such. In some ways they are peculiarly immaterial, embodying their role as transmitters of form rather than as sculptures made of materials that augment the meaning and longevity of the image. Even if they were set up for display to customers in the workshop, the plasters were visually classified not as finished sculptures, but as images of what form a sculpture – in some other, colorful material manifestation – might take. They are articulated as temporary, transitional, even

[134] Cast H71 of a statue excavated at Felix Romuliana (on the cast cf. Smith and Ward-Perkins 2016, 83, fig. 6.4), Last Statues of Antiquity database LSA-845 (cf. Smith and Ward-Perkins 2016). Now in Zajéčar, National Museum, inv. 1477.

[135] Frederiksen 2011: Seated boxer, p. 108, cat. B129 (acquired by the Ashmolean in 1894); seated Hermes from the Villa dei Papiri, p. 170, cat. C140 (no acquisition date); and several others. Even a replica of a marble Diadoumenos was painted black since it derived from a bronze original (p. 146, cat. C37 (acquired 1884(?)).

liminal works that presence the form of a sculpture (rather than the unique physicality of a specific sculpture). In this role, the Baia 2G models take the place of both the archetypal sculpture and the future sculpture, effectively laying claim to being a sculpture while emphatically denying being a sculpture.

It is this peculiar materiality of the Baia plaster casts that is important for understanding the materiality of Roman ideal sculptures. In previous literature, scholars have consistently emphasized the competition between bronze and marble or marble's attempts to imitate or surpass the bronze of its model. The above analysis shows, however, that the plaster casts dematerialize the archetype, severing any strict connection between the material of the replica and that of the specific original. The 2G models present the forms of their prototypes in a way that offers the sculptor no model for the new work's materiality. While the form and the style were clearly presented by each of the Baia models, certain elements of the medium of an archetype – its color, sheen, or superficial adornment – was lost in the cast-making process and never regained. Instead, plaster models of this sort present a kind of blank canvas that allows the viewer to overlay materials and polychrome treatments onto the form in their mind's eye. It opens up a realm of material possibility where stylistic retrospectivism imposes a formal consistency.

The variation of polychromy applied to white marble sculptures[136], even within a single replica series, is directly related to the inability of the plaster 2G molds and models to preserve the archetype's full materiality. Rather than look back to a specific model, as the form did, the superficial treatment was selected by the craftsmen in cooperation with the patron. Chosen to suit a specific context or taste, or to emphasize attributes or even retrospectivism, the polychrome appearance of a replica could shift its meaning dramatically. While the form remained constant, the superficial aspect could redefine a sculpture. Jan Østergaard has illustrated that the polychromy on replicas of Amazons could vary widely.[137] He speaks of a diversification through color that decreases the 'sameness' of the replicas, but this effect is not necessarily a motivation and it need not be especially for works produced in various places and times. Instead, this

[136] Cf. Østergaard et al. 2014, 2015.

[137] Østergaard 2015.

analysis has shown that such variation is due to the methods of formal replication that transmitted sculptures in colorless negatives. Of course, this practice of altering the appearance of formal repetitions did not originate with the Romans. For example, the Hellenistic marble copy of the Diadoumenos found on the island of Delos was entirely gilded, whereas the surface of the original bronze must, by then, have been darkened by centuries of maintenance patina.[138] Perhaps this gilding aimed at a contest with an imagined original appearance of the bronze archetype or perhaps it was conceived independently from the bronze of the archetype. Only the loss of so much polychromy on Roman replicas has prevented the widespread appreciation of the variety of superficial treatments that must have adorned series of formal replicas.

If the Hellenistic period saw the beginning of this phenomenon, its growth seems to have paralleled the explosion of formal replication for the Italian market. In particular, it is within this context that the production of ideal sculpture in polychrome marbles in the first and second centuries AD should be situated. The plaster models provided marble workers with an established form but, at the same time, they opened a door for experimentation with superficial adornment. This situation coincided with the increasing availability of varied stones from around the Mediterranean, most of which could be worked by exactly the same methods as white marbles. The wide and varied corpus of ideal sculpture in colored stones pairs established forms with creative material experiments that often engaged with the subject and its history from a variety of perspectives.[139] The materiality of the plaster casts and their dematerialization of their archetypes suggest that employing a specific superficial treatment or a luxury material for an ideal sculpture need not be a direct comment upon the medium of the original. Instead, it should be considered a solution employed to suit the inherited form to the specific context and needs of the commission. Rather than looking to the material of the original for inspiration about material treatment, the sculptor looked to the contemporary environment. The existence of trends in marble-carving, like the second-century AD taste

[138] Kreikenbom 1990, 188, cat. V.I; Bourgeois and Jockey 2005; Bourgeois et al. 2009. On maintenance patinas, cf. Formigli 2013a; Descamps-Lequime 2015.

[139] Most comprehensively, see Gregarek 1999. See also Schneider 2002.

for highly-polished skin paired with textured hair, show sculptors' sensitivity to handling inherited forms in a 'modern' manner. If sculptors desired a material model for their works, there were a variety of places they might look, which might include the aged material of archetype, but *only* if it was well-known, locally available, or described in literary sources (and this also involves some modification). A more common point of reference was like the contemporary environment, with the city of Rome and its environs as a primary locality that provided a rich repository of the history of sculpture thanks to centuries of imported war booty. The varied materialities of these sculptures served as more convenient models that sculptors could adapt to contemporary, if retrospective, concerns.

The materiality of the plaster 2G models of Roman formal replication, if it is exemplified by those excavated at Baia, is unique from other sculptural models and plaster casts, in several important ways. Their principal difference from other sculptural models lies in their derivation from a mold of a finished statue. Draft models and master models pre-figure the finished statue. Their materiality and the relationship to the materiality of the finished sculpture deserves further investigation, as much as extant examples allow. Inter-models, created by taking master-molds of the master model, stand somewhat closer to 2G models. Both derive from negative molds taken of another form, they may share craft practices, and both are created as parts of a whole intended for re-assembly. The inter-model, however, is a precedent to a finished statue. Its form may pre-figure certain aspects of the decoration of the finished statue, like the empty sockets of eyes that would be inlaid. The 2G model, in its derivation from a finished work, preserves the character of the sculpture, not just the model. Relics of the way that finished sculpture was protected appear in the 2G molds and on the 2G models, acting as documentation of the pre-existing sculpture. Testifying to the authenticity of the casts by indexing their relationship to an archetypal statue, these marks are preserved in the plaster 2G models from Baia. The lack of finishing treatment on the Baia casts additionally defines them as models, distinguishing them from sculptures deriving from the archetype. These plaster 2G models are defined by their existence between two sculptures and their materiality is reflective of this nature.

This conception of the plaster 2G model is not a universal one. Modern plaster casts are sometimes intended as substitutes for distant works of art even as they may also be used as models for the creation of

new works of art.[140] The use of paint to imitate the polychrome stone of some ancient works of art, as in the Oxford cast of the porphyry head of a tetrarch, is a clear example of this approach to modern casts of ancient works of art. In this case, the cast is intended to visually simulate as closely as possible the form of the work *and* its materiality, seeking to make present a specific work. This approach turns on a visual resemblance that obscures the material difference. In a sense, it aims at a materialization of the archetype rather than effecting its dematerialization.

In many ways, the starkly white cast collections of the Renaissance and the Neo-classical period seek a similar materialization.[141] The piece-production and monochromatic pale color of these plaster 2G models finds a close parallel in the Baia works, but their materiality was conceived in a completely different manner. The difference depends upon the conceived relationship of plaster to the material of the archetype. The major point of reference for the modern plaster casts were the vast collections of marble sculpture unearthed in Italy from the Renaissance onward.[142] With their polychromy almost entirely lost or extremely deteriorated, the sculptures were cleaned and restored to a homogenous, highly prized white and pristine surface. Although scholars from Winckelmann onward were aware that ancient sculpture was painted, the luminous white marble dominated their field of vision and polychromy was often something of an afterthought.[143]

The homogenously white plaster of modern 2G models of ancient marble sculpture were intended, at least in part, to resonate with the materiality of the sculptures from which they derived. The modern plaster casts could convey a nearly replicative image of the statue and often did, even to the point of

[140] Cf. D'Alessandro and Persegati (1987, 24-45) for a summary of plaster casts from the medieval period onward.

[141] E.g. in the Ashmolean: Kurtz 2000; Frederiksen 2011; in Pisa: Donati 1999. Cf. also Barbanera 2001. On the relationship between antiquity and modernity in this context, cf. Himmelmann 1981.

[142] Haskell and Penny 1981.

[143] For an overview of the reception of color on ancient sculpture, cf. Appendix C.

maintaining the specific external struts of the marble statues.[144] The value of this specificity was especially prized outside of Italy, where there were fewer ancient examples available to scholars, for whom the casts provided much more reliable and provocative documents of Roman sculpture than did drawings or descriptions, and to artists, who used them as models for academy training.[145] The connection between plaster cast and marble archetype was strong enough that the demand for replicas was explicitly understood to augment the renown of the original. As Josiah Wedgwood described it in 1779, "for the more copies there are of any works, as of the Venus Medicis, for instance, the more celebrated the original will be."[146] The quality of these works could be impressive and authors from Vasari onward describe the extraordinary craftsmanship of modern plaster casts.[147]

The ancient view of plaster works could hardly have differed more. The Baia 2G models were clearly intended as sculptural models, they do not resemble or imitate the materiality of their archetype, their quality varies dramatically even within a single work, and plaster sculpture is rarely attested and is even more rarely highly prized. The inclusion of the Via Prenestina head in a tomb might suggest it was highly valued, but its exact status as sculpture is unclear, as is that of the head in the Getty.[148] In all of his text, Pausanias mentions only one finished, painted plaster statue, but it is perhaps significant that he mentions it as the only notable artwork in the town of Creusis, the port town of Thespiae.[149] Perhaps it is

[144] E.g. the long strut on the Vatican Apoxyomenos (Moreno 1995, 197-205), whose fragmentary remains are preserved in the Ashmolean cast (Frederiksen 2011, 168, cat. C 133).

[145] On the plaster cast collections in the academy and scholarly tradition, and their fidelity to originals: D'Alessandro and Persegati 1987, 33-44; Milizia 1827. Contrast the collection of Mantova Benavides in the Museo del Liviano in Padua, in which the casts are not only painted dark brown but augmented with sculpted eyes or new hairstyles so as to adapt them as models for sculpture that suited contemporary tastes (Candida 1967; D'Alessandro and Persegati 1987, 32).

[146] Mankowitz 1953, 253; Haskell and Penny 1981, 122.

[147] Vasari (ed. Milanesi 1868, repr. 1998, VII, 541) describes the casts that Primaticcio took from statues in the Campidoglio: "ha in quella sua bella e comodissima abitazione formate di gesso quant'opere lodate di scultura o di getto ha potuto avere o modern o antiche".

[148] Supra, 130, 141.

[149] Pausanias 9,32,1: "Creusis, the harbour of Thespiae, has nothing to show publicly, but at the home of a private person I found an image of Dionysus made of gypsum and adorned with painting." Trans. Jones 1935.

only notable because there is little else upon which he might comment. The only other literary description of plaster sculpture appears in Juvenal's *Satyrica*:

> "I feel like running away from here beyond the Sarmatians and the icy Ocean whenever those people who imitate the Curii but live like Bacchanals have the gall to talk about morality. Point one: they are ignoramuses, although you'll find their houses without exception stuffed full of plaster busts (*gyspo*) of Chrysippus. This is because the most perfect of them is the one who has bought a lifelike Aristotle or Pittacus and who has his shelf display of originals (*archetypes*) of Cleanthes and his company. There's no trusting appearances (*frontis nulla fides*)."[150]

Juvenal remarks upon the irony of ignorant people surrounding themselves with plaster busts of scholars and thus the passage has sometimes been taken to indicate that the display of plaster sculptures was relatively common.[151] Certainly, the remark opens up the possibility that a vast quantity of plaster sculpture has been lost from antiquity.[152] If Juvenal is taken at his word, there were plenty of ideal sculptures in plaster, used as *ornamenta* in the same way as marble sculpture, but there is another possibility. The passage explicitly criticizes people who put on a false appearance, acting like respectable men but showing their true nature in private, where they behave lewdly. Likewise, these people surround themselves with images of educated men, but are, in reality, completely ignorant. "There's no trusting appearances", he writes at the end.

There are two different kinds of false appearances thematized in the preceding sentences, both defined by a specific kind of misleading image. These men put on the actions of better men – the appearance of their actions is false – and they surround themselves with the statues of educated men – the appearance of their environment is false. Plaster – gypsum – is, in a variety of contexts, a material engaged in semblance and false appearances. It is used to cover brick with a white gleam and it is the medium of fresco, in which tromp l'oeil paintings hide the physical character and construction of walls.[153] In this case, it is a material used in place of marble for sculpture. The specification that these busts are made of gypsum perhaps, is

[150] Juvenal, *Satyr*. 2.4-5; trans. Ramsay 1950.

[151] E.g. Tomei 1992, 207.

[152] Frederiksen (2010) cautiously supports this interpretation.

[153] Generally on stucco in Rome: Blanc 2007.

meant to augment the characterization of these busts as untrustworthy images that 'plaster over' reality. Perhaps, Juvenal's comments reflect a broader conception of plaster as a material whose character is somehow unreliable or unstable, not as suited for meaningful, lasting sculptural works as other materials. If so, it coincides with the materiality of the Baia 2G models, to which the negative connotations of Juvenal's discussion need not apply given that they are not intended to present a false appearance. In the context of production, the peculiar nature of plaster is precisely what makes it useful. As a material of semblance and, somehow, of empty images, it is particularly suited to be the material of a sculptural model that preserves the form of a sculpture, but not physical presence. The immateriality that makes plaster so questionable as a medium for permanent sculpture like the busts Juvenal describes make it especially able to serve as a model for works in other materials. All of these, of course, are cultural interpretations applied to the physical characteristics that make plaster suitable for impressions (its quick-drying malleability) and poorly suited to enduring artworks (its fragility and ease of damage).

3.3 Sculpture or model? The Palatine terracottas

From 1980-81, excavations inside the Domus Tiberiana on the Palatine Hill recovered fifty fragments of several terracotta statues.[154] With restoration, the fragmentary heads of seven different sculptures were identified, as well as twenty-four pieces of drapery, six of hair, and two small skin portions. The heads are all nearly life-size, with one slightly larger than life-size and one slightly smaller, while the other fragments belong to statues of various dimensions. Four of these restored heads, three male and one female, are currently on display in the recently renovated Palatine Museum.[155] The best preserved of these is a male head with a rolled hairstyle and facial features that evoke the Severe style (fig. 3.24a-d).[156] A

[154] Tomei 1992, 175.

[155] Tomei 2014a, 181-5, cat 19.1-4. They were previously displayed in the Palazzo Massimo (La Regina 2005, 178-9 (Cadario); Gasparri and Paris 2013, 302-4 (Talamo)).

[156] Inv. 375847: Tomei 2014a, 182, cat. 19.1.

second very fragmentary male head preserves only the top of the head (fig. 3.25a-d), but his particular hairstyle, combed down from the crown with two long braids crossed around the back of his head, finds a very close parallel in the Capitoline Charioteer, a type derived from the so-called Apollo dell'Omphalos.[157] The third male head is characterized by his much more voluminous hair and softer facial features (fig. 3.26a-c), partaking of a popular formal type whose origins lie in the fourth century BC.[158] The female head (fig. 3.27a-d) is easily identifiable, by her wavy locks and the *sphendone* that contains them at her nape, as very closely related to the Hera Borghese statuary type.[159] All four of the works have been securely recognized as slight variants or adaptations of formal types that were popular in a variety of media in the late republic and early empire.[160]

As a group, they fit precisely within the artistic culture of the late-republic and early empire, in which the precise replication of Greek prototypes was accompanied by the creation of new figures via eclectic combinations of elements from different periods. This type of sculpture is exemplified by what can be reconstructed of the work of Arcesilaos and Pasiteles, the latter largely through the signed works of his pupils.[161] The terracotta material of these statues, however, has slightly distinguished them from the other works of these artists in scholarly analyses. M.A. Tomei, in particular, has argued that these statues are produced from molds taken directly from bronze statues and that the handling of the terracotta marks an intentional imitation of that bronze. For Tomei, this relationship to a bronze prototype paired with the artistic context of the schools of Pasiteles and Arcesilaos, the terracotta material, and the incredibly high quality of their craftsmanship suggests that these might be *proplasmata*, the clay models that these two

[157] Inv. 379564: La Rocca and Parisi Presicce 2010a, 311, cat. III.22; Tomei 2014a, 183, cat. 19.2;). Apollo dell'Omphalos: Ridgway 1970, 60ff., fig. 94-5; Zanker 1974, 91, n.5; LIMC II,1 (1984), 257, nr. 599 s.v. Apollon; Stewart 1990, fig. 285-6.

[158] Inv. 379562: Tomei 2014a, 185, cat. 19.4.

[159] Inv. 379561: *Ibid.*, 184, cat. 19.3.

[160] Ridgway (2002, 172-3) notes that these are not exact replicas of statuary types. However, they are included here as close adaptations, since, as will be discussed below, their technique suggests that some modifications are the result of transferal across mold, model, and medium.

[161] Tomei 1992; Fuchs 1999, 69-72; Strazzulla 2010, 90-1; La Rocca 2010; Touchette 2015.

artists were famous for producing.[162] The late-first century BC production of these sculptures, of course, would indicate that they were produced not by the masters, but by their pupils.[163] Other scholars have been more cautious of this identification, noting that their ornamented and polychrome surface would be ill-adapted for the taking of casts or the marking of measuring points. Like the so-called Campana plaques, molded terracotta architectural reliefs that adorned the eaves of a structure in the complex of the Palatine Temple of Apollo, the Palatine terracotta statues have been viewed as an especially refined example of the renaissance of terracotta under Augustus.[164] Functioning as an Italic counter to the imports of fine art in costly materials from the Hellenistic East, terracotta was, in the early years of the principate, promoted by Augustan projects of renewal. Thus the Palatine findspot of these statues has encouraged scholars to see a connection between them and imperial patronage.[165]

The affiliation between these statues and the Domus Tiberiana is, however, not quite as strict as Tomei's analyses tend to imply, despite their excavation within the building's substructures. The terracotta fragments were recovered in two rooms, number 140 and 141, on the lowest level of the Domus Tiberiana that had been filled almost completely over the course of the centuries. The excavators date the abandonment of the palace near the end of the eighth century AD, when it begins to be used for periodic burials[166], and suggest that a large part of the fill within these two rooms was deposited thereafter as the upper levels collapsed onto the lower ones. A doorway connected the two rooms, allowing the detritus to

[162] Pliny *NH* 35.156-7.

[163] On the date of Pasiteles and Arcesilaos, and their schools, cf. Borda 1953; Zanker 1974. Cf. Tomei 1992, 218.

[164] *Augusto*, 226ff (S. Tortorella), with extensive bibliography; Tomei 2014a, 150-9. For an earlier dating, cf. Fuchs 1999, 69-72.

[165] Especially for Tomei (1992; 2014b, 36-8; 2014a, 181 (M. Tomei)), who directly argues that the provenance is one factor should connects them to the chronological and topographical ambit of the early reign of Augustus. Strazzulla (2010, 90) considers them precious antiques conserved in the imperial palace. La Rocca and Parisi Presicce (2010a, 311, cat. III.17 (L. Buccino)) is more hesitant, suggesting that they may have originally been in one of the other elite houses on the Palatine that subsequently was absorbed by the Domus Tiberiana (citing Tomei 2000a).

[166] Tomei 1992, 173. On burials in other areas of the Domus Tiberiana in the same period: Santangeli Valenzani and Volpe 1986. The palace was occupied in the early part of the eighth century by Pope John VII, who was the son of Platone, *curator* of the imperial palaces (Lanciani 1894, 3). Gasparri (2014) and Tomei (2013) collect literature on the Palatine in the medieval and later periods.

fill both rooms, even though the vault of room 140 remained intact. This accumulation of fill was completed when, in the 16th century, the area was compacted and levelled for the construction of the Farnese Gardens. Reconstructing this process of deposition, Tomei thus concludes that while the stratigraphic layer cannot furnish precise chronological information about the production or display of the terracottas, it does at least confirm that their provenance is most likely the upper levels of the Domus Tiberiana and, certainly, the upper area of the Palatine Hill.[167] Additional fragments of terracotta statues, of life-size and half life-size, were recovered in 1866 during excavations conducted by Pietro Rosa on behalf of Napoleon, who had gained control of the Farnese gardens.[168] According to his maps, Rosa excavated only a part of room 140, but did not enter room 141, where most of the recently discovered fragments were found. While the terracotta fragments that Rosa briefly described can no longer be identified in modern collections, they add to the already significant concentration of terracotta statuary in this area. That there was an accumulation of these objects in the Domus Tiberiana seems certain, but when and under what circumstances that accumulation occurred is unclear.

The production of the extant fragments has been unanimously agreed to date to the late first century BC, in the early years of the Augustan principate, on the grounds of style as well as the suitability of the works to the ideology to which they might have alluded within the Palatine complex.[169] The fragments, in particular the heads, show clear relationships with classical and severe style sculpture. While some are loosely related to other classicizing works of the period, like the well preserved male head with the rolled hairstyle – whose face bears similarities with a bronze, archaizing kouros head from the Villa dei Papiri[170] and with the head of the Pylades in the white marble group with Orestes in the Louvre[171] – others can more

[167] Tomei 1992, 173.

[168] Tomei (1990c and, especially 1999, 259) contextualizes these within a full analysis of Rosa's excavations in this area.

[169] Tomei 1992; Fuchs 1999, 69-72; La Rocca and Parisi Presicce 2010a, 311, cat. III.22.

[170] Fuchs 1999, 70, pl. 64.1-4.

[171] *Augusto,* 207-6, cat. III.8.1-2 (Cima).

securely be considered reproductions based on Greek models. Two of the heads and one particular fragment of drapery (not currently on display) can be identified as replicas of statuary types also known in marble: the Capitoline Charioteer, the Hera Borghese, and the Artemis Colonna, respectively.[172] The attention to detail of these replicas is in keeping with other copies of the Augustan period and the use of terracotta finds parallel with the period's tendency toward archaism.[173]

Of course, the late date of the deposition (after the late eighth century and disrupted as late as the 16th), the fragmentary nature of the remains, and the Renaissance interventions in the area make it impossible to be certain where these various terracotta statues were installed in the Augustan period or later. Statues could be moved, particularly within the context of an evolving imperial complex whose rooms were repurposed and frequency of use fluctuated.[174] These statues must have been moved at least once, since the rooms in which they were found are part of a Domitianic extension of the Domus Tiberiana.[175] The extended use of this area of the complex, from the late first to the eighth century AD, provides an extensive chronological frame for when these statues might have been installed there. The Augustan production date indicates that the statues must have been produced for an alternative display context; at what date they moved to this part of the Domus Tiberiana and whether they travelled across the hall – from another location in the palace – or across the city is unclear. Moreover, it is unknown if they arrived at the Domus Tiberiana in a complete state, to be kept as works of art in the palace[176], or if their fragments were somehow discarded there at a later date. Fragments of other statues known to have been displayed elsewhere on the Palatine were also found in the excavations of the Domus Tiberiana, like the fragmentary hand of one of the rosso

[172] Tomei 1992. The Capitoline Charioteer type is, moreover, derived from the Apollo Omphalos type, known in multiple white marble replicas.

[173] Strazzulla 2010; La Rocca 2010; Touchette 2015.

[174] Tomei 2013, esp. Tomei's introduction, 12-33.

[175] Dated securely on the basis of brickstamps and construction techniques: Tomei 1992, 172. The area was identified as Sector 11 in the excavations (Sartorio et al. 1985, 88-9, fig. 91; 124-5 fig. 134).

[176] Strazzulla 2010, 90.

antico Danaids that once decorated the portico of the Temple of Apollo on the Palatine.[177] Several other fragments of that series were excavated in a cryptoporticus that sustained the area sacra of the Temple of Apollo, where they were apparently accumulated before the Flavian period perhaps due to damage in the AD 64 fire while the one nearly complete statue was recovered in the area of the House of Livia.[178] The presence of this one hand might indicate that an undamaged statue was conserved in the Domus Tiberiana or only that the remnant of the statue somehow ended up in the area. There are numerous uncertainties related to the original context of the Palatine terracottas, a fact that is often overlooked in the interpretation of their connections with the artistic, religious, and ideological aims of the Augustan regime, in which their findspot is allowed to play a very suggestive role. The Palatine terracottas may have been associated with the Domus Tiberiana, but perhaps not until the late first century AD, and they might have originally stood on the Palatine or they might have stood anywhere around the city and been moved to the imperial palace at the emperor's command.

Instead of looking for specifically Augustan or imperial connections, these terracottas are more securely viewed in relation to the extensive tradition of terracotta sculpture within the city of Rome, which includes well-documented – both archaeologically and textually – interaction with Greek models and at least one close formal comparison for one of the Palatine statues.[179] The earliest large-scale terracotta works that are known from Rome, the decorations and cult statue of the Temple of Jupiter Optimus Maximus, were sculpted by an Etruscan in the sixth century BC.[180] By the fifth century, Pliny tells us (*NH* 35.154), Greek terracotta sculptors came to Rome and decorated the temple of Ceres (496-493BC); a fragmentary Amazon from the same century, whose production is linked to practices of Greece and Magna Grecia, may

[177] Tomei 2014a, 171, cat. 13.6, Museo Palatino, inv. 528736.

[178] cf. Tomei 1990b, 37. Candilio (1989) suggests that the very fragmentary statues were destined for a lime-kiln perhaps after damage in the fire. The presence of the ephebe carved *lapis basanites*, a sedimentary stone that cannot be burnt for lime, among this deposit seems to contradict this interpretation, although its material could have been mistaken for marble.

[179] For a summary of this development, cf. Strazzulla 2010.

[180] Pliny *NH* 34.157; it was destroyed by fire in the third century BC and replaced with other materials (Perry 2012).

have served as an acroterion.[181] Such cultic ornaments, both of Etruscan and Greek inspiration, were sufficiently prominent within the city that both Livy (34.4.3-4) and Pliny (*NH* 35.158) could lament the shift toward more expensive materials in the first centuries BC and AD. Still, fragmentary remains of terracotta temple pediments from the fourth through the first centuries BC have been excavated in Rome and show clear relationships to Greek sculptural predecessors. The bearded head of Zeus and the garlanded head of Dionysus formed part of the late fourth or early third century BC architectural decoration of the Temple of Victory on the Palatine.[182] The second century BC Via San Gregorio temple pediment combines fourth century and Hellenistic models to present an array of deities (fig. 3.28).[183] Another second century BC group of large-scale terracottas, votive rather than architectural, document an interaction between Latin deities and Greek sculptures. They are a group of terracotta female figures characterized as muses and accompanied by a Minerva and a pair of Dionysiac herms, all of which are now in the British Museum and were found near the Porta Latina, where they decorated a sanctuary of the *Camenae*.[184] Moreover, remains of a first century BC architectural terracotta group found in the Via Latina includes works inspired by prototypes from a variety of periods, from an archaistic youth to the head of a female based on a fourth century model (fig. 3.29, 3.30, 3.31, and 3.32).[185] The severe style face of one of the male heads (fig. 3.29) finds a close parallel in the Palatine male head with the rolled hairstyle (fig. 3.24).

[181] Lulof 2007, 27, fig. 23.

[182] Tomei 2014a, 126-8, cat. 14-15 (Pensabene). Late fourth to early third BC, from the so-called *Auguratorium*. Cf. Pensabene, *forthcoming*, n. 298-9 and 1991.

[183] Ferrea 2002; Strazzulla 2006; La Rocca and Parisi Presicce 2010a, 247-9, cat. I.2 (R. Di Cesare) with bibliography. Strazzulla (2010, 88) notes the innovative employment of the Greek closed pediment combined with terracotta sculpture.

[184] Strazzulla 2010, 89-90; La Rocca and Parisi Presicce 2010a, cat. I.7-13 (muses) and I.14 (Minerva).

[185] Despite being frequently mentioned, the works are still only partially published and there are difficulties associating them with a specific ancient context, particularly because of diverging modern accounts of their place of discovery. Strazzulla (2010, 90) notes the diverging accounts as either the Via Latina (by which Fuchs, for example, names them) or the Via Appia Nuova (by which she names them). Literature: Deonna 1908, 174ff; Andrén 1939/40, 360ff, pl. 109; Coarelli 1976, 26, fig. 7ff; Coarelli 1990, 655f. fig. 10ff; La Rocca 1990, 429, fig. 215ff; Fuchs 1999, pl. 66.2-6.

Several other terracotta works, known archaeologically and from literary testimony, could be mentioned, but the Via Latina group is a particularly instructive comparison for the Palatine sculptures. Both caches of terracotta sculptures combine models from a variety of periods and take Greek prototypes as a clear point of reference. The close parallel between the two male heads with severe style faces, not to mention the shared use of inset eyes and the high quality of the clay, suggest that the Palatine terracottas should be understood as particularly elaborate examples of a type of sculpture present in various areas around the city of Rome. In context of the late republic and early empire, terracotta statuary was both ridiculed and revered. Much of the city's architectural decoration was centuries old and its maintenance neglected; it seemed pitiable in contrast to the luxury artworks imported to the city as booty and churned out by a burgeoning sculptural industry in mostly costly materials.[186] At the same time, the works had the nobility of age that made some revere them and clay's use for models was esteemed by artists and connoisseurs, perhaps largely thanks to Pasiteles and Arcesilaos.[187] In new works, when handled by a master, terracotta could still signify as a particularly pious material for a cult statue, like that of the Venus Genetrix of the Forum of Caesar, crafted by Arcesilaos.[188]

The Palatine terracottas must be understood within this peculiar cultural context, when the very character of terracotta was contested. Using this material for ideal sculpture, rather than architectural decoration, that could compete with the highest quality *ornamenta* in marble or bronze offers a reprisal and redefinition of terracotta as a sculptural medium. Though unique in many ways, these Palatine terracottas are part of a larger response to the cultural redefinition of materials spurred by the exploding sculptural repertoire of the city of Rome and conditioned by practices of formal replication. Augustus' use of terracotta on the Palatine partakes of the same attitude, capitalizing upon an already ascendant renaissance – a renewal that was specifically tailored to suit modern taste – of terracotta sculpture that reaches its apex and already

[186] Strazzulla 2010; La Rocca 2012.

[187] Supra, p. 108.

[188] Pliny, *NH* 35.156.

begins to decline by the end of his reign.[189] Scholars have characterized this renewal as turning on the valence of archaism and of rustic Italian simplicity, so that terracotta plays a part in the principate's retrospective propaganda of the return of a golden age. They all participate in a revisionist remediation that seeks to reestablish the relevance and esteem of terracotta in response to quantities of newly imported other media. L. Touchette has even argued that the material of terracotta was used by the schools of Pasiteles and Arcesilaos to signify the Italian-ness of a sculpture – by contrast with a marble or a bronze statue that emphasized its connection to Greek precedents.[190]

Certainly all of these contexts are relevant, but they treat solely the symbolism of the material; none address the nature of crafting sculpture in this medium. Even Tomei, who insists on the possibility that these could have been proplasmata intended to be used in the workshop, engages with their production primarily to comment upon their relationship to bronze originals and only briefly mentions their technical connections to the plaster models from Baia.[191] Though their quality of craftsmanship and their relationship to sculptural models sets them apart as unusual, scholars have only superficially engaged with how these two aspects qualified them for a contemporary audience.[192] The following analysis, by contrast, prioritizes these two frames of reference, tracing how the facture of the Palatine statues reprises terracotta as a sculptural medium in response, specifically, to the contemporary taste for ideal sculpture produced with mechanically reproductive techniques. Their craftsmanship draws strong connections, even in the finished statue, with sculptural models in a way that seems to beg the comparison to *proplasmata*. Even though their detailed finish and adornment makes it unlikely that new molds would have been taken from their surface, their material and facture situate the finished works as both sculpture and model. This reprisal of terracotta

[189] Cf. Strazzulla 2010; La Rocca 2010,111-2; Touchette 2015; Erlich 2015.

[190] Touchette (2015) problematically expands upon the arguments of de Angelis 2008.

[191] E.g. Tomei 1992, 215.

[192] La Rocca 2010, 112: "… i magnifici frammenti di statue… nei quali se è voluto riconoscere qualcosa di affine ai *proplasmata* di Arkesilaos: … Certo poche opere in terracotta sanno produrre con tale perfezione la raffinatezza del bronzo, al punto da sembrare splendidi calchi di quelle sculture che i Romani dell'epoca consideravano tra i massimi capolavori dell'arte greca."

effects a recognition of the generative and originary role the medium traditionally had in the production of sculpture, and exploits that character as a critique of the increasingly blurry boundary between sculpture and model that practices of formal replication engendered.

3.3.a The facture of the Palatine terracottas

The use of terracotta to reproduce established statuary types at large-scale with such precise replication is rarely attested[193], especially for works that are not intended as architectural decoration, even though numerous small-scale replicas are known.[194] Various explanations present themselves: the firing of large-scale terracottas was not as simple as that of small-scale[195]; the material was considerably cheaper and, perhaps, therefore not as desirable as marble or bronze for ideal sculpture; terracotta implied archaism and piety that perhaps was not appropriate for the *ornamenta* of villas even if it was still appropriate for sacred spaces. Although their original display context is unknown, the Palatine terracottas largely defy these conventions. Even if they were destined for a sacred space, they participate in the large-scale reproduction of established sculptural types, not meant for architectural display[196], that is better known in bronze and marble.

The Palatine terracottas were predominantly produced in molds, even if certain areas required the addition of clay and free-hand modelling. The latter is particularly prevalent in the handling of voluminous locks of hair, as on the late-classical style male head (fig. 3.26). Even here, however, the hair covering most of the cranium was executed in a mold; only the longer, curling locks whose undercutting and cavities

[193] The Camenae, which utilize sculptural types related to the muses and are now in the British Museum are the main exception (supra p. 161, n. 184), but they are modelled in the round, instead of cast in molds as are the Palatine terracottas.

[194] Bartman 1992.

[195] Erlich 2015.

[196] As far as it is possible to tell in their fragmentary state, there is no evidence that these were produced for display as architectural ornament (e.g. attached to a pediment).

would make them difficult to remove from a matrix were added separately to the mold-made head. The lower profile relief of the hair of the other three heads, by contrast, is almost entirely created with the aid of a mold, although some details may have been added in with a stylus. These areas are difficult to distinguish, since the incisions on the bronze archetype were formed likewise by incision with a stylus into a malleable material – either clay or wax – before being cast in bronze. Some areas of the hair of the Capitoline Charioteer, particularly toward the lower part of the wavy locks that lie against the skull, seem to have been incised into the clay, displaying slight ridges of clay whose frayed edges are indications that they were not in the mold (fig. 3.25a). Of all these areas, the skin of these works looks perhaps the most molded (e.g. fig. 3.24), since its surface appears uniformly smooth, planar, and free of any stray impressions. This intensive use of molds to sculpt clay is somehow paradoxical. While terracotta has a long history of mold-made production and replication, its greatest asset for large scale sculpture was its malleability, which made it useful for the production of models. The plastic rendering of the hair on the skull of the late-classical style male head, for example, could be executed easily and more economically in clay, without a matrix.[197] The use of a mold for this portion of the statue implies a desire to replicate, to be molded, and for consistency with a model, as in the case of the other statues.

While casting smaller scale terracotta statues in molds was well-established practice, certain characteristics about the method used for these works stand out as unusual. First of all, while the heads are broken and lacking many pieces, their current fragmented appearance is also due to the method of their production. Several of what appear, at first glance, to be cracks or breaks are actually the original borders of separately cast portions of the statues. These junctures are perhaps most evident on the face of the male head with the 'a rotolo' hairstyle (fig. 3.24a-d). One runs down the proper left side of his face, from jaw to temple and through the roll of hair, where it ends in an actual break where a fragment of the head is missing. From this line another join extends across the front of his face, running from the left temple, through the cavities left empty for the insertion of eyes in another material, through the right temple and midline of the

[197] On the cost and time-consuming nature of the production of 2G molds and models, cf. Landwehr 2010, 37.

right ear (fig. 3.24a). It meets another join that extends over the crown of the head. Following these lines reveals that the head alone is made up of at least five separately molded pieces that were later joined together (fig 3.33).[198] The assembly of these pieces seems to have occurred before firing, to judge from the circular hole at the top of the head, partially preserved, that provided for the release of air.

The other heads follow a similar approach, casting numerous pieces and then joining them together. The more complicated the representation, the more pieces were required. The head of the Capitoline Charioteer type is preserved in two parts that do not join. The larger of these belongs to the left side of the head (fig. 3.25); joins indicate that this one fragment of the upper half of the head is composed of four individual pieces (fig. 3.34).[199] Moreover, the roughened portion at the lowest edge of the hair above the forehead suggests that curls may have been attached – whether freely modeled like the hair of the late-classical style head or molded is unclear. The smaller fragment, from the right side of the head (fig. 3.25c, 3.34a), represents just one individually molded piece.[200] The joins between the more numerous pieces are also made more complex on this head. Whereas the borders of pieces were principally linear on the head with a rolled hairstyle, here they follow the edges of locks of hair, creating a somewhat scalloped edge between pieces no. 2 and 3 (fig. 3.34b) that only cuts across a single lock of hair at a time before blending in with the hair's undulating waves.

The division of pieces is similarly complicated on the head of the Hera Borghese type, with joins often following the waves of hair that frame her face. What remains of the quite fragmentary head is composed of seven individually molded pieces (fig. 3.27, 3.35).[201] The size of the pieces depends entirely upon the complexity of their modelling. The relatively low and simple relief of the side of the head, ear,

[198] Tomei consistently and simply describes the head as "ricomposta da sei frammenti" which implies that the cracks are breaks rather than junctures between separately modeled pieces (1992, 178, nr. 1; 2014a, 182, cat. 19.1 (Tomei)). She uses the word fragment indiscriminately and only once differentiates it from the separately cast pieces that apparently sometime remained joined as a single fragment (1992, 184, nr. 2).

[199] Tomei (1992, 184, nr. 2) notes "due frammenti" the larger of which is "ricomposto da tre parti".

[200] *Ibid.*, fig. 2.

[201] Tomei (*Ibid.*, 188, nr. 3): "Ricomposta da quattro frammenti".

neck and left side of the *sphendone* are together modelled with only two pieces (no. 5 and 6, fig. 3.35). The more volumetric hair crowning the face is composed of several, much smaller pieces, one that is no more than 3 x 10cm (no. 4). The face, so far as it is preserved, appears to have been treated in much the same manner as that of the head with the rolled hairstyle. The relatively linear, vertical edge of piece no. 5 on the Hera Borghese is mostly an original border of the piece. The cut down the left side of the face would have intersected with a border running from the outside corner of the left eye, in the same manner as the male face, although here it is moved slightly closer to the ear. A similar approach seems to be indicated on the Capitoline Charioteer type head. A join runs down from the crown of the head between pieces no. 1 and 2 (fig. 3.35), through the only portion of preserved skin of the face, lying in the same position as that of the join running down the left side of the male head with rolled hairstyle.

The face of the late-classical male head (fig. 3.26, 3.36) presents a slightly different approach, although only the right side of the face is preserved. The eyes again formed a part of a juncture between the upper and lower portions of the face, but from the outside of the right eye, the join swoops downward toward the chin rather than continuing horizontally (fig. 3.36). Perhaps this solution was meant to provide a homogenous surface for the free-hand application of hair locks to the temples. What is preserved of the rest of the head is made up of several fragments, plus the freely modeled locks.[202] The billowing hair, in this case, seems to have called for a modification of technique, whereas the other three follow a nearly identical logic of execution that is adapted dependent upon the complexity of the specific area. Indeed, the affinity of approach followed in all four of these examples suggests that these works may all have been produced in the same workshop[203] – which, based on minero-chemical analysis of the clay, was probably located in Rome[204] – but it also indicates the peculiarity of this group of works. The production of these statues via the individual casting of quite small pieces has been almost entirely overlooked in the scholarly

[202] *Ibid.*, 189-91, nr. 4: "ricomposta da due frammenti", noting that there is an additional fragment of hair that does not attach.

[203] La Rocca and Parisi Presicce 2010a, 306-7, cat. III.17 (L. Buccino).

[204] Cf. the analysis by G. Schneider in Tomei (1992, 227-8).

literature, perhaps because of their fragmentary nature, but it is unique. Centuries of large-scale terracotta statuary that drew on Greek models was either sculpted free-hand or produced in molds of much larger size – the entire front or back of a head, for example.[205] In their very approach to production, these works are concerned with the act of molding and reproduction.

The terracottas of the Via San Gregorio (fig. 3.28), the group of Muses from the Porta Latina, and Via Latina (fig. 3.29, 3.30, 3.31, 3.32) are modelled rather than cast in molds. Even though the last group employs inset eyes like the Palatine terracottas, they offer no parallel for the method of production, even though they display a similar aesthetic. Both use a very fine clay and the Via Latina terracottas likewise have a smooth, crisp surface that has been suggested to have a nearly 'metallic' or 'cast' refinement; their date and high quality has led one scholar to associate their production with Pasiteles.[206] Indeed, it is tempting to see the Palatine terracottas as descendants – that exploit a new working method – of the Via Latina works. The best comparison for the technique employed in Palatine terracottas, is, however, to be found in the 'a tasselli' production of plaster molds and in the Baia plaster 2G models.[207] As described in more depth above, negative molds, especially of finished statues, could be taken by covering the small areas of the surface of the model or statue with plaster to take keyed piece-moulds (fig. 3.7).[208] Once these are set, another layer of plaster is laid on top of them, with the incisions on the pieces and their handles keying this madreforma to the numerous tasselli beneath. When casting a new statue, the small negative piece-molds could be reunited within the madreforma and plaster or clay poured into the hollow mold and allowed to harden. The madreforma and then the individual tasselli could be removed to reveal a statue cast in the round.

However, like many portions of the Baia plaster 2G models, the pieces that were reassembled to create the Palatine sculptures were separately cast. Rather than reuniting the tasselli within a madreforma

[205] As may have been done in the head of the enthroned goddess from Ostia now in the British Museum (Strazzulla 2010; La Rocca 2010; La Rocca and Parisi Presicce 2010a, I.32).

[206] Strazzulla 2010, 90.

[207] This similarity of production technique was noted by Tomei (1992, 216) in conversation with Christa Landwehr.

[208] Supra p. 129-30. D'Alessandro and Persegati 1987, 76-8, fig. 2.

and pouring in liquid clay, each negative mold was used individually to mold a single piece of the statue that was secondarily reunited with the other pieces. The clay was pressed into the negative mold, first applying the finest layer that would provide the external surface and following through subsequent thicker, coarser layers.[209] Employed with careful attention, this method can reduce the chance of irregularities like air bubbles in the surface of the clay, and it is responsible for the high quality of the smooth surface of the Palatine terracottas and the detailed parts of the Baia 2G molds, like the face of Aristogeiton (fig. 3.1). The more cursory production of less important parts of plasters, by contrast, left air bubbles and cavities. In the case of the plaster casts, the assembly was effected with the aid of layers of rough plaster and an internal armature of wood, cane, bone, or iron. For the Palatine terracottas, it is no longer clear how the individual pieces were fixed together. In their present state of conservation, it seems as though the junctures between pieces continued all the way through their inner-most surfaces but this may be the result of fracture at an already fragile point. With their current restoration, it is difficult to tell. For example, on the male head with a rolled hairstyle, a join separates two pieces at the top of the rolled hair and it seems to continue through to the interior (fig. 3.37, between pieces no. 4 and 5 in fig. 3.33). However, the impressions of fingers swiping through the innermost, thick layer of clay seem to be continuous over this line, suggesting that this clay layer may have been used to secure the pieces together once assembled, in a manner similar to the thick, coarse plaster used to join the pieces of the Baia casts.

One major difference between the Palatine terracottas and the Baia plasters, as regards production, is that the former show extensive reworking from the 2G mold. Most notably, the eyes were left empty for inlay and, given the smooth surface and extraordinary finishing of the terracottas, it seems clear that other relics of the production of the 2G mold were likewise avoided. Additional steps were required to produce this effect. First, an 2G model that may have strongly resembled the Baia plaster casts would need to be produced in a malleable material, probably wax, in order to enable the sculptor to erase the relics of the 2G mold's production. This process would transform the 2G model and prepare it for the creation of the 3G

[209] This method of production is described by Tomei (1992, 216) in conversation with Christa Landwehr.

molds that were used in the creation of the Palatine terracottas. The creation of bronze ideal sculpture likewise utilized a reworked 2G model, in wax, that could be encased in clay that essentially formed a 3G mold that the molten bronze would fill. Serially and generationally reproductive across several materials, this process was a reliable and efficient means of meeting the demand for ideal sculpture in bronze by use of plaster, wax, and clay. At the same time, its necessary re-workings seem to have been responsible for the changes and adaptations that, for example, prevent the Palatine terracottas from being precise, exact copies of known types despite very close affiliations.[210] This involved and delicate process also explains why high quality *proplasmata*, like those Pliny says Arcesilaos produced (*NH* 35.156), could be so valuable. The craftsmanship of the Palatine terracottas, it should be noted, is unique in its marrying of this method of bronze production with the approach to piece-production of plaster 2G models that were used as references in the carving of white marble sculpture. With this complex method, the sculptors of the Palatine works achieved an extraordinarily high quality of mold-made terracotta sculpture whose forms connected them to works in bronze and marble. Many scholars have noted the bronze-like character of the sculpting and handling of forms, but have failed to notice the specific ways in which the method of production is responsible for this feature.

Moreover, scholars have failed to note the ways in which the stylistic relationship to bronze is subordinate to the materiality of the terracotta. While the sculptures do employ inlaid eyes, a feature that links them with bronze-work, their superficial treatment and earthy tones are characteristically that of terracotta sculpture.[211] The statue of the Hera Borghese type (fig. 3.27) furnishes the most information about her final appearance.[212] Her skin maintains traces of a fine slip, a very smooth liquid clay applied before

[210] Tomei (1992) thoroughly recounts the similarities and slight adaptations to the formal types, noting that the reproduction in clay via molds and clay added free-hand is likely to blame for the inability to precisely match all the details of the formal type (cf. esp. p. 215). Discounting these as replicas: Ridgway 2002, 172-3.

[211] Thanks to recent studies, the techniques and colors of applied to terracotta are better known than before, but this research has largely focused on archaic and Etruscan architectural sculpture: Rohden and Winnefeld 1911; Koch 1912; Bordignon et al. 2007b; Bordignon et al. 2007a; Winter 2009; Sargent 2012. On small scale terracotta figurines: cf. the recent survey in Blüme 2015, 87-93.

[212] Tomei 2014a, 184 (M.A. Tomei).

firing, which is here orange in color. Now visible especially in the area behind the ear, the rich color is significantly darker and more orange than the clay used for the modelling, which is clearly visible in the damaged area on the neck. The thin, homogenous slip layer forms a smooth shell on the surface of the terracotta, sealing it with a kind of veneer that covered the entire surface. The sphendone that secures her hair, by contrast, was painted with a vivid, deep red color.[213] Brushstrokes are still visible in some areas. Her hair and skin seem not to have been painted and may have displayed the color of the slip. The empty eye sockets indicate that they were prepared for the insertion of eyes made of other materials, probably encased within bronze eyelashes. Her earlobes were pierced before the clay completely hardened, allowing for the attachment of life-size earrings, probably made of metal.

Remains of fine quality clay slips are present on all of the male heads as well. The male head with the rolled hairstyle (fig. 3.25) bears traces of a reddish slip on his skin, which was distinguished from his hair. There are few traces of the slip in the hair, but it seems to have been a more brownish color like that more clearly preserved in his eyebrows. The braided band that holds his hair may also have been distinguished, but its color is currently unclear. The lips are offset by a thinly incised line, but no visible paint. Like the Hera Borghese, the face is prepared for the insertion of eyes into the empty sockets. The head of the Capitoline Charioteer type bears a reddish brown slip over the whole surface, visible on the skin of the ear as well as in his hair (fig. 3.26). The fragment of the right side of his head preserves a portion of the rim of an empty eye socket, suggesting his eyes were also inlaid (fig. 3.34a). The late classical style head bears a reddish orange slip over the whole of his skin, including his lips (fig. 3.26).[214] His hair is distinctly more reddish, further setting it off from the smooth skin. The partially preserved right eye socket indicates that, like the others, the face was intended to have inset eyes rather than sculpted ones.

[213] Whether this paint was applied before or after firing requires further analysis. The application of clay-colored paint in a two-step firing process was first proposed by Koch (1912, 14) and has been developed further by Bordignon et al. (2007a) and Sargent (2012). Paint and other ornaments were also added after firing.

[214] Tomei 2014a, 185 (M.A. Tomei).

However, the empty eye sockets of all of these statues preserve no visible traces of the inset eyes that they may once have housed or the method by which they were secured to the sculpture. There is reason to wonder whether they were ever provided with eyes. The empty sockets – and the lack of evidence that confirms they were ever filled – would actually strengthen the possibility that these terracottas might have been used as models for the creation of negative molds.[215] Since the eyes were often inlaid in bronze-casting, wax inter-models must have prepared for this result by leaving the eye sockets empty. If the eyes of the Palatine terracottas were never filled, they would have been well-suited to the taking of molds and the creation of wax models for bronze casting. This possibility is countered only by the example of the Hera Borghese, whose superficial painting on the sphendone and, especially, pierced ear indicate that the statues were likely finished to a colored, decorated state. Contrary to the Baia plaster 2G models, the Palatine terracottas seem almost certainly to have been finished as sculptures.

Their coloring, moreover, is emphatically that of terracotta and clay production. Red, orange, and brown hues predominate and details were added in metal or paint. Garments or other attributes may have been highlighted in white or other colors, but the palette of the Palatine terracottas makes a point of utilizing dark, earthy tones. Compare, for example, the polychromy of the second century BC pediment excavated in the Via San Gregorio (fig. 3.28). The god Mars, represented in the center of the pediment, bears a dark orangey-red skin tone that is comparable to that of the male heads of the Palatine, but the goddesses surrounding him are represented with more pale skin tones that are closer to their light-colored garments. There is no evidence that this traditional differentiation of the skin tones of males and females was followed in the Palatine terracottas, a not insignificant detail. Toward the end of the first century BC, other terracotta products, like the so-called Campana architectural plaques, were coated with a thick white covering that protected them from weathering and provided a white ground for painting that was brighter and more

[215] Tomei (1992; 2014a, 181-5 (M.A. Tomei)) has insisted on the connection of these statues with proplasmata, she has also unconditionally assumed that these eyes were finished.

nuanced than in previous generations.[216] The slip on the Hera Borghese, by contrast, actually darkens the clay, emphasizing its orange color. Even if the Palatine terracottas display a "gusto chiaramente bronzistico" and seek to imitate the metallic, 'cast' appearance of a bronze archetype rather than exploiting the malleability of their clay medium, as Tomei argues[217], their polychromy emphasizes their relationship to clay and terracotta.

3.3.b The Palatine terracottas: sculpture and model

From their superficial treatment alone, it is clear that the Palatine terracottas were intended to be displayed as sculptures, rather than used solely as models as the Baia plaster casts were. Their colored slips, paint, inset eyes, and, in the case of the Hera Borghese, metal jewelry would be damaged during the taking of further molds. While the surface of bronze sculptures could withstand the taking of molds, and the application of the resin or bitumen that helped the protective clay fillings and the plaster molds release, the pigments applied to the surface of marble and terracotta would be damaged more easily.[218] However, the scholarly tendency to connect these works, even loosely, with the sculptural models of the schools of Pasiteles or Arcesilaos, both of whose clay models are lauded by Pliny the Elder[219], is more than a desire to match archaeology to literary sources. It reflects the specific materiality of these works, which is situated in relation to both terracotta sculptures and models.

The polychromy, in particular, illuminates this duality. If the earthy tones highlight the figures' connection to terracotta sculpture over any imitation of bronze or marble, they do so in a way that is somehow paradoxical. By not lightening the skin of the female figure, the polychromy creates a disjunction

[216] Zink 2014, 238. Rohden and Winnefeld (1911, 27) and Koch (1912, 14) suggest that the white coating is lime, chalk, or fine pipe clay, but no modern scientific analysis has been conducted on these works.

[217] Esp. Tomei 2014a, 181-5 (M.A. Tomei). Cf. also Hallett 2012, 99 "… it resembles the very finest early Classical bronzework".

[218] Landwehr 1990; Tomei 1992, 214, n. 255.

[219] *NH* 35.156.

with the majority of terracotta sculpture visible in the city of Rome. The earthy tones express a materiality closer to natural clay than to its baked and ornamented descendant, terracotta. This highlights a connection with proplasmata, even while what ornamentation they bear contradicts that identity. In this sense, these perform a revisionist remediation of the medium of terracotta that turns on the role of clay in sculptural modeling and establishes a novel materiality for a revered and historic medium.

Both in the literary sources and in the archaeological record, there is a distinct interest in the use of terracotta for sculpture and architecture in the Augustan period. It played a role in defining the image of Rome and of Italian art in contrast to that of imported Greek art.[220] As Eugenio La Rocca has pointed out, many of the old Roman temples bearing terracotta ornaments had fallen into disrepair and Augustus, early in his reign, concerned himself with the restoration of these sacred spaces.[221] While his restorations may often have transformed the temples and completely altered their materials, this practice was not unusual. The Temple of Jupiter Optimus Maximus on the Capitoline hill, the site of some of the earliest large-scale terracotta sculpture in the city, endured a similar transformation into much more elaborate materials in the first half of the first century BC.[222] In the Augustan period, the frequency of this removal or restoration seems to have caught the attention of the public, so that even the replacement of terracotta works with new materials increased the aura and consciousness of the old and noble material: its disappearance engendered a nostalgic desire.

The Palatine terracottas are the product of this new, intensified engagement with a well-established artistic medium, filtered through a reprisal that turns on contemporary artistic practices of formal replication. Whereas traditional terracotta sculpture of the kind that was being variously ridiculed, revered, removed or restored tended to exploit the plastic nature of the medium, the Palatine terracottas approach clay from the perspective of formal replication and the market for *ornamenta*. Modelling in clay, without

[220] de Angelis 2008; Touchette 2015.

[221] La Rocca 2010.

[222] Perry 2012.

the aid of a mold, was a central part of the process of production of sculpture, particularly in bronze. It is this generative role of clay that was important to Pasiteles, for example, who referred to clay-modeling as "the mother of chasing and of bronze statuary and sculpture."[223] In this role, clay is valued for its additive, adaptable, and malleable character that can be sculpted to quite fine detail. Negative casts can be taken from the hardened clay model in order to produce the wax inter-model, with the clay giving birth to first the wax 'child' that, with a clay encasement, then gives birth to the bronze 'grandchild'. Clay pre-figures metal sculptures, while the re-touching of the wax inter-model enables the production of the form. The physical characteristics of both media contribute to the materiality of cast bronze, whose modelling and precision of detail are achievable only via clay and wax. Clay is inherently linked to the production of the style of cast bronze.

The Palatine terracottas have consistently been evaluated as works whose style imitates that of bronze and that speak to a taste for the precise character of modelled bronze, but this analysis is too superficial. It treats the bronze as the origin of these characteristics, when in fact the characteristics typically associated with a bronze style are those that are achieved in the pre-figuring clay and wax. The Palatine terracottas are unusual not because they imitate bronze, but because they put the latter stage techniques of bronze-casting – usually reserved for the poured bronze – to work for the production of terracotta sculptures. Casting clay in molds was widespread practice for small scale and inexpensive objects from statuettes to lamps or bowls and from votive body parts to architectural plaques.[224] It was fast, cheap, and was not normally highly prized as a work of art. Large-scale, high-quality terracotta sculpture like that adorning temple pediments was sculpted free-hand, was rarer, more expensive and more valued as a work of art. Producing a large-scale terracotta in molds was counter-intuitive to established tradition. The Palatine terracottas' use of molds represents an inventive approach to terracotta that seeks to redefine its relationship

[223] *NH* 35.157.

[224] Cf. Erlich 2015 for a survey.

to mold-made, replicative production by emphasizing its nature as the origin and model of the styles of high art.

The techniques that the sculptors employed are strictly tied to practices of formal replication. The specific method of producing these pieces shares many characteristics with the production of the especially detailed areas of the Baia plaster casts. In both cases, positive pieces are produced in individual negative piece-molds, rather than reuniting the negative tasselli within a madreforma and pouring in a liquid. One of the major advantages for the terracottas must have been the ability to carefully regulate the thickness of the fabric and eliminate air pockets, both of which would help ensure a successful firing. As this technique is otherwise unattested among terracotta sculpture from antiquity,[225] it seems clear that the sculptors borrowed it from practices of formal replication of 2G models and applied it to the creation of high quality terracotta sculpture. The negative tasselli used to create the Palatine terracottas, however, are not the same ones as were used for the Baia plasters, but were taken from a re-touched 2G model. As described above, this extra step allowed for the refinement of the model in a manner that was commonly used for the creation of ideal sculpture in bronze, which required a re-touched wax 2G model while the creation of white marble sculpture could be achieved via the un-augmented plaster 2G models.

The facture of the Palatine sculptures derives directly from practices of formal replication in other materials, combined in a way that re-characterizes terracotta as a sculptural medium. The form of the terracottas connects them to the highest quality Greek works and Roman ideal sculptures in bronze and marble, as does the quality of the craftsmanship. The handling of forms that is said to exhibit an imitation or a taste for bronze-work is an assertion that terracotta is equally capable of achieving the level of craftsmanship prized in the other two media and is, in fact, the origin of that craftsmanship. By contrast, their polychromy and even the use of metal adornment reasserts their nature as terracotta sculptures, linking

[225] Tomei 1992, 216. Compare, for example, the terracotta sculptures discussed by Strazzulla (2010), La Rocca (2010) and particularly the statue of a goddess from Ostia (La Rocca and Parisi Presicce 2010a, I.32), whose face might have been mold-made (in a different method than the Palatine works), as well as the seated Minerva and the series of muses excavated at the Porta Latina and now in the British Museum (La Rocca and Parisi Presicce 2010a, I.7-14).

them to the traditional works on display throughout the city. The well-established role of terracotta as rustic, simple, pious, and generative tweaks the character of the Palatine sculptures' engagement with the formal types and 'cast' style they repeat. Linked by form to other works in bronze, marble, terracotta, and other materials, as Tomei's extensive discussions of the types clearly show, these works present themselves as extraordinary iterations of familiar, prized images and styles. In an environment where the terracotta *proplasmata* of Arcesilaos, perhaps used for serial reproductions of sculptures much like these, were known to have sold for a higher price (among artists) than the finished works of other sculptors, the Palatine terracottas seem to beg a suggestive comparison with sculptural models. The fact that they represented common types, linked in a system of mutual reference, would have enhanced this impression, as the versions in other materials essentially effect the reproduction that a *proplasmata* was intended to generate. The derivation of their method of facture from replicative sculptural practices suggests, moreover, that the sculptors of these works were concerned – from the very beginning – with the role of terracotta in serial production.

The Palatine terracottas seem to balance on the edge of sculpture and model, quite intentionally, by signaling the role of terracotta as generative model in the production of other sculpture. They make terracotta 'modern' with a visible reflection on its technical relationship to replicative production. In a sense, the sculptures represent proplasmata or, at least, an impression of proplasmata to which elite patrons would respond. They testify to the period's particular interest in certain elements of artistic facture, which is often discernible in Pliny the Elder's *Natural History*. Pliny inserts many *mirabilia* of production into his text, for example, describing the esteem for sculptures produced *ex uno lapide*[226] and describing the famous line-drawing competition of Apelles and Protogenes[227], mentioning that the painting had, until recently, been displayed in Rome. The Palatine terracottas exploit this interest with a particular accent on the practices of formal retrospection and replication that were prevalent at the time, consciously straddling the

[226] Pliny *NH* 36.34, 36.36-7, 36.41. Cf. Settis 1999, 79-81; Anguissola 2013, 13-5.

[227] Pliny *NH* 35.81-3.

identities of sculpture and model. This categorical instability, moreover, is reflective of a central premise of Roman practices of formal replication: nearly every sculpture could also be a model and, in one way or another, was likely to become one at some point. Sculptural series deriving from newly invented classicizing or archaizing works were as common as those related to specific, famous Greek antiques. Even if there was still a very real divide between the sculptural models that belonged to workshops and sculptures on display, as the Baia plaster casts show, virtually any sculpture could, via 2G molds and models, become a new archetype.

3.4 Formal replication and the materiality of sculptural models

The Roman taste for marble replicas and variants of archetypes whose style and composition were characterized by their bronze material has long been a paradox in the study of Roman sculpture. The modifications made to marble sculptures that derive from bronze archetypes have been viewed as evidence that statues were imported, an unfortunate function of translation, competitive emulation, and inventive solutions that adapted Greek types to Roman contexts.[228] Since the marble replica series were first identified as relating to bronze prototypes, this shift in medium has seemed in need of an explanation.[229] The Roman audience clearly prized the antique bronze sculpture of the Greek world, as the literary sources describe, and, as the archaeological evidence shows, they studiously replicated it and creatively reimagined it in almost uncountable quantities. Why, if they devoted so much attention to the bronze originals and had the technical capabilities to exactly copy them, would the Romans prefer to create new sculptures in marble rather than bronze? Why would they select a medium whose physical characteristics caused so many technical difficulties and required so many modifications?

[228] Cf. the discussion of struts in Hollinshead (2002, discussing earlier scholars' negative judgments, 117) and Anguissola (2013, 4-6 summarizing scholarly approaches) as marking creative competition between the Roman sculptures and their Greek, usually bronze, archetypes.

[229] Ennio Quirino Visconti (1782-96, III, 65) judged struts as an indication that a statue was more likely a Roman replica. On copies and originals in Visconti, cf. Gallo 1992.

This chapter proposes an answer that strikes from a different perspective. It suggests that Roman practices of formal replication were not concerned with the 'bronze' materiality of the specific archetypes they utilized in the production of new sculpture. In other words, it suggests that replicas did not strive to imitate the bronze of the sculpture from which they derived. Sculptor, patron, and audience were concerned with the style and composition of the archetype, some features of which could be better executed in bronze than in marble, but they were not concerned with the specific bronze of the archetype they were imitating. This hypothesis should not be taken to indicate, however, that Romans were not interested in the bronze of antique sculptures, which is clearly attested by the use of darkening patinas that age the surfaces of new bronzes.[230] Indeed, the nature of this interest in antique bronze as a material remains a central issue that requires explanation. Chapter 4 and 5 address some aspects of this interest and offer further contextualization of the argument presented here.

The techniques of formal replication practiced in the Hellenistic and Roman world are symptomatic of this lack of interest in the materiality of the specific archetype and their expansion under the Romans had a dramatic impact on the character of Roman ideal sculpture. The use of negative plaster casts for the dissemination of sculptural forms had perhaps the greatest impact. Sculptures were sent abroad in negative, colorless impressions, fragmented into pieces. Scholars have already discussed how piece-production could have encouraged re-compositions like the eclectic Pasitelean sculptures that combine body parts from different sculptures.[231] As sculptors used these negative casts to reassemble positive 2G models, either in plaster like the Baia examples or in wax to produce bronze casts, they could reproduce the forms of the sculpture, but they had little access to the materiality of its archetype. The color of the aged bronze and the various polychrome inlays or attachments were often not available to the sculptor working in Italy from distributed casts. The 2G models made present a de-materialized form of the archetype. Material models

[230] Cf. Formigli 2013a; Descamps-Lequime 2015.

[231] Borda 1953; On the use of these casts in such a manner: Ridgway 1984, 33; Landwehr 1990, 152; Tomei 1992, 216, n. 262.

needed to be sought elsewhere; the vast collections of sculptures present in Italy, both antiques brought as booty and new sculptures, formed a referential repertoire. The materiality of antique bronzes was important, but it was not conveyed through the plaster casts of bronze works that Roman sculptors were utilizing as their models.

It is significant, moreover, that there is a very practical reason that most replica series and most of the Baia plaster 2G models derive from a bronze archetype: the copper alloy and its metallic polychromy could better withstand the physical demands of cast-taking, while the pigment and wax that color marble sculpture would be more easily damaged.[232] Moreover, while the darkening that additional coats of resin would cause on a bronze statue were appreciated as early as the Hellenistic period, there is no evidence that the discoloration of an ancient marble surface would be well-received. While the literary sources, especially in the art history sections of Pliny the Elder's *Natural History*, make it clear that the Romans highly prized the bronze sculpture of the Greeks, they also esteemed many ancient marble works. The fact that the casts and replica series so heavily favor the bronze works, however, may be more the product of pragmatism regarding the conservation of the statues than preference for works in bronze. The fact that the Baia 2G models derive from bronze statues thus proves less about the Roman valuation of 'famous bronze originals' than it does about the fact that most 2G molds were probably taken from bronze originals. The cast-takers were limited to taking casts primarily from metal statues. The market, by contrast, had a taste for replicas and new, retrospective creations in bronze, marble, other metals, and a wide variety of colored stones, as the archaeological evidence shows.

This chapter proposes that Roman sculptors and patrons were not, in most cases, concerned with the materiality of the archetype for three co-dependent reasons: first, because it was poorly conveyed via 2G molds and models that travelled great distances; second, because that materiality was almost always bronze since cast-taking would not damage statues made in this medium; and, third, because the

[232] Landwehr 1990; Tomei 1992, 214, n. 25. There are some notable exceptions, like the Korai from the Erechtheion whose copies are present in, for example, the attic of the Forum of Augustus and the Villa of Hadrian at Tivoli (Schmidt 1973).

contemporary environment and demand presented them with a wide variety of new and old materials to exploit to suit modern taste.

The techniques of formal replication employed for the production of Roman ideal sculpture had a powerful impact on the materiality of the new sculptures. The dematerialization of the archetype in the plaster casts drove sculptors to seek out material models in their contemporary environment. Moreover, it opened up space for sculptors to experiment with surface treatments and newly available materials, including, especially, the polychrome marbles imported from around the Mediterranean. In the period of conquest, the city saw an influx of statuary in luxury materials and, then, with Augustus, the buildings underwent a material transformation that saw terracotta replaced with white and polychrome marbles. A nostalgic renaissance of terracotta sought, on the one hand, a material connection with the past and, on the other, to re-characterize the material of the past as appropriate and worthy of the imperial present.

The Palatine terracottas exploit the rhetoric of formal replication in a reprisal of terracotta statuary that makes it as admirable for its technique as it is noble for its antiquity and piety. Drawing explicit connections between themselves as statues and the use of their terracotta medium for the production of sculptural models, they straddle the categories of sculpture and model. They assert the generative nature of terracotta and document a specific type of interest in artistic facture, one that engages with its wonder and beauty rather than its physical, sweaty reality. In these sculptures, terracotta is cast as both high art and the origin of high art. Intensive skill meets simple material and finished sculpture encounters its model. In both their craftsmanship and the materiality of the finished works, these sculptures emphasize facture of a particularly reproductive, serial nature. The Palatine terracottas illustrate the impact of techniques of formal replication on the aesthetics of formal repetition.

Lastly, the Palatine terracottas serve as a first example of how the material relationships of formal replicas might be more sensitively investigated once liberated from an imitation of the materiality of the archetype. While scholars have argued that the terracottas' refined style and handling of the clay is evidence of their imitation of the bronze of the archetype, this analysis has instead underscored the way that the particular style associated with bronze is dependent upon clay and wax. The emphasis on bronze as a point

of reference for material associations has been too heavy in modern scholarship, despite the overwhelming evidence that Romans often chose other materials for their restrospective sculptures. An imitation of a particular sculpture's form did not, for the Romans, necessitate an imitation of its material. Instead, the techniques of formal replication seem both to have created space for innovation in the materialities of new sculptures, as shown by the Baia plaster 2G models, and to have been directly involved in the conceptualization or re-characterization of materials and their uses, meanings, and inter-relationships, as in the Palatine terracottas. In the context of Roman ideal sculpture, consistency in form engendered creativity in materiality.

Chapter 4

Material Resemblance Relations and Remediation

The case studies of the previous chapter each articulated, in a slightly different way, how the materials of Roman ideal sculpture must be viewed within the contemporary material environment rather than as a reference to the often bronze material of their archetype. The examination of the Baia 2G models showed that the widespread use of plaster positive casts for the reproduction of statuary types preserves the form and composition of the archetype, but to some extent effaces its specific materiality. The process of reproduction via plaster molds and models seems never to have been intended to convey details of color, polish, or superficial adornment of the archetype, except as they were tangible in the re-produced form (the presence of inlaid eyes, the lack of supporting struts). The chapter thus suggested that sculptors sought material inspiration in the contemporary environment, looking to the antiquities imported to the city (which may have, in some cases, included the specific archetype) as well as to the norms of contemporary production. As the investigation of the Palatine terracottas showed, it was by these engagements with the Roman *mediascape* that sculptors' situated novel remediations. In this manner, even familiar materials like terracotta could be refashioned to suit contemporary taste, in this case, with a considered response to the influx of new materials and the taste for retrospective, replicated forms that exploits practices of craft production to draw material relationships.

The present chapter expands upon these findings, with a investigation of the nature of another type of material relationship, that of material imitation, emulation, or allusion. This has been perhaps the most consistently attributed type of material relationship in previous scholarship, but the character and nature of such relationships has been left largely without critical study. The terms tend to be used in a connoisseurial manner in an appeal to a shared modern impression of what ancient materials looked like. Moreover, as the concept of material imitation or emulation has often been used to discuss the relationship between the material of a replica and that of its archetype, it requires a revaluation in light of the arguments made in Chapter 3. If it is true that the materials of an ideal sculpture only rarely had access to the materiality of the

bronze archetype (if it was present in Rome or described in literary sources for example[1]), then how is it possible to attribute imitation or emulation of the bronze of the archetype to a stone statue? Much of the analysis of such relationships has referred to common concept of bronze sculpture as a medium[2], without establishing how this idea was established or how references to it were achieved. In order to address this issue with the most specificity possible, this chapter takes as its case study one type of material imitation that has been considered particularly ambitious. It examines a group of five Roman replicas of Greek athlete types carved in the Egyptian stone *lapis basanites*[3], each of which is also preserved in white marble and/or bronze replicas. This dark greenish to black stone has been argued to have been exploited to imitate and compete with the age-darkened appearances of antique bronze sculptures and its use for athlete bodies – some of whose prototypes were famously known to be cast in bronze – constitutes one of the strongest cases for a material's imitation of the bronze material of an archetype. This interpretation tends to direct attention backward, strengthening the opinion that the materials of Roman ideal sculpture are indebted to and in competition with the aura of bronze masterpieces. The analysis that follows here suggests a reorientation of this perspective and a recognition of a plurality of relationships that condition any connection with bronze. Moreover, the evidence presented here offers the opportunity to reflect on the nature of the relationships that have been referred to by the terms imitation, emulation, allusion, and more.

This chapter begins with a reexamination of past attempts to describe and classify types of material relationships, especially the most commonly attributed one, material imitation. While the meanings of materials and the visual connections between them have often been the focus of scholarly attention in recent decades, only Mont Allen has tried to categorize all of the many ways that scholars have understood

[1] Notable exceptions include, for example, copies of sacred artworks: Anguissola 2007.

[2] Hollinshead 2002; Anguissola 2013. In some sense, this common concept of bronze is the mediascape of the historical exploitation of bronze, but it is usually discussed in abstract terms, without considering, for example, the aged appearance of statues or specific works' visibility within the city of Rome.

[3] On the identification of this stone and its quarry, see Appendix B.

materials to have mattered in Roman art.[4] Taking his brief article as a point of departure, this analysis highlights the difficulties of such a system of organization. While Allen correctly lays out the many different types of relationships, his categorization fails to acknowledge that even a single statue carved in one colored stone could make use of multiple, layered relationships to other materials. Moreover, the exact boundaries of these types of relationship are as yet poorly delineated. For the purposes of this investigation, relationships that have been identified as imitation, allusion, metonymy, and substitution are all considered as types of *resemblance relations*. This evidence gathered in this chapter illustrates that there multiple phenomena have been described by the term material imitation while allusions, substitution, and metonymy all rely on visual similarities that are achieved in a variety of ways. Discarding these terms, at least for the moment, in the investigation of the mechanisms of resemblance relations offers the opportunity to reconceptualize the nature of material relationships.

In this investigation, the plurality and co-existence of material relationships is accepted as a crucial dimension of materiality. The analysis proceeds with discussions of as many material relationships as can be suggested to have had an impact on the production and reception of the lapis basanites athletes. This includes those that are established by formal repetition, since this feature has been clearly established to draw sculptures into systems "of mutual reference and comparison".[5] This case study thus provides an opportunity to examine the connection between formal and material imitation, particularly in the reproduction or reinterpretation of period styles. Additionally, among the copy series whose replicas are preserved in more than one material, the majority include a copy in a black or dark-colored stone that, according to accepted arguments, might imitate the bronze of the sculptural prototype.[6] The investigation of the *lapis basanites* athletes offers conclusions and a method that can be applied to these other dark-stone sculptures, as well as to other works whose media might aim at material imitation or allusion.

[4] Allen 2015.

[5] Anguissola 2013, 17.

[6] On the prevalence of black and dark colored stones, see the survey in Chapter 2, section 2.1.a and Table 2.1. Abbe 2015, 180-81.

The analysis of the material resemblance relations will proceed as a step by step contextualization of the five extant lapis basanites athlete sculptures along the lines of reception aesthetics, examining them for tangible evidence of the ways in which the stone might have been exploited to increase its affinity to bronze or other materials.[7] First, it surveys the state of preservation and the restorations of the sculptures, seeking to establish how closely the fragments represent their ancient appearance. Since visual affinity has been the hallmark of comparisons between lapis basanites and bronze, the investigation next examines the color and possible polychromy of both bronze, particularly aged bronze, and lapis basanites in antiquity, revealing some resonance and dissonance between the two media. The superficial treatment of lapis basanites seems to have exploited pigment more frequently than metal additions, even inlaid eyes, that might have enhanced a resonance with bronze. An examination of the technique of sculpting illustrates an attempt to attain the detail of cast bronze works in the carving of the dark stone, an effect that could not be achieved to the same extent in the white marble replicas. However, bronze is not the only metal whose ancient appearance was relevant to the characterization of *lapis basanites*. Pliny the Elder testifies to the blackened appearance of silver (*NH* 33.131) and he directly compares the appearance and hardness of lapis basanites to iron (*NH* 36.58), indicating additional relationships whose valence has been unexplored in scholarly literature. Moreover, the presence of struts visualized the lithic character of the material and, when combined with the preference for pigment rather than metal, suggested connections with the other stone athletes that drew on the form of the bronze predecessors. The reconstructed painted polychromy, moreover, when combined with the dark color of the stone, resonated with the Egyptian sculpture in dark stones imported to the city of Rome. This last point of reference has been completely ignored in the evaluation of the material of the athletes because scholars have focused so intently on the formal and stylistic debt to Greece. The process of building out these various material relationships illustrates the numerous resemblance relations and other material links at play in determining the materiality of the *lapis basanites* athletes.

[7] The methodology practiced here is described in Chapter 2, section 2.2.

In a conscious and conspicuous way, these statues engage with multiple historic traditions of sculptural exploitation of materials, performing a sensitive reprisal of several media at once. This section argues that this process should be characterized as typical of remediation, a concept developed for the study of New Media.[8] In formulating the concept of remediation, scholars have examined the way that such media "define themselves by borrowing from, paying homage to, critiquing, and refashioning their predecessors."[9] The new medium makes use of the old as a model in various ways that include but are not limited to, resemblance relations like imitation, substitution, and metaphor. The concept of remediation brings the analysis of material relationships forward by embracing the plurality of competing references and focusing on the specific temporal, geographic, and cultural context of the new work. Additionally, as the investigation of the *lapis basanites* athletes illustrated several relationships that might be considered to effect a material imitation, it clarified the process by which one material might be likened to another.

This chapter concludes by returning to the discussion of material imitation, allusion, and substitution, illuminating the partial nature of illusion. The process of selecting specific elements to imitate, like using metal to color the details of a stone sculpture in imitation of bronze polychromy, draws a certain parallel to Roman processes of formal imitation and adaptation that eclectically combine features of different period styles.[10] Moreover, this section argues that this kind of intentional enhancement of material similarity differs from the material imitation involved in the reproduction of a period style. It suggests that the imitation of certain stylistic features or compositions necessarily requires an imitation of the technical abilities of the material in which they were first rendered – the sharpness of hair or edges carved in wax or the projection of elements in bronze statues. The style of a sculpture might be bound up with the material in which it originated and the imitation of the style necessitates a replication of these *material fossils*, whether the rest of the sculpture is consciously engaged in a selective visual imitation of that material or

[8] Bolter and Grusin 1999.

[9] Grusin 2004, 17.

[10] E.g. Hölscher 2004; Hallett 2012.

not. These material fossils should be distinguished from the intentional enhancement of resemblance relations of the kind described above. Moreover, questioning how material resemblance relations can work with or against styles and form reveals unexpected and evolving material relationships and remediations, a topic which will be the subject of the next chapter.

4.1 Resemblance relations: material mimesis, allusion, and substitution

The ability of an artwork's material to imitate, call to mind, or allude to another has been identified in nearly every Roman artistic medium and period, from ceramics to wall paintings, mosaic, and sculpture. The characteristic ruddy color of Arretine pottery, for instance, might have been intended to allude to the warm color of well-used gold tableware, while the black gloss of the Campania productions found resonance with the tarnished black of silver dinnerware.[11] The representation of materials in wall paintings has a trompe l'oeil effect, re-creating the appearance of materials from marble blocks and columns to the sheen of gold or glass vessels and the intricately woven details of tapestry borders.[12] The characteristic color and herringbone pattern of the brick flooring *opus spiccatum* was fashioned from expensive, rose-hued portasanta marble in the Villa of Domitian at Sabaudia.[13]

In sculpture, a wide variety of material imitations and allusions were exploited, especially with the introduction of the many colored marbles imported from across the Mediterranean.[14] Polychrome marbles like pavonazzetto, giallo antico, and serpentino were employed to represent the richly colored and patterned fabrics of garments worn by Eastern enemies.[15] Pavonazzetto was used for figures like Marsyas and Scylla, capitalizing on the visual affinity between the stone – displaying a white ground with purplish red veins –

[11] For further discussion and bibliography: infra, p. 229-33.

[12] Ling 1991; Leach 2004.

[13] Pensabene 2002b.

[14] *Radiance in Stone*; Gregarek 1999; *I marmi colorati*; Allen 2015.

[15] Schneider 1986, 2002.

and the blood-strewn bodies of the characters' mythological narratives.[16] Giallo antico, a warm yellow marble with purplish and brown tones, was compared by ancient authors to the color of gold and was used to imitate it in sculptures, while black and red stones might have been used to imitate the varied colors of ancient bronze.[17] Marble table tops could be set upon pillars encased in stucco that were painted to liken their appearance to the veining of the more elaborate marbles.[18] Moreover, since the moment that scholars first started studying formal series as derivative copies of a bronze prototype, they have suggested that the sculptors of the white marble replicas sought to imitate the bronze of their model.[19] In this case, the material imitation lies not in similarity or allusion of color or pattern, but in an attempt to replicate the technical and formal capabilities of the material, specifically, its ability to project into space without supports and to hold fine, sharp details.[20] As early as the beginning of the 19th century, scholars suggested that black and dark-colored stones were used for formal replicas with the goal of imitating the dark, shiny appearance of bronze.[21] Recently, one scholar has further suggested that the direction of this mimesis could be reversed if the original was fashioned from a dark-colored stone, using the example of the black limestone Palatine Danaids imitated by the black-patinated 'Dancers' from the Villa dei Papiri in Herculaneum.[22]

[16] Marysas: Weis 1992, 1988. Scylla: Raeder 1983, 96-98, nr. 99, 105-106; Andreae and Bertolin 1996; Pensabene 2011, 125.

[17] Gold: Gregarek 1999, 190-91, cat. B57; Schneider 2001; Martial *Ep.* 8, 53 (55), alluding to similarities between a Numidian lion's golden mane and the marble (cf. Schneider 1986, 154-6); Propertius, 2.31, calling the Portico of the Palatine Temple of Apollo on account of its giallo antico columns; later, in the sixth cen. Paulus Silentiarius, *Desc. S. Sophiae*, par. 2 ver. 217; Bronze: Belli Pasqua 1995, 56; Gregarek 1999, 212; Morawietz 2000, 111-12; 2005, 55; Allen 2015, 160.

[18] Moss 1988, 376-77, cat. V, 3.10, V, 14.10; Sogliano 1901, 303; Mau 1877, 209.

[19] Gallo 1992.

[20] Most recently in this vein, see: Hollinshead 2002, discussing the creation in the Roman period of sculptures which require large struts in a virtuoso attempt to achieve the reach of bronze in a more difficult medium. However, this interpretation runs throughout the literature on Roman replicas and their production.

[21] Mori 1806, Vol. II, 271-74.

[22] Tomei (2006, 381) describes the Herculaneum Dancers' dark-patinated bronze as an imitation of the dark material of their archetype, that is, the black limestone of the Palatine Danaids (also called Canephorae).

Material imitation and allusion have been identified for centuries and examples of the phenomena in Roman art are uncountable; their constancy has perhaps caused them to be slightly overlooked, since while they are often and easily identified, their intricacies have rarely been addressed. Most projects, even those that take such material relationships as their subject, accept material imitation as an established phenomenon whose goals and properties are known and are demonstrable by the accumulation of examples, like those noted above.[23] Only a few articles have made attempts to interrogate the intent and process of material imitation, or even to classify the types of relationships that are called material imitation, allusion, substitution, and more in the study of Roman art.

M. Allen, in his recent survey of materials in Roman art, notes the lack of attempts to provide an overarching categorization of the myriad possibilities of material use and symbolism in Roman sculpture.[24] His article amounts to a first attempt at such a classification, partially organized by the variety of ways that materials could play a role in signification. In addition to magical and medicinal uses, economic value as a luxury good, geographical or historical associations, and making distinctions by contrasts in sculpting technique, Allen identifies several ways that materials can be imbued with meaning solely by their relationship to another material: the approximation of one medium with another, mimesis and metonymy, and bichrome statuary. Allen's examples of bichrome works are primarily those carved in a single block that display more than one color, but he relies on composite precedents and seems to include composite statuary in this category, arguing that the meaning is activated by the juxtaposition in a single work of two or more diverse materials. The other categories of material relationship rely upon the ability of the work's medium to call to mind or visually resemble a different material that is not present in the work.

Allen's analysis considers the first of these, the approximation of other media, to refer to the substitution of one material with another that has a visual "proximity" with it. The black or dark grey marble with white veins from Göktepe, near Aphrodisias in Asia Minor, can thus take on the valence of an Egyptian

[23] E.g. Gregarek 1999, 138-47.

[24] Allen 2015.

black stone when used for an Egyptianizing figure.[25] In many cases, the replacement of foreign, expensive, or hard-to-work stones or materials has been interpreted as an economically-motivated choice, hence the term 'approximation' indicates a kind of surrogacy. By contrast, material imitation, under Allen's scheme, has to do with a desire to produce a visual affinity with another material (and not only sculptural ones). He includes in this group both the use of a material to augment a naturalistic representation – cipollino as the skin of the crocodile at the Canopus or the polychrome eyes, lips, teeth, and more of a bronze sculpture – and the desire to imitate the material of a sculptural prototype, in the way that black stones have been argued to imitate patinated bronze. The latter example clearly overlaps with the former category of 'approximation', as their material has been seen to stand in for another artistic medium. Lastly, Allen distinguishes the metonymic and synecdochic uses of materials, which he groups with material mimesis but distinguishes. For example, the rosso antico stone often employed to represent the retinue of Dionysus, is a metonym for the wine – linked by the deep red color – that they are famous for imbibing, rather than an imitation of wine.

Such color-based relationships are especially common in the Roman use of polychrome marbles, but they are often simply described as mimetic or even naturalistic – like the use of polychrome marbles in place of luxurious garments of Parthians and others.[26] In part, the overlap and misidentification is the result of the fact that the symbolism and meaning of the use of a material is difficult to pin down to a single category, even in an individual statue or architectural monument.[27] In other words, the lack of specificity with which the term material imitation has been used reflects the multiplicity of material relationships expressed by sculptures. For example, the rosso antico of the Red Faun (see fig. 5.4) from Hadrian's Villa

[25] Allen (*Ibid.*, 159-60) quotes Gregark (2002, 208-09), who uses color to identify a "*bigio antico* from the Aegean fringe of Asia Minor" and a "nero antico" from Tunisia for the Egyptianizing figures associated with the Canopus at Hadrian's Villa. These figures have now all been identified by chemical analysis as the marble from Göktepe (Attanasio et al. 2013; Attanasio et al. 2009a. See Appendix B.

[26] Schneider (1986, 152-60) describes this as increasing the realism of representation in a way that also contains supreme symbolism.

[27] Cf. Popkin 2015.

can be described as approximating another medium and as having both a mimetic and a metonymic goal. The red stone, used for a copy of a bronze sculpture, has been said to allude to the ruddy color of an original bronze.[28] At the same time, its color resembles and perhaps imitates the sun-darkened skin of men accustomed to the outdoors, which bronze also does, in contrast to the pale white of women's skin.[29] Finally, again, the deep red is a metonym for the wine that satyrs frequently drank. Selecting or highlighting any one of these categories, as scholars have tended to do in the past, excludes a variety of other possible material relationships. Allen's system of categorization, despite being a crucial contribution to the study of Roman materials, fails to appropriately value this fluidity and multiplicity.

Furthermore, Allen does not acknowledge that some of his categories rely upon others for their definition. For example, when scholars have identified substitutions of materials, like the use of black limestones or marbles for the hard Egyptian, dark-colored granites, diorities, and greywacke[30], they have done so by identifying a type of material imitation. The color is the point of affinity between the new and old material. The selection of a similarly colored substitute implicitly involves a desire to increase visual similarity, that is, to imitate the appearance of the original material. Material metonymy, too, deserves further clarification. While the use of metonymy in art often involves a formal or figural reference – rotting fruit or an extinguished candle standing in for death and the brevity of life – materials may also be used metonymically. Real, dry straw attached to the canvas of Anselm Kiefer's 1982 Nuremberg painting is a part of the "scorched-earth" landscape.[31] In the same way that the crossed-keys of Saint Peter stand for the papacy, the straw is a part of the field. The part standing in for the whole is synecdoche, a type of metonymy. By contrast, all of the examples that Allen describes involve a similarity of color rather than a part for the whole, whole for the part, or contiguous concept. The Roman use of metonymy seems to be largely (though

[28] Morawietz (2005, 55) on the rosso antico and black stones used for the human portion of the Young Centaur now in the Galleria Doria Pamphilj.

[29] Cf. Neils (2008) on the use of white for objects of the female realm.

[30] E.g. Attanasio et al. 2009a, 339-40, n. 111; Belli Pasqua 1995, 56-58.

[31] Brandl and Amman 1993, 100.

perhaps not uniquely) based on a type of visual affinity, which might be more or less accentuated depending upon the subject represented, the technique of manufacture, and the finishing. Moreover, we should consider material substitution, material mimesis, and material metonymy (when based in resemblance) as united in their appeal to and amplification of visual similarities between materials. These 'resemblance relations' can be aided or activated by a variety of other connections, like style or subject matter.

In this respect, Allen's insistence that style – as a whole – must be jettisoned in the discussion of materials and facture creates an unnecessary and misleading rift in the analysis of sculptural materials. Material played a key role in the articulation and definition of the styles of different periods, though it did not necessarily drive their development.[32] The material's proclivity to fracture, an additive or subtractive nature, cost, appearance, and more all helped to determine the final appearance of works of art. Brunilde Ridgway, in her article on stone and metal in Greek sculpture, describes the traditional understanding of its development according to the technical capabilities of wood, then stone, then metal.[33] Although now problematic in its adherence to a model of linear progress, Ridgway's article emphasizes attention to the material and, especially, to the increasing importance of achieving a desired form in their chosen material, even if it was necessary to circumvent that medium's physical limitations. So, while marble sculptors' should prioritize stability, the desire to make certain forms in marble superseded this concern. According to Ridgway's analysis, skillful artists began imitating one material with another and, by the Roman period, they could deploy such material mimesis at will (e.g. fig. 4.1). She concludes that in Roman sculpture, as regards what styles and forms belong intrinsically to stone or bronze, "a definite distinction between the two is more than ever impossible."[34] This type of thinking, in which each medium should have its own character and goals, is clearly indebted to the idea of medium specificity as outlined by critics of

[32] Mattusch 1988, 99-100, 128-9, 212-3.

[33] Ridgway 1966.

[34] *Ibid*, 42.

modernism.[35] Hellenistic and Roman artists, although conscious of the differences in production technique and other possibilities, had no qualms about attempting to do in marble what could easily be done – or what was historically done – in bronze.

The surviving sculpture illustrates well that many Roman-era sculptors could replicate or imitate a particular historical style or the result of a technique that was more commonly practiced or was only possible in another material. However, in each of these cases, the style of an artwork is expressed in relation to the material and the two cooperate with one another as well as with the subject, display context and more. In Ridgway's analysis, the imitation of a material is only achieved in the imitation of a style or composition that typically employed that material. The use of bronze to depict a classicizing athlete involves a fidelity to the historical model in both form and material. The use of a white marble for the same classicizing athlete expresses an imitation of both the style and the material of the original. Scholars have been making such judgments for centuries without being properly self-conscious about their actual meaning. The association between a material and particular style is so ingrained that it is a part of common parlance in describing periodic style – the wooden appearance of an archaicizing cult statue, the metallic sharpness of carving on an excellent marble replica of the bronze Doryphoros, or the stony, blocky rendering of the Egyptianizing figures of the Canopus of Hadrian's Villa. One of the questions that must be asked when considering material imitation is how style played a role in the articulation or effacement of that goal. The kind of historical consciousness of the connections between styles and materials that the Romans possessed must be articulated. Rather than "jettison" style in the study of sculptural media, it must be made a crucial element of the investigation, an additional clue as to the particular deployment of a material.

To this end, this chapter investigates material resemblance relations as well as their intersection with subject and style. The Roman replicas of Greek athlete figures in the Egyptian stone lapis basanites stand precisely at this intersection of subjects and the extant white marble and bronze replicas of some of

[35] Allen (2015, 154) discusses the origins in the Arts and Crafts movement and the impact of scholar's inheritance of these concepts on their interpretations of ancient artistic production; this position receives a particularly firm outline around the time of Ridgway's article, by Clement Greenberg (1973, revised several times from earlier lectures).

the series provides relevant comparisons in other media. The next section explores as many possible material relationships as possible, both those that are premised on resemblance and those that are not. In this way, it offers a contextualized discussion of how resemblance is qualified by other relationships. The plurality and multiplicity of these relationships show the peculiar nature of material imitation, which can only be achieved by manipulation of certain physical characteristics of the new material. Meanwhile other characteristics contradict and subvert the illusion. This discussion will illustrate, moreover, that this type of targeted resemblance relation should be distinguished (at least at the theoretical level) from the kind of material imitation that is inherent in the imitation of a period style. The evidence offered by the case study regarding the nature of these types of resemblance relations will be discussed at length in the fourth and final section of this chapter.

4.2 Roman replicas of Greek athletes in the Egyptian Stone lapis basanites

The earliest scholar to suggest that a dark-colored stone might imitate the color and sheen of a bronze sculpture was Francesco Mori, writing about the material of the Furietti Centaurs in his 1806 catalog of the Capitoline Museum collections (c.f. fig. 5.2 and 5.3).[36] The comparison gained a more general application with the rise of the study of Roman sculpture and especially replica series in the late 19th century. By 1934, Jocelyn Toynbee, writing again about the Furietti Centaurs, wrote that sculpting in a "highly polished, black marble" was "a device for approximating to the technique of a bronze original which came very much into vogue in the second century AD."[37] The interpretation has been applied widely to sculptures carved in dark grey, dark green, and black stones, limestones, and marbles.[38] In the 19th century, far less precision about materials and their provenance was possible than it is now, and the similarity between stones and bronze relied on an assessment of their external, finished appearance rather

[36] Mori 1806, vol ii, 271-4.

[37] Toynbee 1934, xxv-xxvi.

[38] Cf. Abbe 2015, 180-1.

than any specific knowledge of quarry provenance and associations of specific stones. Scholars distinguished three shades of grey to black marbles – bigio antico (light grey), bigio morato (darker grey to black with white veins), and nero antico (pure black) – from what they called "basalt" (the Egyptian greywacke or lapis basanites), granite, and other stones.[39] The darker shades bigio morato and nero antico as well as the Egyptian greywacke are the stones that have most commonly been said to imitate the appearance of bronze. Though the terms bigio morato and nero antico have been slightly redefined in modern scholarship, they were formerly applied to a range of materials varying in lithotype and provenance.[40] Those implicated in the imitation of bronze are principally the black limestone quarried at Ain El-Ksir and the dark grey marble quarried at Göktepe, near Aphrodisias.[41] Lapis basanites, however, has been held up as a special case of this imitation, since its color can range from nearly black to brownish to a rich dark greenish-brown that bears a certain similarity with the greenish cast of bronze corrosion. In his 1893 Masterworks of Greek Sculpture, Fürtwangler described this stone as producing "the effect of a bronze covered with an exquisite patina."[42] His study expounded upon and helped entrench the idea that each replica series derived from and intended to exactly reproduce a bronze archetype. For him and many others, it was logical to assume that a bronze-colored stone used for one such replica attempted an even more ambitious type of imitation – of both form and material. Moreover, the selection of one of these dark-colored stones has often been considered evidence that the replica was intended to refer directly to a bronze prototype and, in a few cases, the existence of one replica in a dark-colored stone has been proposed as evidence that a famous bronze prototype once existed, even if there was no other literary or archaeological

[39] For a more thorough discussion of these terms, their historical use, and current application, see Appendix B.

[40] Pensabene and Lazzarini 1998.

[41] Cf. Appendix B. The black limestone was used for the canephorae from the Palatine, while the marble from Göktepe was used for the Furietti Centaurs; on the relationships (of lack thereof) of all of these statues and bronze, see Chapter 5.

[42] Furtwängler 1895, 228.

evidence.[43] The lost prototypes and the art history that is derived from the "metallic" appearance of dark-colored stones rely upon a connoisseurial assertion of a visual similarity between the materials. However, no ancient literary sources confirm that the Romans perceived this resemblance and no thorough study of the claim's veracity has ever been completed.

In scholarship, this interpretation of the material has, moreover, been used to resolve the incongruence between the geographical provenance of the stone and that of the subject, since the employment of an Egyptian stone for a Greek form runs counter to the Roman tendency to exploit geographic connotations of materials. Quarried in the Eastern Desert of Egypt, lapis basanites was exploited from the pre-dynastic period in Egypt, but in the Roman period it was often paired with subjects and contexts that have no relationship to that region.[44] To most modern observers of the athletes, the Egyptian resonance of lapis basanites holds little hermeneutic value; instead, the importance of the stone's provenance for these sculptures has been limited to a display of the expense of its acquisition and, perhaps, of the skill of carving the very hard stone. The idea that the stone imitates bronze offers scholars a tidy resolution to this dissonance between subject and material. Under its schema, lapis basanites carved into an ideal, classical male body like the Doryphoros does not contain a material reference to the Egyptian provenance of the stone, but rather to the bronze typically used for honorary male Greek athletic sculpture. Thus, the geographic resonance of the stone (as bronze) connects it with Greece in the same way that its style and subject do, while the material's exotic provenance and difficulty of carving make it even more precious.[45] Similarly, this interpretation can reconcile the use of black marble from Göktepe, in Asia Minor, for Egyptianizing subject matter at Hadrian's Villa.[46] In this case, the Asiatic origin is overlooked because

[43] E.g. Smith (1991, 132), on the use of a dark, bigio morato stone for the centaurs from Hadrian's Villa as a means to imitate the bronze material of their archetypes.

[44] Cf. Belli Pasqua 1995.

[45] Belli Pasqua 1995, 56.

[46] On the sculptures: Mari 2003, 279-86. On their stone: Attanasio et al. 2009a, 334-35, table 3. Additional discussion and bibliography: Chapter 6, p. 373-79.

the marble's color points toward the greywacke or basalt traditionally used in Egyptian sculpture. For these dark stone sculptures whose subjects and style refer to a geographical location different from the provenance of the material, the concept of material imitation or substitution has allowed the sculpture's stone to refer to a material that is typical of the style and subject. With this shift, the geographical resonance of the stone is no longer to its source, but rather to the region that matches its style and subject.

In other words, material imitation has been used to resolve the divergence between the actual and the expected employment of materials. The resolution is more of a patch than an explanation, obscuring the dissonance by insisting on the importance of the allusion to another material rather than paying attention to the act of allusion or the material used to create it. The examination that follows, by contrast, will engage the dissonance and divergence, allowing a plurality of material connections to cooperatively define the sculptures' materialities.

4.2.a The athletes

There are five fragmentary replicas of Greek athlete figure-types carved in lapis basanites. Two are replicas of the Doryphoros, sculpted by Polykleitos in the mid-fifth century BC: a head now in the Hermitage (fig. 4.2a-b) and a torso in the Uffizi Galleries (fig. 4.3a-b).[47] Also in the Uffizi Galleries is the hair of a head of the Diadoumenos (fig. 4.4a-c), whose type is likewise Polykleitan in origin; it is restored on a modern head in giallo antico.[48] A torso of the Ephesos Scraper type (fig. 4.5), a form that originated around 300 BC, was excavated on the grounds of Domitian's villa in the Alban hills, now a part of the

[47] Head: Hermitage inv. A.292, Belli Pasqua 1995, p. 79, cat. 20, pl. XXIV; Torso: Uffizi inv. 308, Belli Pasqua 1995, p. 79-80, cat. 21, pl. XXV-XXVII. On the type and its replicas: Kreikenbom 1990, III, p. 59-94; von Steuben 1993; Hartswick 1995.

[48] Uffizi inv. 1914 Nr. 356: Kreikenbom 1990, V49 (on the type: 109-140); Gregarek 1999, p. 238, cat. F13.

Castelgandolfo papal estate, and is conserved in the antiquarium on the site.[49] Lastly, a torso of the Diskophoros type (fig. 4.6), is held in the Museo del Sannio in Beneventum.[50]

Several important similarities make these a defined group for a case study. First, they share a similar subject and form, honoring a victorious adult male athlete, whose muscular body is represented nude, standing with his weight thrown onto one leg. Second, each of these types is also preserved in white marble replicas and the first three are also known in at least fragmentary bronze ones; none of these types include large scale copies in any other material, with the exception of one Doryphoros in light grey marble.[51] This limited and consistent range of materials suggests that, perhaps, antiquity saw lapis basanites as a particularly relevant material for these subjects. The lapis basanites athletes, united by the materials of their replica series, their subject, form, and style, will give breadth and depth to the examination. In future analyses, additional sculptures of nude male bodies might be taken further into account, like the youthful Palatine Ephebe, who may also represent an athlete, or male deities who are represented nude.[52] These have been excluded here for the sake of consistency – the sculptures studied here are all nude, adult men whose portrayal relates them to classical athlete statuary, likely produced as ornamenta.[53] Where possible, the

[49] Castelgandolfo Antiquarium, inv. 36405. Previously identified as a copy of the Doryphoros, but corrected by Belli Pasqua 1995, p. 78, cat. 18, pl. XXI-XXII. The possible replicas of the type are collected in *Power and Pathos*[b], cat. 44 p. 281 (Daehner).

[50] Museo del Sannio, Beneventum, inv. 1931. Belli Pasqua 1995, p. 78-79, cat. 19, pl. XXIII. On the type: Kreikenbom 1990, I, 21-44; Bol 1993.

[51] Small scale replicas and citations of these types are known, see: Bartman 1992, esp. 16-30; Maderna-Lauter 1993. Lapis basanites, various neri antichi, and, more rarely, grey marble are the only materials other than bronze and white marble that are used for large scale sculptures of athlete types. Several of these, including some lapis basanites examples and all of the neri antichi sculptures, cannot be identified as a precise replica of a sculptural type but represent idealized athletic bodies. Cf. Catalog F in Gregarek (1999, p. 255-60), which lists all sculptures of athletes in colored stones.

[52] Palatine Ephebe: Belli Pasqua 1995, 80, cat. 22. E.g. the gods of the Aula Regia: Belli Pasqua 1995, cat. 55, p. 98-99 (Hercules) and cat. 37, p. 89-90 (Dionysus); Gregarek 1999, cat. E20, p. 247 (Hercules); cat. D1, p. 210 (Dionysus); cat. A43, p. 178 (head of Zeus, lost).

[53] The Palatine Ephebe's composition is not recognized as pertaining to a sculptural series and he is the only youthful male athlete in lapis basanites. The representations of the gods within the Aula Regia are involved in the representation of the Roman emperor and the state, adding concerns that are not (apparently) quite as relevant for the study of the athletes.

other lapis basanites sculptures are taken into account, especially in the study of the patterns of possible polychromy applied to this stone. While it is clear that some of the conclusions reached here are relevant for discussions of the materiality of these other works, it should be expected that further research into their contexts of production and display would reveal some differences in materiality from these athletes. The evidence gathered here provides a foundation for these future discussions.

In order to gain an accurate picture of the ancient appearance and surface treatments, that can offer a point of comparison with bronze and other materials, it is necessary to first review the condition and restorations of the statues. The heads have been the most restored, while the torsos largely remain in the condition in which they were found.

For the Doryphoros head (fig. 4.2) whose stone is rather greenish, the integrated pieces were carved in a green granite with a very fine grain, which, however, can be easily distinguished from the lapis basanites by its slightly lighter color. The restored portions include the nose, the proper left portion of the upper lip, and the back half of the left side of the head, including the left ear and a large portion of the jawbone. The rim of the right ear and the left half of the upper lip are missing. In the un-restored areas, the skin retains a polish, but perhaps not to the high sheen of the Uffizi torso. The hair is finished but unpolished giving it a slightly rougher texture than the skin and making it appear slightly lighter in color. The individual strands have been painstakingly chiseled in narrow, sinuously flowing grooves. By contrast, the eyebrows are denoted solely by the sharp corner between forehead and ocular cavity; no hairs are incised. The lips are treated in a similar manner, a sharp edge between skin and lip defines them, but there is no outlining groove. The eyes must have been depicted in paint, as the eyeballs are sculpted rather than hollowed out for the insertion of colorful inlay.

The fragmentary head of the Diadoumenos (fig. 4.4) was restored as if it was a “hair cap” for a composite sculpture. The head in giallo antico is a modern carving, out of proportion and set at a strange angle to the ancient hair. Moreover, the portions of the hair directly behind, on top of and in front of both ears, all below the fillet, are modern integrations in a black stone. It is not clear if the ancient fragment was part of a composite statue and was a “hair cap” in antiquity also, but it seems unlikely. It would be the only

instance of such a composite sculpture of an athlete and there are no known composite sculpture in lapis basanites.[54] Moreover, the significant damage visible across the entire surface of the Diadoumenos' hair might suggest that the rest of the statue was either already missing or not salvageable and so was replaced with the modern giallo antico carving. All the highest relief portions of the hair have incurred damage, while the slightly concave portions retain their original carving. In these cavities, the representation of the hair has much in common with that on the Doryphoros head. The surface is smooth but not highly polished and individual strands of hair are depicted with delicate grooves. The fillet is smoothed and one area on the back left of the head, just at the beginning of the folds, seems to preserve a shiny polish.

The Uffizi Doryphoros (fig. 4.3) preserves the torso, the uppermost part of the right leg, and fragmentary genitals. The left leg is missing from below the hip, including nearly half of the left buttock. The right arm broke off from inside the shoulder joint, removing part of the right pectoral, while the left arm is broken below the shoulder, preserving a portion of the upper bicep. The break at the base of the neck is low enough that a portion of the collarbone is also missing. The two struts that supported the arms fractured at their point of attachment to the body and, from the front, are visible only as slight protrusions. The strut that secured the right arm, which once hung slackened along the statue's right side, attached to the body along the upper right thigh, just above the fracture. The left arm, bent to hold the spearshaft, was supported by a strut that anchored to the statue's left side at the waist. A hole inside of this fractured join indicates that the strut, and perhaps the arm, were repaired in antiquity. Likewise, a cavity for a pin in the neck indicates that the head was reattached.[55] The surface is highly polished, but the pubic hair is treated

[54] On the colored marble representations of athletes: Gregarek 1999, catalog F, p. 255-60. The two most famous examples of black stone being used in a composite sculpture in this manner are both the product of modern integrations in which the original hair color is unknown: the portrait of a Severan woman in the Capitoline Museums, composed of pavonazzetto garment, white marble skin, and black stone hair (Albertoni 2006, 50); and the colossal Cybele, formerly identified and restored as Minerva, with giallo antico garments, white marble skin, and basalt hair in the Palazzo Massimo alle Terme (Gregarek 1999, 190-91, cat. B57). Lahusen and Formigli (2001, 461-2) describe separately cast hair portions in the production of Roman bronze portraiture, but there is no apparent connection between this procedure and the lapis basanites hair.

[55] It is unlikely that the head was originally carved separately and attached at this point since a portion of the left side of the neck is preserved above the collarbone. Roman imperial heads and necks were joined either under the chin or

much like the hair of the two heads described above. It preserves a rougher and thus slightly lighter-colored surface and individual strands are delineated by carefully chiseled, sinuous grooves.

The Ephesos Scraper (4.5) preserves the entire torso, the genitals, and most of the right thigh. The left leg is broken off just below the hip in the front, but it broke upward and removed most of the left buttock. Both arms are lost from the shoulders, and the head and neck are missing. Two holes for pins, one in the neck and the other in the break of the right leg, indicate that the statue was restored in antiquity.[56] There are no traces of struts visible on the preserved surface, but if the placement of the arms followed the type, the hands would come nearest the body over the statue's lost left thigh, where a strut may have been located. The Uffizi white marble replica, although the hands and vase are modern integrations, preserves a strut in this location.[57] The surface is highly polished, but, like the Doryphoros, the pubic hair retains a lighter color on account of its lack of polish. It is treated in a volumetric way, with its curling strands carefully delineated. While it seems the missing limbs of this statue were never restored, the photo published by Leonardo Castelli in 1933 shows that a fig leaf temporarily covered the statue's genitals.[58]

Only the lower half of the Beneventum Diskophoros torso (fig. 4.6) remains, as it was fractured from the waist at a slightly diagonal angle. The legs are broken across the upper thigh, with considerable, intentional damage at the edge of the fracture at the outside of the right thigh. The hacking cuts are post-antique, dating to the statue's reuse in a seventh century AD fortification trench.[59] The pubic area is generally preserved, although the penis has broken off. A strut that supported the left arm is visible on the outside of the left hip. The surface is not as highly polished as the other examples, especially in the

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at the collarbone or border of a garment, not in the middle of the neck. On techniques of joining: Claridge 1990, 142-4.

[56] As noted for the Doryphoro torso, it is unlikely that the head was originally worked separately and joined because of the preserved lower neck.

[57] Cf. *Power and Pathos*[b], cat. 43, p. 278 (Daehner).

[58] Castelli 1933, 578, fig. 3.

[59] Meomartini 1904, 112, 130-31.

abdominal region and on the left side, and the pubic hair is less carefully treated than in the other *lapis basanites* torsos. Its large locks are not further delineated into individual strands, and the surfaces of these large locks preserve more of a polish than in the other two cases.

Generally speaking, these statues are quite similar in their finishing. The skin is polished, usually to quite a high sheen. All except the Beneventum torso show an intentional contrast between this smooth surface and the more rough finish of the hair of the head or the pubic region. None preserve secure evidence or visible traces of added polychromy or metal attachments, although, in a few cases, the form of the sculptures suggests that it may have been present.

4.2.b Color and polychromy

Color and metallic sheen are the most frequently cited and visually striking points of comparison between lapis basanites and bronze, but they are almost always highlighted without the necessary qualifications and caveats. For example, it has been only recently that scholars have begun to more carefully note that the dark greenish to brownish-black color of lapis basanites would find parallel specifically with old, patinated bronzes.[60] This distinction marks the growing awareness, first, of the multiple colors that bronze might have exhibited in antiquity and, second, of the fact that it is impossible to compare the extant bronze sculptures, even replicas of the same types, directly with the lapis basanites iterations. Corrosion patinas from deposition environments and/or massive restorations have completely altered the visible surface of the known bronze replicas.[61] Moreover, the superficial treatment of the lapis basanites sculptures has never been systematically studied. While the hermeneutic function of colored stones in Roman sculpture has been widely discussed[62], the question of the polychromy added to them has only begun to be a subject

[60] Belli Pasqua 1995, 56; *Power and Pathos*[b], cat. 43, p. 278 (Daehner).

[61] The bronze herm of the Doryphoros from the Villa of the Papiri is affected by both: Mattusch 2005, 276-282.

[62] See the catalogs *Radiance in Stone* and *I marmi colorati*as well as Schneider (1986, 2002) and Pensabene (2013), among others.

of inquiry.[63] The few scientific studies and visual analyses that have been conducted testify both to the inlay or pieced addition of other materials and to the use of pigment, both to represent details and to enhance the natural color of the stone. For example, the Hanging Marsyas recently discovered near Rome (fig. 4.7) is made in a deep red stone from Asia Minor, but his hands and probably feet were carved in white marble and attached.[64] His eyes were inlaid with bronze, glass, and limestone while traces of vermilion highlighted his mouth and the corners of his eyes. Moreover, the trunk, where the red of the stone was lighter in color, was darkened with red ocher. Two scholars have even suggested that the statue was treated with a coat of punic wax, but only in the process of an ancient restoration that removed superficial encrustation and sought to prevent its recurrence. It should be expected that Roman sculpture in colored stones, including lapis basanites, was subject to a certain degree of added polychromy that augmented the natural color and pattern of the stone. The types of added color and its variation – depending upon the stone, the subject, or the style of the sculpture – currently remain unstudied. As in the case of the polychromy on white marble, this is partly due to a lack of preservation and, probably, some over-cleaning in earlier periods.

So far, no remains of pigment or attached metal have been securely identified on the surface of a Roman lapis basanites statue, but the current absence is not evidence that it was never applied.[65] Many of the statues were excavated in periods when intensive restoration projects were common, and the pigment may have been removed during cleanings. The Uffizi Doryphoros torso is attested in the collections of the Medici in the 16th century and the two heads of athlete types were both probably cleaned at the time of their restorations, which dramatically transformed their outer aspect.[66] However, even the sculptures

[63] Gregarek 1999, 45-7; Baratte 2001. On polychromy added to porphyry: Delbrueck 1932, 6; Laubscher 1999, 242-4; von Bülow and Wulf-Rheidt 2009, 17. See also Appendix C.

[64] Angoli 2014, cf. esp. 25, on the remaining polychromy, and 77-81 (C. Gratziu and A. Moscato) for an analysis of the red and white stones.

[65] The head of Agrippina in the Ny Carlsberg Glyptothek (inv. 753) might preserve traces of pigment, but the patches are more likely to be encrustation from the deposition environment (Moltesen 2007a, 141). There is additional discussion of the possibly polychrome appearance of this statue infra, p. 212-15.

[66] Belli Pasqua 1995, n. 191-2.

excavated in a more recent period fail to preserve traces of pigment or metal attachments, like the Benventum Diskophoros torso and the Castelgandolfo Ephesos Scraper, excavated in 1903 and 1933, respectively.[67] Additionally, it cannot be coincidence that the near total lack of preserved pigmentation on sculpture in this stone is not specific to Roman works, but is characteristic also of Egyptian and Ptolemaic works whose surfaces were at least partially painted (e.g. fig. 4.8).[68] Although the cavities for inlaid eyes are easy to identify, the superficial application of pigment seems to have left few traces on this stone, no matter the period in which it was applied. In order to gain even a hypothetical idea of the polychromy that might have adorned Roman sculpture in lapis basanites, and especially these athletes, it is necessary to start from the basics, from the very character of the stone, and proceed to examine the traces of facture visible on the sculptures that can indicate what types of superficial treatment may have been applied.

The quarry location and the history of this stone's exploitation is detailed in Appendix B, but a few remarks about its lithotype are necessary here, especially because the physical qualities of the stone may have encouraged the application of pigment and, perhaps, contributed to its lack of preservation. In individual sculptures the color of lapis basanites appears largely homogenous, rather than veined or polychrome, but from statue to statue its color can vary enough to be confused with several other dark-colored stones.[69] This variation is a result of its lithotype, as the stone is a sedimentary greywacke, formed from layers of soil accumulation. The varying level of hematite in the sediment causes three different hues of the stone (fig. 4.9). With low levels of hematite the stone is a dark greenish grey, while moderate levels turn it to a ruddy brown with a slightly greenish cast, and higher levels make it nearly black. Moreover, these changes in color occur as wholesale shifts that correspond to the bedding of the rock, rather than as a

[67] Excavations: Meomartini 1904 (Beneventum torso); Castelli 1933, Nogara 1933, and Nogara 1934 (Castelgandolfo torso). For detailed examinations of the torsos, cf. Belli Pasqua 1995, 78, cat. 18 and 78-79, cat. 19; *Power and Pathos*^{b}, cat. 43, p. 278 (Daehner).

[68] The study of polychromy on Egyptian statues is also understudied, but the bright polychromy is well-acknowledged given the excellent preservation conditions of the works excavated in Egypt (Nagel 2014).

[69] Klemm and Klemm 2008, 302, 306-7; Harrell 2011 [rev. 2016]. Belli Pasqua (1995, cat. 28, p. 85) identifies the granodiorite torso of the Venus de Medici type in the Metropolitan Museum of Art as greywacke.

recognizable pattern. Although this variation is often overlooked by scholars because of black and white illustrations, all three were utilized for sculpture by the Romans, without a discernible preference for one hue even for a particular subject matter. For example, all three colors of the stone are used to represent these nude, male athlete bodies.

Only on rare occasions were statues carved from a block that exhibits more than one hue, like the Ephebe from the Palatine (fig. 4.10); here the shift occurs at the level of the boy's hips, green below, brownish above.[70] As this bi-chrome effect was largely avoided in the blocks selected for Roman sculpture, it is possible that it was not desirable and that one hue was obscured with a surface treatment to regularize the color. Moreover, greywacke often exhibits flaws that appear as round or oval spots of light greyish brown hue, as are present, for example, on the torso of the Castel Gandolfo Ephesos Scraper (fig. 4.5) and the Uffizi Doryphoros torso (fig. 4.3). Ranging from one centimeter in diameter to more than seven, these blemishes appear too infrequently to be deemed a pattern and they are too small to be identified before a significant amount of carving was completed. Given the example of the re-coloring of the trunk of the Marsyas statue, it seems likely that these blemishes would have been hidden with pigment rather than allowed to remain visible.

Finally, the unusual properties of greywacke as a stone may have affected its preservation of pigment. Lapis basanites is a very hard, finely grained stone, which allows it to attain a high polish.[71] Though further research is required in this area, it is possible that the fine grain and the high polish might together decrease the adherence of the binder used to apply the pigment and allow it to flake off – or be removed during conservation – more easily. Moreover, the hardness of the stone and its dark color together prevent the "color shadows" that are often the only remnants of pigment on white marble. These "shadows"

[70] Belli Pasqua 1995, 80, cat. 22. Since the corpus is published with black and white photographs (Belli Pasqua 1995), other sculptures may also have employed this bichrome effect but none that I have personally seen. Generally speaking, monolithic but bichrome sculpture is attested as a kind of curio in later periods, like the black and white statuette of Europa from Aphrodisias (Smith and Lenaghan 2009, 328-31, cat. 50-51) or the third century AD pavonazzetto portrait bust of a man in the Palazzo Massimo alle Terme (Belli Pasqua 1989), but are unusual in the first century AD.

[71] Harrell 2011 [rev. 2016].

are less weathered areas where pigment remained for longer, protecting the surface of the marble from degradation.[72] The much harder greywacke (a 6 on the Moh's scale of hardness, versus the 3-4 of most limestones and marbles) does not weather in the same way and a layer of pigment would have left no such shadow. Further study with scientific analysis might be able to identify traces of superficial decoration, but, for the moment, a more promising approach is to examine the statues for any traces of facture that might indicate what type of adornment they may have exhibited.

First, however, it is necessary to briefly consider the evidence about the colors of bronze in antiquity, to establish whether the colors of the stone, without superficial treatment, held a visual affinity with the metal. As more thoroughly outlined in Appendices C and D, archaeological science provides us with ever more precise estimations of the appearance of ancient statues in different periods, and some general statements about their polychromy can be made.[73] While new bronzes could gleam like gold, details could be colored by altering the alloy, inlaying metals or other materials, or adding an intentional patina to the surface (fig. 4.11, 4.12, 4.13, 4.14, 4.15). These last might cover just the hair or they might recolor the entire body. Environmental corrosion over time could produce a greenish cast to the surface, perhaps even if maintenance was performed. That maintenance, moreover, could also produce a patina over the course of the centuries, as successive applications of olive oil or bitumen to protect against corrosion slowly produced a dark brownish to black layer over the surface.[74] The darkened surfaces of aged bronze statues seems even to have inspired the use of a sulfur-oxide patina to blacken new bronzes as early as the Hellenistic period (for a reconstructed appearance, cf. fig. 4.16).[75] The unadorned color of *lapis basanites* thus finds parallel with these dark surfaces, which might be either very old bronze statues like those the

[72] Cf. CPN Tracking Colour Project website: http://www.glyptoteket.com/explore/research/tracking-colour and the visual survey protocol described in their 2010 annual report (Sargent and Therkildsen 2010).

[73] See Appendix D. The most wide-ranging recent surveys are Descamps-Lequime 2015, Abbe 2015, and Formigli 2013b.

[74] Formigli 2013a; Donati 2013.

[75] Descamps-Lequime 2011; Willer 1994.

Romans brought back from Greece as booty and set up in the public spaces of the capital – including some famous sculptures of athletes – or new, black, "antiqued" sculptures in bronze.

However, it is not at all clear what proportion of the bronze population these colors represented at which period and it is certain that several other metals might have displayed similarly dark shades. Modern commentators have sometimes not even been able to agree on exactly which shade of lapis basanites should be likened to bronze, belying the problematic history of this notion. In modern literature the comparison first appears as a description of one of three color ranges that the stone exhibits, although the first two commentators disagree about which color of lapis basanites should be called *bronzino*. In 1842, Francesco Belli describes three colors of this stone (referring to it as basalt in accordance with a historic misnomer[76]): *basalte verde*, *basalte bronzino* (noting that some call it coffee-colored), and *basalte bruno*.[77] Faustino Corsi's 1845 treatise also includes three variants: the first has the color of iron (which he also describes as black), the second is similar to the color of coffee; and the third is green, similar to the color of bronze.[78] For Belli, bronze means brownish in color, while for Corsi it means dark greenish.

The archaeological evidence about the colors of bronze suggests that all three shades of lapis basanites could have, in antiquity, been somehow associated with bronze. However, the colors that Belli and Corsi associate with "bronze" are more likely drawn from the restored appearance of ancient bronze statues visible in the 19th century. Since it was precisely in this period that the comparisons of lapis basanites and bronze gained traction, their frame of reference is important. The majority of the ancient examples of bronze that were available for study in the mid-19th century had been excavated either in Pompeii or Herculaneum and had been immediately and heavily restored for exhibition in the Bourbon Royal Museum in Portici. Carol Mattusch's landmark study of these bronzes has illustrated the transformative effect of these restorations, which often included mechanical removal of the corrosion

[76] See Appendix B on the varying names of lapis basanites.

[77] Belli 1842, p. 9, nr. 48-50.

[78] Corsi 1845; annotated ed. Napoleone 2001.

patina, followed by polishing, patching with reused or new bronze pieces, and the application of a thick, glossy veneer.[79] The veneer obscured all the patches and repaired cracks, giving the pieces a complete, uniform, and sleek appearance while its color reflected the object's provenance. A dark brownish-black patina was used for items from Herculaneum while a greenish one was applied to those from Pompeii. Possibly, this is a reflection of the different corrosion layers present on the objects upon their discovery, since the two burial environments resulted in different chemical reactions with the copper alloys, but, at best, the restored patinas are recreations of colors we can only surmise by the study of objects from the same contexts excavated in a more recent period. The mechanical rasping of the surface in the 18th century restorations obliterated the original corrosion layer, that is, the crust of new minerals formed by the decomposition of the alloy and whatever surface treatments it might once have displayed. In removing this crust, the ancient surface layer was also destroyed. Crucial data about the sculptures' ancient appearances is forever lost, even if one group of scholars has argued that an intentional, ancient black patina can be detected on some of the Herculaneum statues.[80]

Lacking knowledge of the bronzes' original surfaces, it was the restored Pompeiian green and Herculaneum brown/black patinas that quickly became the colors most associated with the ancient appearance of bronze. The situation was only compounded when the Bourbon royal collection opened to the public as a national museum in 1860 and awarded permits to several foundries to take casts from the collection. With these molds, the foundries offered catalogs of made-to-order ancient statues, reproduced in bronze with a 'Herculaneum' dark brownish/black, 'Pompeian' green, or a 'modern'/'Renaissance'

[79] Contemporary documents: Scatozza Höricht 1982; Mattusch 2005, 62- 64, including passages from Winckelmann (cf. Mattusch 2011, which provides a translation with introduction and commentary of his two reports) and Joseph Forsyth (1816 (1st ed. 1813), p. 291; annotated edition cf. Crook 2001). Cf. also Mattusch 2005, 222-3, fig. 5.84-5, and 335-7. Mattusch's careful examination of objects identified an acephalous bust whose surface exhibits three states in the restoration process – unrestored, rasped, and polished – that she argues was used a trial for restorations.

[80] Ferro et al. 2013.

golden-brownish patina (fig. 4.16a, b, and c, respectively).[81] Reproductions at full and reduced scale from these foundries have been purchased by individuals and institutions across Europe and the United States for more than a century. Neapolitan reproductions were the foundation of modern collections ranging from copies of bronze tools in the Carnegie Museum of Natural History to the sculptures in the Getty Villa that replicate as precisely as possible the restored appearance of the Villa dei Papiri bronzes.[82] The modern world has colored its image of ancient bronze sculpture with patinas creatively derived from the corrosion patinas of bronzes buried underground for centuries. Since the chemical environments of these burial contexts dramatically differ from that of an outdoor, atmospheric context of ancient display, the patinas they produced cannot serve as a guide to the ancient appearance of bronze surfaces. In other words, while it is not wrong to discuss an affinity between the appearances of dark colored stones and bronze in antiquity, the modern identification of this similarity originates in a series of problematic visual assumptions. For the entire century before it was possible to obtain scientific evidence of the appearance of a maintenance-based or artificial sulfur patinas, scholars subscribed to the idea that black stones and lapis basanites imitated bronze based on an artificial visual parity of restored corrosion patinas and smooth stone free of any added color.

Even if the color of the stone resembles the color of patinated bronze, it is still only possible to discuss an affinity between two more or less hypothetical reconstructions. What is known about the color of patinated bronze is reconstructed on the basis of scientific tests; the chemicals and minerals involved can be reliably identified, but the amount of bitumen applied, for example, is still an estimation. Experiments by several different institutions recreate varied densities of application with quite different appearances (fig.

[81] Fucito 2001, 2013; Mattusch 2005, 342-51; cf. also the sale catalog *Chiurazzi* 1929. Still in business, the foundry moved out of the family in 2000; today it is the only collection of 19th century molds of statues taken from museums across Europe, most of which long ago disallowed the taking of casts.

[82] Neuerburg 1974 and 1977. In a letter dated 12 June 1971, the "Patina nero Ercolano" is specified for the bronzes (Mattusch 2005, 349, citing a letter in the Norman Neuerberg Documents, Los Angeles, Archives of the Getty Research Institute).

4.11-4.16).[83] Moreover, the darkening was a slow process, achieved over time, and it is impossible to know exactly what proportion of sculptures might have displayed this color at any moment in a given location. Beyond accounting for the differences of unexpected environmental factors like accumulated dirt or slight greenish corrosion[84], there is evidence that the Roman owners of antiques might have altered their surfaces. Pliny the Elder describes how the statue of Alexander as a boy sculpted by Lysippos was ordered gilded by Nero (*NH* 34.63), although it was eventually removed because it was seen to damage the craftsmanship. How many other statues were similarly transformed is unclear. On the basis of the available evidence, it is possible to positively, but with caution, say that many of the antique bronze sculptures brought to Rome as booty were age-darkened, some others were in the process of slowly darkening, and yet other statues in the city were artificially patinated black. Yet, whether or how much the polychrome details, like copper additions or the whites of the eyes, may also have darkened with age is still unstudied.[85]

The similarity between the stone and bronze, moreover, would depend upon the assumption that the lapis basanites sculptures left their stone largely exposed without added polychromy, but this is far from certain. The character of the stone outlined above suggested several reasons to be skeptical of the unrelieved, dark appearance of the Roman statues in lapis basanites and encourages the expectation that Roman colored stone statuary was more significantly pigmented than has been thought. One additional comparison highlights the problems inherent in assuming their lack of superficial treatment. Many scholars have suggested that the use of black stones, and even lapis basanites, to represent persons of African descent

[83] Compare, e.g. the reproductions of the Idolino of Pesaro (Formigli 2013a, 50, fig. 3); the hair of the Munich Ephebe (Wünsche 2007); and the Kassel Apollo (Gercke 1991, 2004).

[84] On the difficulty of preventing dirt accumulation during the experimental outdoor maintenance coatings: Hiorns 1892.

[85] It has been suggested that the polychrome details would still have retained their color – even the red lips – while the bronze darkened; this situation may be reflected in the terracotta statuette in Munich, which is painted black with red lips and white eyeballs strikingly colored (Summerer 1996; Descamps-Lequime 2006; Brinkmann 2014b; Østergaard 2015) notes that silver would have quickly darkened if left exposed, and for this reason adopted a silver-looking alloy in their reconstruction of the Riace bronze Warrior A.

capitalized upon a coloristic affinity of material and subject (fig. 4.17).[86] However, Clarissa Blüme has recently drawn attention to the fact that a black basalt sculpture of an African youth (4.18a-b) preserves traces of brown paint on the nose.[87] Contrary to modern assumptions, the black color of the stone was not seen as a naturalistic representation of dark skin; it needed to be re-colored with a brownish shade. Although this type of evidence is rare on the lapis basanites examples, there is some indication that various elements of the statues were depicted via colored additions to the stone.

The only sculpture in lapis basanites whose surface has been scientifically tested for traces of pigment is the head of Agrippina the Younger, which is now in Copenhagen (4.19).[88] One small area of its fractured neck joins to the elaborately draped body conserved in Rome (fig. 4.20), whose surface has not been tested and which is currently displayed in Centrale Montemartini restored with a plaster cast of the Copenhagen head.[89] Small patches of material, identified principally in the hair of the Copenhagen head, were identified as white chalk, red ochre, and charcoal. However, since these materials appear also within the breaks of the diadem, they should more likely be identified as encrustation from a deposition context rather than an intentional pigmentation. However, paint was almost certainly applied to this bust, particularly because the eyes are sculpted rather than hollowed out for inlay. The irises and the whites of the eyes must have been represented in pigment. The original polychromy of the face and hair was likely lost already in antiquity, as Mette Moltesen has proposed that the portrait was re-cut several times and

[86] Among many others: Snowden 1970; Schneider 1986, 156-57; Belli Pasqua 1995, 56-58; Gregarek 1999, 146-7; Baratte 2001; Abbe 2015. Callistratus, 4, describes a sculpture of an Indian whose black stone conformed to the color of the subject's skin, turning white for the eyes and nearly purple at the ends of the hair; it seems likely these effects were enhanced with superficial coloring.

[87] Blüme 2012, 755-6, fig. 4-5. The head is in the Hamburg Museum für Kunst und Gewerbe, inv. 1961.1.

[88] Moltesen 2007a, 141. Copenhagen, inv. 753: Belli Pasqua 1995, cat. 12, p. 74. I am grateful to Mette Moltesen and Jan Stubbe Østergaard for sharing the details of their analysis of this head and for discussing with me their opinions about the polychromy applied to lapis basanites.

[89] Moltesen 2007a, 141.

updated.[90] The small rectangles cut into her hair, just above the first row of curls, appear to date to the last version and seem prepared for the insertion of a jeweled crown (fig. 4.21).

In this possibly fourth-century AD version, Agrippina's eyes must have been colored, and perhaps also her lips, hair, and even skin. Her skin may have been painted light from the statue's origin. If left unpainted, the empress's face and portrait recede within the darkness of chiton and mantle, obscuring her features and identity. This impression is heightened by the small size of her head compared to the body, probably the result of the re-workings.[91] If her skin were lightened to the color of flesh, it would contrast sharply with the deeply-hued garment, highlighting the face and creating a life-like differentiation between skin and fabric. The popular appreciation of precisely this dramatic contrast of soft female flesh against dark garments is attested already in the Republican period, as in the statue of Fortuna from the sanctuary at Palestrina (fig. 4.22). The motif became especially popular in the second century AD as in the statue of Matidia Minor from Sessa Aurunca (fig. 4.23), the Niobids from Hadrian's Villa (cf. fig. 6.21), and numerous statues of Isis and her priestesses.[92] All of these statues pair black limestone or marble garments with nude portions of the statue rendered in white marble – which must further have been painted – suggesting that the light color of the skin was highly desirable.

By contrast, it seems likely that the skin of these male athletes was represented by the natural color of lapis basanites. Whereas the majority of Agrippina's statue was stone-colored garment, the majority of their surface is skin, in which case the stone could serve as either a form of conspicuous consumption or as a part of the representation. Their form connects them to the bronze sculptures of athletes looted from

[90] *Ibid.*

[91] Moltesen 2007b, 126.

[92] Matidia Minor (cf. Wood 2015), with skin in Parian marble utilizes two different dark grey to black stones whose provenance has been variously identified (cf. the discussion in Attanasio et al. 2011; Lazzarini 2011). Cascella and Ruggi d'Aragona (2012, 85-86, fig. 91-93) suggest that another portrait head of Matidia and some fragments of black garments from the same site may represent a second bichrome portrait. The Niobids from Hadrian's Villa (Geominy 1990; Moesch 2000) utilize the dark marble from Göktepe (Attanasio et al. 2009a), no skin portions are preserved. Statues of Isis and her priestesses (Eingartner 1991; Gregarek 1999, 194-201, cat. C6-43) often use dark stones, like the Ostia statue in the marble from Göktepe (Attanasio et al. 2009a).

Greece that dotted the Roman cityscape, and all three colors of lapis basanites do have an affinity with the darkened appearance of those antique bronzes. The lapis basanites athletes seem to play against these antique statues and their artificially black patinated, bronze Hellenistic followers. As with the Agrippina, however, some elements of polychromy must have been applied – both age-darkened bronzes and artificially antiqued black bronzes still had their inlaid eyes and some other polychrome details. The eyes of the Hermitage Doryphoros are sculpted in relief rather than carved out for inlay and they must have been painted with pigment (fig. 4.2). His lips too, might have been painted in imitation of the inlaid copper mouths of bronze statues, but they could not have been inlaid with metal, since there are no grooves or recessed areas that would secure it. Hair and pubic hair, nipples, teeth and fingernails may also have been picked out in colored pigment, as was the case for white marble statues whose stone was left visible to represent 'skin'.[93]

The variation in texture from skin to hair, visible in each of these athlete sculptures, involves a shift from smooth, shiny, and dark to rougher, matte, and lighter. This difference in texture may have been intentional, with both unpainted surfaces visible in the final sculpture, or simply a product of the fact that the hair could not be polished without destroying the fine detail of its carving. In any case, such differences in texture could be exploited in white marble sculpture as differing grounds for extensive and detailed painting that completely covered the stone.[94] Recent research suggests that the most highly valued painting surface, especially for the skin of the face, was the finest-grained marble given the smoothest polish.[95] In this way, a very thin layer of paint allowed the luminescence of the marble to shine through. The matte, rougher hair thus struck a contrast with the glowingly smooth skin. Whether or not the same principle can be applied to dark stone sculpture is not clear, but the painting of skin and the hair should not be ruled out. The difference in texture between the slightly rough skin of Agrippina Minor and her highly polished

[93] On the coloring of white marble sculpture, cf. Appendix C. Cf. Koch-Brinkmann et al. 2014a; Skovmøller and Therkildsen 2014.

[94] Skovmøller and Therkildsen 2014.

[95] Koch-Brinkmann et al. 2014a; Skovmøller and Therkildsen 2014.

garment may represent one such case.[96] If her skin were to be re-colored light and luminescent it would require a thick opaque layer of paint; perhaps the roughened texture would help it to adhere. Or, perhaps the texture was entirely the result of later reworkings of the portrait head, when paint might likewise have been added. In the case of the lapis basanites athletes, it must be allowed that this difference in texture at least reflects the possibility that the skin, hair, or both were adorned with some kind of further superficial treatment. Still, given the enormous expense of the stone, its unique color, the lack of remains of pigment on the athlete's skin, and the Roman tendency to leave precious stones mostly visible, it is most probable that the skin of the athletes was left visible while the flaws in the stone may have been painted to blend in.

The details of the athlete's bodies show some variation from statue to statue that might reflect differing approaches to their polychrome treatment. The nipples of the Ephesos Scraper appear outlined (fig. 4.5c); the borders of the aureolas are incised into the pectoral muscles.[97] This ledge would suit the inlay of copper nipples in the manner of a bronze statue.[98] Indeed, if the stone of the *lapis basanites* athletes was worked to increase its resemblance with bronze, the addition of color by the inlay of metal might be particularly compelling, even if there is little information about the appearance of such details in the Roman period.[99] Many of the polychrome adornments on antique statues may have darkened alongside the bronze as maintenance treatments were applied. Left untreated, silver would quickly tarnish to black, but it may have been protected by a coat of wax that slowed this process.[100] However, the inlay of polychrome details on Hellenistic and Roman sculptures treated with a sulfur-oxide black patina, as in the case of the Herculaneum dancers, testifies to a continued interest in the bright polychrome details, even against a black

[96] Belli Pasqua 1995, cat. 40, p. 92; Ensoli and La Rocca 2000, 599-600 (E. Talamo).

[97] *Power and Pathos*[b], cat. 44 p. 281 (Daehner).

[98] Formigli 2013c, 21-2, fig. 82-4.

[99] Descamps-Lequime 2006; Formigli 2013a.

[100] Formigli 2013a.

background (cf. fig. 4.13-4).[101] The possible attachment of metal to the Ephesos Scraper seems to have no other parallel among the *lapis basanites* athletes, however. On the Doryphoros torso in the Uffizi (fig. 4.3), the nipple is carved in relief, but the aureolas are not represented sculpturally. If they were depicted, they were painted on with pigment or, less likely, leaf-gilded. In fact, even though the material has a general similarity of color and sheen to bronze, the addition of polychrome details seems primarily to have been effected with pigment rather than the inlay of metals.

For example, the sculpted lips of the Hermitage Doryphoros head are separated from the skin only by a sharp, distinct edge. They do not show any trace of preparation for inlay of copper, nor any imitation of such a preparation (like the grooved edges sometimes found in white marble and even terracotta sculptures).[102] Other trends may have prevailed by the late-antique period, when of the head of Agrippina may have received a jeweled crown, but the fillet of the lapis basanites Diadoumenos shows no indication that it may once have had a carved pattern inlaid with other metals.[103] This adornment for the fillet is attested in the bronze Diadoumenos replica in the Ashmolean (fig. 4.24)[104], but the lapis basanites version was either smoothly polished black stone or it was augmented with a pigment rather than metal. The nipples of the Ephesos Scraper are the only clearly evident place that metal might have been attached to any of these four sculptures of athletes in *lapis basanites.* However, the incisions around the nipple do not confirm the addition of metal there nor on any other part of the statue. Compare the statue of Dionysus, recovered in 2000 on the Palatine, whose aureolas are likewise incised but whose hair was brightly colored with pigment. Instead, the investigation of the lapis basanites statues should recognize that the hair, facial features, pubic

[101] Willer (1994) identifies the intentional black patina on Mahdia works in part because the chemical transformation of the bronze is present beneath inlay of other materials, in an area that would not have been subject to atmospheric or maintenance patina.

[102] E.g. the terracotta Palatine Apollo, cf. Tomei 1992, 177-84.

[103] Mansuelli (1961, 154, n. III) suggests that the fillet was very likely reworked, apparently drawing the conclusion from the contrast between the damaged hair and very smooth fillet. There is little indication in the area surrounding the fillet that it was cut down, suggesting that any reworking was likely polishing rather than a significant removal of stone.

[104] Kreikenbom 1990, cat. V52 (with literature).

hair, and other details are sculpted in intensive detail and, in almost every case, without the incisions that would easily allow for the attachment of metal.[105]

The detailed carving of the hair of both lapis basanites athlete heads, moreover, suggests that the sculpting was visible rather than covered with gold or another metal. Compare, by contrast, the hair of the lapis basanites Ephebe from the Palatine (fig 4.10c). It is elegantly designed and powerful in its volume, but the chiseled grooves delineating strands are surprisingly coarse and of almost uniform width and depth; the more careful separation of strands on the head of the Doryphoros (fig 4.2a) varies these values as part of its modeling. By contrast to the smooth fillet of the Diadoumenos (4.4), the Ephebe's thin fillet has the same rough texture as the hair surrounding it, creating a disjunction in quality and effect between the treatment of the hair and gleamingly smooth, modeled body. If his hair and fillet were covered with a sheet of metal, however, the coarse grooves and modeled volume could anchor the metal in place while more detailed work could bring the technique up to the level of the sculpting of the body. Alternatively, the sculpting could have been worked up with a thick preparatory ground for leaf gilding.[106] The fillet, in addition, might have been highlighted with a different metal or painted on top of the gilding. The hair of the Doryphoros and Diadoumenos, by contrast, would probably be better adapted to a painted finish than a gilded one, although it is difficult to be certain. The whole surfaces of white marble sculpture could be gilded, like the Delos Diadoumenos, with superficial differentiation effected by matte or polished areas and glazes.[107] The carving of the hair of the lapis basanites Diadoumenos is rendered with small grooves rather than the often large, voluminous locks of the Delos sculpture, but the latter still displays a great amount of detail that would have provided structure for the leaf-gilding. The pubic hair of all three torsos, treated similarly to the hair of the heads, could likewise have been gilded, but rather than emphasize a similarity to bronze, this would invert the normal dark/light color scheme. Even if gilding was employed here, it might

[105] Tomei 2014a, p. 325 cat. 129 (M. Caso).

[106] Abbe 2010.

[107] Bourgeois and Jockey 2005; Bourgeois et al. 2009; Abbe 2011.

have served as a counterpoint to bronze production rather than a similarity. Without scientific confirmation, gilding remains possible for the athletes' hair and pubic hair, but pigment seems more likely.

The idea that the addition of metal to the athlete statues in lapis basanites was occasional, whereas pigment predominated, is corroborated by the treatment of their eyes. It has sometimes been assumed that the visual affinity between lapis basanites and aged bronze may have encouraged the frequent use of inlaid eyes, but this hypothesis is not borne out by the evidence. Indeed, inlaid eyes seem to have been used quite frequently on other sculpture in colored marble, as is revealed by the cavities remaining on sculptures like the Palatine Danaids in black limestone (cf. fig. 5.1) or the bust of satyr in rosso antico now in Baia.[108] The lapis basanites sculptures, however, testify to a greater use of sculpted eyeballs – that is, those preserving a convex, rounded shape inside the eyelids, upon which paint was probably used to color the whites, irises, and pupils. Using the catalog of Roman sculpture in *lapis basanites*, collected by Roberta Belli Pasqua, a quick tabulation indicates that, of the preserved eyes, the vast majority were sculpted rather than inlaid (Table 4.1). There are fifty non-portrait sculptures that are certainly ancient and that Belli Pasqua considers to be definitively carved from lapis basanites.[109] Three of these should be excluded from the present survey: the Sleeping Satyr[110], whose eyes are closed; the replica of the Venus de Medici in the Metropolitan Museum[111], actually carved in granodiorite; and the female 'orante'[112] whose lost head has been recognized in the portrait of Agrippina and thus would be double-counted. Of the forty-seven remaining ideal sculptures in the corpus, there are thirty-one that preserve enough of the eyes to tell whether they were inlaid or sculpted. Twenty-nine of these have the convexly carved eyeballs, while only two have the empty

[108] Cavities prepared for inlay: Danaids in black limestone (Tomei 2014a, 168-71, cat. 13.1-3 (M.A. Tomei)); bust of a satyr in rosso antico, Baia inv. 317959 (Allen 2015, 161, fig. 8.2).

[109] The replica of the Venus de Medici: Belli Pasqua 1995, 85, cat. 28.

[110] *Ibid.*, cat. 40, p. 92.

[111] *Ibid.*, cat. 28, p. 85.

[112] Agrippina portrait: Copenhagen, inv. 753, Belli Pasqua 1995, cat. 12, p. 74; Female orante-type body: Capitoline Museums, inv. 1882 (displayed in Centrale Montemartini), Belli Pasqua 1995, cat. 26, p. 82. On their reunification, cf. Ensoli and La Rocca (2000, 599-600 (E. Talamo)), with previous literature.

cavities left from their now-lost inset eyes. In the separate catalog of twenty isolated fragments (not counted in Belli Pasqua's ideal sculpture section), only one preserves the eyes, and they are sculpted, not inlaid.

Moreover, of the fifteen Roman portraits in the catalog, thirteen have sculpted eyeballs, only one of which preserves chiseled indications of the pupil and iris. The two outliers with evidence of inlaid eyes are a fragmentary portrait of Tiberius in the Capitoline Museums[113], whose one remaining eye is an empty cavity, and a portrait of Julius Caesar.[114] The white marble inlaid into the latter's eye sockets most likely dates to a modern restoration, but it probably does fill an ancient cavity. Even among the sculptures discussed under the headings of 'works of uncertain materials' and 'works of dubious authenticity', only a select few sculptures preserve inset eyes: of twenty-eight sculptures, twenty-four preserve the eyes, but only one of these displays the cavities of inlaid eyes. The others all have rounded, sculpted eyeballs. In other words, the idea that sculpture in lapis basanites often employed inset eyes as a part of its imitation of bronze is confirmed to be largely incorrect. In total, of the forty-eight sculptures that are certainly Roman, made in *lapis basanites*, and preserve their eyes, only four preserve the cavities for inlay. The Ptolemaic portraits, which begin Belli Pasqua's catalog, by contrast, show a higher proportion of inlaid eyes; all eight preserve the ocular area, three statues' eyes were inlaid, while the five others' were sculpted in relief.[115]

For the majority of the statues in lapis basanites, even though no evidence is preserved, it is very likely that the sculpted eyeballs were painted, both the whites of the eyes and the colored irises. The pupils may also have been painted black or left to show the dark color of the marble. When the paint was fresh, it is possible that the coloristic effect was quite similar that of inlaid eyes, at least upon first glance. Upon closer examination, the matte pigments lack the light-catching depth of the glossy stones or glass used for the irises, pupils and even caruncles of inlaid eyes.[116] Moreover, the sculpted lapis basanites eyes lacked

[113] Belli Pasqua 1995, cat. 10, p. 72.

[114] *Ibid.*, cat. 1, p. 65-67.

[115] *Ibid.*, 1995,35-44.

[116] E.g. in the Munich youth: Wünsche 2007.

the protruding bronze eyelashes that encased the precious materials for insertion. Together, the matte colors of the pigment and the lack of the protruding eyelashes have a scaled-down intensity compared with the vibrancy of inlaid eyes. Likewise, the use of pigment to highlight other elements of the statue, like lips, nipples, hair, and perhaps fingernails, instead of the inlay of metals, would constitute a significant diversion from the reflective and bright polychromy of bronzes. Although the shiny dark skin paired with bright eyes and pigmented details resonates with the palette of bronze, the process of producing it and some aspects of its appearance have much more in common with the pigmentation of white marble sculpture whose stone skin could be left entirely visible or covered with a protective coating of wax, highlighted by details of pigment on nipples, lips, and hair, and/or with partial gilding.[117] According to the evidence currently available, the polychromy of the lapis basanites athletes draws on the tradition of both bronze and white marble sculpture, combining the two and creating something new. In other cases, like the Agrippina Minor, a more relevant comparison may have been found in the tradition of composite statues of pale-skinned goddesses swathed in black stone garments.

To summarize, the general patterns of the polychromy applied to Roman sculpture in *lapis basanites* can be described in the following manner. Blocks of a single hue were preferred and those that displayed two colors or the round greyish blemishes may have been partially painted to regularize the stone's color. The majority of the colored stone was probably left visible to serve as a representation of a certain part of the sculpture, for example, to represent the garment of Agrippina or the skin of an athlete. Sculpted details were often highlighted with paint, in a cooperation between sculptor and painter like that described for white marble production. These details almost always included the eyes, which were, however, sometimes inlaid. The use of inlaid eyes in lapis basanites does not correspond meaningfully to the sculptures whose forms and surface treatment might refer to bronze statues, and while inlaid eyes occur more often in lapis basanites than in white marble sculpture, their frequency is comparable if not less

[117] Blüme 2012.

frequent than that of sculpture in other colored stones.[118] The sculpted details that may have been emphasized with paint may also have included the lips, hair, nipples, and adornment of statues (including fillets). When the skin was less surface area than a garment, it may have been distinguished with paint, (as in the Agrippina) and vice versa (as in the case of the athletes). The addition of metal to some details, whether attached nipples or gilded hair, is also likely but was not common.

What similarities to bronze the lapis basanites athletes exhibited seem to be broadly conceived ones of color – like metallic sheen and, perhaps in rare cases, the adornment of bronze statues with inlaid metal details. These features are characteristics of, of course, the archetype from which the replica series derived, which might be distant or unknown to the viewer. The color, sheen, and metal adornment are also, however, characteristic of an entire class of sculptures present in the city of Rome. Brought to the city as booty, centuries-old, age-darkened bronze statues of standing, nude victorious male athletes were present in forum, temple, and bathhouse.[119] While some ancient connoisseurs might have read the use of lapis basanites for the athlete sculptures as an allusion to the specific bronze prototype, these sculptures also found a wider, more accessible frame of reference in the material context of the ancient city. When the archetype of a statue was distant or unknown, the relics preserved in the city of Rome provided the generic template of expectations for the appearance of that formal prototype. In the representation of a subject and style historically affiliated with bronze, the finishing and coloring applied to the lapis basanites athletes is suggestive. The palette plays on a resemblance to bronze while its overall matte, opaque appearance and pigment-based nature belies its debt to the tradition of painting stone sculpture. More specifically, then, the treatment of greywacke in the lapis basanite athletes plays on a partial resemblance to bronze, highlighted by specific visual cues, while avoiding a tromp l'oeil effect, maintaining the identity of the stone and linking it, in addition, to practices of reproducing those bronze sculptures in white marble. Based on the polychromy alone, the materiality of the statues involves a visualization and critique of the Roman reception of two

[118] On the use of inlaid eyes in ideal sculpure, cf. Freyer-Schauenburg 1983.

[119] Bravi 2012; Pollitt 1978; See Chapter 2, p. 95-99.

different classes of sculptures present in the city: old Greek bronze statues of athletes with dark patinas and white marble replicas of Greek athlete sculptures.

4.2.c Sculpting technique

Beyond the color of the stone, scholars have suggested that the level of precision of carving possible in lapis basanites allowed it to be exploited for the imitation of bronze. The incredibly fine and sharp detail exhibited, for example, in the modeling of the athletes' hair, is possible because of the small grain size of the sedimentary greywacke (from < 0.004mm – 1mm) compared with the usually larger, but widely variable grain of the metamorphic marbles.[120] Smaller and denser grains in the greywacke hold sharper edges than the larger grains of marble. Although this comparison is frequently mentioned, there have been few detailed examinations of the differences in the sculpting of replicas of the same type in lapis basanites, bronze, and white marble. The exceptions are the analyses that focus on the distinction between different replica or variant types of a sculptural series, but these prioritize adherence to a formal type rather than discussion of material imitation or relationships.[121] This section compares the carving of a bronze, white marble, and lapis basanites replica, considering technique and the resultant form in an attempt to identify evidence of material imitation or resemblance. The Diskophoros torso is not extant in bronze, and while replicas of the Diadoumenos and Ephesos Scraper exist in all three materials, their fragmentary nature creates difficulties for such a comparison. The bronze Diadoumenos replica preserves only the head, while the lapis basanites Diadoumenos face is missing entirely and the hair badly damaged. The lapis basanites Ephesos Scraper preserves only the torso, which, while it can be compared with the heavily restored Ephesos bronze replica

[120] Harrell 2011 [revised 2016]. The grains of this stone range from the size of clay sediment grains, to silt, and to sand.

[121] E.g. Hartswick (1995) considers the head types of the Doryphoros; Hallett (1995) examines the bodies of the same type. Belli Pasqua (1995) examines each *lapis basanites* sculpture for its potential place within a replica series.

or with much better preserved Croatian bronze replica, limits the investigation to the sculpting of muscles and the modelling of pubic hair.[122]

The head of the Doryphoros type, preserved in all three materials, allows points of comparison in the handling of the planes and muscles of the face and neck as well as the modelling of the hair, ears, eyes, nose, and lips. Moreover, several scholars have already noticed a closeness in formal type between three replicas of the Doryphoros in these materials: the Villa dei Papiri bronze herm (fig. 4.25),[123] the white marble head also from Herculaneum (fig. 4.26),[124] and the unprovenanced lapis basanites head in the Hermitage (fig. 4.2). The restorations to the Villa dei Papiri bronze primarily concern the patination of the surface and the insertion of paste into empty eye sockets. The white marble head has also been put on a bust, but has not otherwise been significantly restored. The similarities and differences between these three replicas provide an indication of the technical abilities and stylistic aims of each material.

The Hermitage lapis basanites head of the Doryphoros type (fig. 4.2) shares several formal features with the bronze herm of the Doryphoros from the Villa dei Papiri (fig. 4.26) that are not common to all replicas of the type, including the number and arrangement of curls, the shape of the ear inside the outer rim, the slightly downward angle of the eyebrows, and the contrast between the tension of the cheeks and forehead.[125] However, they also share a specific treatment of the locks of hair. In the bronze herm, the hair is organized into large locks, which are modelled volumetrically. Wider toward the root, each lock curls and narrows toward a single point at the end, which often lifts up and away from the surface of the sculpture, especially in the back half of the head and at the temples. Each of those large locks is then subdivided into three or four more narrow locks, which are distinguished from one another by the incision of a deep groove.

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[122] Croatian bronze: Michelucci 2006; *Power and Pathos*[b], 274-5, cat. 41 (Daehner); Ephesos bronze: Gschwandtler 1978, 104, n. 129; Beck and Bol 1993, 616-7, n.143 (Linfert); *Power and Pathos*[b], 272-3, cat. 40 (Daehner). The head now in Fort Worth (*Power and Pathos*[b], 276, cat. 42 (Daehner)) shares no preserved areas with the *lapis basanites* body.

[123] Kreikenbom 1990, cat. III 42; Mattusch 2005, p. 276-82, with several detailed photographs.

[124] Hartswick 1995; Mattusch 2005, 279-82.

[125] Hartswick 1995; Belli Pasqua 1995, p. 79, cat. 20, pl. XXIV.

Onto each of these subdivisions, shallow and narrow incisions mark individual strands. A quite similar mode of representation is employed on the Hermitage lapis basanites replica. The large locks are modeled, albeit with slightly less volume. Their ends do not curl upward from the surface, not even near the temples or at the back of the head, rendering the contour of the head smooth and rounded. By contrast with the bronze example, deep and wide chiseled grooves subdivide these larger locks and the subdivisions are then further characterized by shallow and narrow individual strands. However, the deep grooves are sometimes quite wide, a furrow within the lock rather than a simple division. They have the look of a drilled channel, sometimes with vertical edges, whereas the edges of the incisions of the bronze herm are rounded, probably sculpted in the wax model, and contribute to the volumetric character of the subdivided locks.

The white marble head of the Doryphoros from Herculaneum (fig. 4.26), set upon a modern herm, is quite similar to both the bronze and the lapis basanites examples in its lock arrangement and the rendering of the face. In the treatment of the hair, it aims at the precision of detail achieved in the other two examples, with modelled large locks subdivided by deep grooves. Like the lapis basanites example, its deep incisions are sometimes wide and channel-like. Yet while there are indications of the differentiation of strands within these subdivisions, they are deeper and wider than in the bronze or lapis basanites examples. The hair takes on a more flat appearance, less crisp and detailed than the two dark-colored sculptures. This effect is, at least in part, due to the physical capabilities of the marble. As mentioned above, its grain is not as fine as that of the sedimentary lapis basanites, rendering it more friable and less able to hold the fine detail that the shallow, narrow cuts into the dark stone preserve. In the lapis basanites, a sculptor can achieve a type of carving that is closer to bronze than is possible in white marble. The technical process of bronze-casting, both additive modeling and the ability to carve detail into soft, pliant wax, allows a smooth handling of even sharp edges. The careful incision of grooves into the hair of the lapis basanites Doryphoros – and the similarly carved hair of the Diadoumenos, as well as the pubic hair on the Uffizi Doryphoros torso and the Castelgandolfo Ephesos Scraper – indicate a desire to reach the level of precision achieved in the Villa dei Papiri herm. However, the matte, rough texture of hair of the lapis basanites sculpture differs from the shiny surface of even the hair of bronze statues, particularly those covered with a protective coat of oil or

bitumen. If left visible, the contrast of shiny skin and matte hair is new and specific to lapis basanites, since the hair of new bronze statues seems often to have been darkened to differentiate it from the gleaming, nearly golden surface of the body.[126]

The precision of carving possible in the lapis basanites allows the Doryphoros head to achieve a greater sharpness of the facial features than the Herculaneum white marble head. The eyebrows are carved to a hard edge, and the ocular cavity seems deeper on the lapis basanites example than on the white marble. The lips too, have a clear-cut edge that seems more defined in the dark stone. This impression of sharpness, however, is partially the result of the brightness of the reflective planes juxtaposed with the very dark shadows, an effect characteristic of the dark, glossy surface of both lapis basanites and patinated bronze. White marble sculpture, even if waxed and rubbed to a shine, displays a more subtle contrast between shadow and highlight that reads as a softer transition. Indeed, some scholars have argued that white marble does not need the same sharpness of carving as bronze, since the modelling is more visible without the reflection of light that both bronze and lapis basanites must overcome in order to make their articulation of forms more visible.[127] Such statements, however, are typical of an approach to Roman sculpture that ignores ancient polychromy of both white marble and bronze in favor of modelled form.

Recent research indicates that the articulation of forms in both bronze and marble sculpture could be articulated sculpturally, sometimes with added pigmentation, or solely superficially, with added color standing in for carved volumes. The famous seated Boxer, whose wounds bleed inlaid copper, also sported a black eye that was created with a different alloy than the surrounding bronze.[128] Its separately cast components had a different melting point, allowing it to be set into the wax model, secured to the casement before the wax was melted out, and to hold its form while liquid copper alloy was poured around it. In the case of white marble, adding even very thin and uniform layers of paint to the white marble skin could have

[126] Cf. e.g. the reconstructions of the Riace warriors (Donati 2013; Brinkmann 2014b, fig. 25) or the Munich Ephebe (Wünsche 2007).

[127] Ridgway 1981, 204, n. 17; Hallett 1995, 136;

[128] Brinkmann 2014b, 106, fig. 26.

significantly altered the appearance of modeled flesh or the edges of lips or brow ridges.[129] The lack of precise delineation of the hair could be completely obscured by the use of up to three shades of paint and gilding that together created a dynamic highlights and shadows that the carving might not reflect.[130] Some sculptures even reveal evidence of underpainting that may have been intended to add shadowed depth to cheeks and the ocular cavity; cooperation between sculptor and painter endowed white marble sculpture with effects that the stone alone could not achieve. Although the surface of the white marble Herculaneum Doryphoros does not preserve any trace of pigment, its presence should be expected and considered a crucial element in the determination of its sharpness of form or lack thereof. The lapis basanites Doryphoros, likewise, may have had painted hair, eyes, and lips. The heavily restored surface of the Villa dei Papiri bronze makes it impossible to know whether it once displayed a superficial patina, although an intentional black patina has been identified on other bronze sculptures from the site.[131] The eyes of the bronze herm were almost certainly inset, since the 18th century restoration filled the empty sockets with tinted paste.[132]

The parallel in the extensive detail and sharpness of carving between bronze and lapis basanites would be most noticeable between darkened, aged bronzes whose original polychromy was obscured and lapis basanites sculptures augmented with metal (perhaps like the Castelgandolfo Ephesos Scraper). These groups of sculptures would be starkly distinguished from new, polychrome bronzes and white marble, painted sculptures. Their shared reflective polish and dark color, even if details in other colors were added, would draw attention to sculpted planes and the edges that delineate them, directing attention to modeling rather than surface ornament.

[129] Cf. Appendix C on the polychromy of white stone sculpture; Koch-Brinkmann et al. 2014a; Koch-Brinkmann et al. 2014b.

[130] Skovmøller and Therkildsen 2014.

[131] Ferro et al. 2013.

[132] Mattusch 2005, p. 276-82.

In the dedication to sculpting precise details and to rendering recession and projection, the handling of lapis basanites does indicate parallels with bronze sculpting. However, whether this was triggered by a retrospective desire to imitate ancient artworks or whether it was because darkened and black-patinated bronzes provided a useful model of how to handle light, shadow, and detail in a dark-colored material is still an open question. Moreover, in some ways the ability to imitate techniques of bronze-sculpting is due to the fine-grained character of the material. White marble sculpture, by contrast, cannot achieve this precision and it should be considered that, perhaps because of the long tradition of augmenting the sculptural forms of white marble with superficial pigment, sculptors might not have striven to do so. Instead, white marble sculptures might make use of varied colors of paint or gilding to achieve a dynamic variation of shade and light that might not be reflected in their carving.

In some cases, like the white marble Doryphoros, the dynamic variation the sculptor strove to achieve was conveyed in a plaster cast of a bronze archetype originally modeled in wax or clay; the imitation of bronze is an imitation of the form and does involve an act of translation into marble from the more malleable materials but also into a different palette. The white marble's cooperative use of sculpting and painting achieves a compromise between the abilities of the material and the form of the paradigm preserved in the model. Is it possible to separate the imitation of material and form in such cases? As much as it is an effort to imitate the abilities of bronze, it is also an effort to imitate the Classical style that valued such precise detail; the best quality examples of the style and subject are bound up with the possibilities of the material in which they were made.[133] Could the white marble sculpture have replicated the form without imitating the material in which the form was established? The same dilemma haunts the interpretation of the lapis basanites Doryphoros. The material allows greater similarity in sculpted detail and shares a visual resemblance with antique bronze, but how much was that meant as an imitation of bronze? The sculptor chose to employ pigment in the eyes rather than increase a connection to bronze with inlaid ones. If a painter

[133] Contra Allen (2015), these examples show that style is bound up with material and technique in an inextricable way in ancient sculpture.

was employed for the eyes, did he also augment the hair to offset its flat, hard, drilled look? The bronze herm of the Doryphoros, of course, is also a replica of an earlier sculpture. Its bronze material has made it a standard against which the others are judged, but it contains flaws of casting – like the ears flattened to the head – that are typical of replicas.[134] The upturned ends of the hair might also be a copyist's addition, added to the wax positive that was taken from a negative mold. On the one hand, the reproduction via cast and mold has flattened the plasticity of the sculpture and, on the other, it has provided a field for the artists' re-elaboration of certain elements. The superficial treatment of the sculpture was also a decision of the copyist. Its eyes were inset, but what other color transformed its surface? The head and bust were cast as a whole, suggesting that no modifications to the alloy gave a differing color to the hair or other features.[135] The hair may have been colored superficially with, for example, the application of additional coats of bitumen but the evidence is, of course, lacking. It is more certain that the lips were not accented with copper or some other metal, as there is no strong outline or recession of the lips that would provide the space for an insertion of sheet metal as in some of the other Villa dei Papiri examples, including the bronze herm of the Polykleitan athlete type often called "Herakles".[136] Lacking the traditional polychromy of the lips, perhaps the surface of the Doryphoros was intentionally patinated with a black sulfur coating. In many ways, this bronze replica must also be considered an imitation of bronze, and perhaps more securely than the others, of age-darkened antiques.

These sculptures all aim, in three different ways characteristic of the abilities of each material, at a similar goal with different approaches. They seek to replicate a specific composition or, even, a certain quality of that composition, subject, and style. The use of varied colors of pigment to create depth in white marble hair imitates the dynamic life-likeness of the bronze archetype and it succeeds in ways that even the original bronze, especially in its age-blackened state, never could have. The imitation of the material of the

[134] Mattusch 2005, 276-282.

[135] Only one metallurgical test has been conducted, with one sample taken from the lower left back of the bronze bust: Mattusch 2005, table 5.20, p. 279.

[136] Polykleitan "Herakles", National Archaeological Museum of Naples, inv. 5610: Mattusch 2005, 242-45, fig. 5.123.

archetype is part of the act of reception, a transformation and reinterpretation of the archetype that simultaneously involves an imitation of the physical characteristics of the original material.

4.2.d Silver and iron

The emphasis that Roman art historical scholarship has always placed on questions of formal imitation has encouraged a preoccupation with the visual resemblance between lapis basanites and bronze, almost to the exclusion of other material relationships. This section explores the archaeological and textual evidence regarding two other metals – silver and iron – that helped to shape the Roman reception of the Egyptian greywacke. Like bronze, silver darkened with age, and a large proportion of antique silver plate and statues may have been dark or black in color, although scholarly opinion is still divided on how much silver was dark in color, whether it was a desirable appearance, and whether it was imitated by the dark glosses applied to ceramics.[137] Silver statues are attested in numerous ancient literary sources[138] and Pliny the Elder even remarks upon the preference for tarnished silver (*NH* 33, 131), but the relevance of such statues to the reception of greywacke sculptures is difficult to gauge. The lack of archaeological examples and the only brief literary mentions of large-scale silver sculptures do not rule out the fact that darkened silver may have served as one point of reference for shiny, black materials. More important and more definitely relevant is the connection between lapis basanites and iron that Pliny the Elder makes in his description of the stone (*NH* 36.58). His previously undervalued assessment that they are similar in color and hardness provides a counterpoint to the visual and formal connections that the sculptures may have had with bronze works. A reexamination of this passage, particularly Pliny's equation of the hardness of greywacke and iron, illuminates the experiential, relative perspective that defined ancient characterizations

[137] Pro: Vickers 1985; Vickers and Gill 1994; Vickers 2006. Contra: Boardman 1987, 1996, 2001; Cook 1987; Robertson 1985. Most of the latter, however, allow that there was some resemblance to or imitation of silver with dark glazes on ceramics in certain periods and contexts. For a wide-ranging critique of the debate and the conclusions of both sides, see Pritchard 1999.

[138] Vermeule 1974 collects the sources referring to sculpture in gold and silver in Greece and Rome.

of the physical properties of materials. While modern analyses of lapis basanites have been focused on the superficial appearance of the stone, Pliny's description is inspired by both visual affinity and the practicalities of facture.

There must have been a resemblance between the shiny, aged, dark surfaces of silver and lapis basanites, but there is limited evidence that can provide an idea of how resonant or powerful that similarity might have been for an ancient viewer. The precious metal was costly and is perhaps better known for its use in coinage and for luxury tableware than for sculpture.[139] The nature of the archaeological evidence, primarily preserved in hoards, favors these genres as well as small scale sculpture rather than larger. Although life-size works are well-attested in the literature, they are not even preserved in fragments.[140] Much more expensive and less common than statuettes, their relative scarcity in comparison to bronze and other materials was not solely decided by the cost of the material. From the literary sources, it is clear that wealthy Romans could afford massive quantities of silver plate. Though Pliny's moralizing take on the use of luxury materials may suggest that his numbers are prone to exaggeration, the examples that he provides – hundred- or five-hundred-pound dishes, silver chariots to bring the emperor into the circus, and silver bathtubs, chamber pots, and even entire bathroom floors covered in the metal (*NH* 33.52, 54, and 152) – suggest that it was readily available in the quantities required for large-scale sculpture.[141] However, silver statues were commissioned and dedicated only in specific contexts. While numerous small scale sculptures in silver represent deities and some replicate sculptural types known in large-scale copies in other media, large-scale works seem to have had a more limited range of subjects.[142] In addition to the silver representations of Hellenistic kings brought to the city as booty in triumphal processions (Pliny *NH* 33.151-2), silver statues were commissioned to serve as cult statues and honorary portraits, particularly of the

[139] On silver plate: Walters and Smith 1921; Strong 1966; Lapatin 2014, 2015. Recently, on silver coinage: Butcher 2014.

[140] Vermeule 1974.

[141] On Pliny's moralizing stance: Citroni Marchetti 1991.

[142] E.g. the statuette replicas of the Capitoline Venus (Vermeule 1974, no. 52 and 95).

emperor. Pliny writes that some considered the practice of honoring triumphators with a silver statue to have originated in dedications to Augustus (*NH* 33.151), but even for Augustus, the honor could be deemed too extravagant a choice of material. Cassius Dio (LIV, 35, 2) records that when the Senate and people dedicated a silver portrait to him, Augustus reappropriated the raw material to have statues of three goddesses cast. According to the traditional Roman *pietas* he promoted, silver was more fitting for statues of goddesses than a princeps. The same theme appears in Suetonius' description (*Aug.*, 52) of Augustus' decision to order all the gold and silver statues of himself melted down and cast into tripods that he donated to the Temple of Apollo on the Palatine hill. Life-size gold and silver statues were such an exalted honor they were largely reserved for the emperor, or for the emperor to visibly refuse as too great an honor, and for representations of deities.[143]

Pliny tells us that honoring triumphators with a statue in silver "passed over" from the Egyptian use of the metal, but his exact meaning is unclear, since it seems to imply that Roman statuary practices somehow derived from Egyptian use of silver bowls (*NH* 33.46). The rest of the passage is concerned with coloring of silver, particularly its darkening, and perhaps this was the comparison that Pliny wanted to emphasize. He highlights the fact that Egyptians painted (*pingit*) their silver rather than engraving it, and notes that they also sometimes "stain" (*tinguit*) their silver vessels to "see portraits of their god Anubis". The guide to the afterlife, Anubis was traditionally represented with a jackal-dog hybrid head that was black in color. Presumably, the tinting that Pliny describes was intended to darken the silver, providing a parallel for the Roman practices he describes in the sentences immediately following. He refers to the triumphal statues as a segue, noting that "wonderful to relate, [silver's] price rises with the dimming of its brilliance" before offering a recipe for this more esteemed version of dark silver that is an alloy of Cyprus copper, silver and live sulfur. Additionally, he notes, silver can be turned black by rubbing it with the yolk of a hard-boiled egg, a surface treatment that is, however, reversible. Chemically, it is the high sulfur content of

[143] Statues of emperors mentioned in the literary sources include Claudius (Dio Cassius LX, 5, 4-5), Domitian (Suetonius, *Domitian*, XIII, 2), Marcus Aurelius (Dio Cassius LXXI, 31, 1), and Claudius Gothicus (*Historia Augusta*, The Divine Claudius II, 2-7); cf. Vermeule 1974.

the yolk that initiates a reaction when it meets the silver, tarnishing the outermost layer. The alloy and the method of artificially darkening silver are strikingly similar to the sulfur patinas applied to bronze – in their goal as well as their method. The metal is intentionally aged, by a chemical reaction with sulfur, in order to present a darkened appearance that appealed to the contemporary audience's taste for inherited objects. These are expressions of a taste for the antique, a desire for the appearance of oldness. Both, moreover, testify to a specific appreciation of dark-colored statuary that must have contributed to the Roman's taste for sculpture in dark-colored stones, including lapis basanites.

The few large-scale statues of triumphant generals, although darkened artificially or with time, could not have provided the same instantly recognizable point of reference for the lapis basanites athletes that resided in the many, treasured, bronze antique sculptures to be found in the city of Rome. The bronze athletes were similar in material, style, composition, subject, and – in Rome, at least – context of display and function as *ornamenta*. The silver honorary statues were separated from the bronze and lapis basanites sculptures by subject and function. Still, silver works, whether small scale figurines or luxury tableware, probably played a significant role in establishing the taste for age-darkened metal objects.

In fact, the black slips of Attic ceramics, intended to allude to the silver material of more expensive tableware, suggest that silver was associated with a shiny, black appearance centuries before black artificial patinas on bronze statues came into vogue in the Hellenistic period.[144] Normal tarnish darkened ancient Greek silver vessels, forming a protective coating that prevented further wear. Moreover, some have suggested that a method of cleaning that involved a sulfur fumigation, attested in the Odyssey, could have produced a patina that turned the silver very dark and the gold more reddish.[145] Although literary sources use silver in a way that often means bright or shiningly white and archaeological examples of silver often emerge from tombs in a brilliant condition, a certain relationship was established between the shiny white

[144] On the relationship between ceramics and metalware: Bloesch 1940 (on the imitation of silver vase shapes); Vickers 1985; Vickers and Gill 1994; Vickers 2006.

[145] Homer *Odyssey*, 22.481-2, 493; Parker 1983, 227-8. Boardman (1987) notes that the silver tarnishes not because of exposure to oxygen, but by exposure to sulfur, present in many foods and wine.

of silver vessels, some age-darkened specimens, and the shiny black of ceramics.[146] Although Pliny is surprised by the value awarded to darkened silver, the Romans were the inheritors of a long tradition of connecting silver with a dark color, attested also in Italy in the black, shiny finishes of Etruscan bucchero and Republican Italian ceramics.[147] Even if silver was white or merely dark, not fully black, the pots should be considered to reflect a reception of silver plate that might not replicate its appearance but relies upon some form of resemblance relation.[148] Silver has a much more extended historical association with black and darkening than even perhaps bronze does, and perhaps the valuation of blackened bronze relies on a similarity to the valuation of silver, tarnished or otherwise. In other words, if the use of a dark stone for the lapis basanites athletes is indebted to the high esteem for darkened bronze, the taste for aged bronze may be, in turn, connected to the appreciation of tarnished silver. The taste for artificially or age-darkened silver may not have been a particularly emphasized point of reference – as bronze clearly was – for the use of lapis basanites, but it certainly conditioned the reception of the dark, shiny stone and probably enhanced the resonance of the stone's relationship to metal more generally.

More obviously relevant to lapis basanites' Roman reception is the dark brown or black color of iron, which Pliny the Elder directly connects with the stone: "The Egyptians also discovered in Ethiopia what is 'basanites', a stone which in colour and hardness resembles iron" (*NH* 36, 58). The comparison is often repeated by ancient, Byzantine, and later authors and long served as a readily intelligible description of a rare and unique stone.[149] By contrast, the visual comparison to bronze is a modern one, first documented in the 19th century (see above). Still, after 1842 bronze completely supplants iron as the common point of

[146] Cf. Hughes and Parsons (1984) on Thrasyalces's comment that "silver is black" and, contra, the article by John Boardman, "Silver is White" (1987). Boardman highlights the discovery of silver vessels in the Macedonian tomb of Phillip II that still shone brilliantly millennia after their deposition (cf. Andronikos 1984, 71).

[147] Vickers 2006, 81.

[148] One of Boardman's (1987, 280-1, 294-5) principle objections to Vickers' argument is that silver rarely gets as dark as the black glazes of pottery, but he subscribes to the idea that black could be a substitute for white silver and that the black glazes aimed at a metallic luster

[149] The sources are collected by Belli Pasqua (1995, 17-24).

reference among antiquarians and scholars.[150] In part, this shift occurred because it dovetailed with rapidly growing ideology about the Roman ideal sculpture's intentional, formal imitation of bronze prototypes; the bronze-colored stone augmented the formal imitation that was theorized for white marbles that copied bronze models.[151] Scholarship has noted Pliny's divergent comparison but has not recognized the importance of his testimony.

Pliny's description indicates that iron, rather than bronze, was a primary and widely accessible comparison for the color of lapis basanites in antiquity. While iron was not typically used for sculpture[152], its color and hardness were the best comparison for this unusual stone, which, by contrast, was used by the Romans primarily for sculpture. Indeed, most of the examples of lapis basanites that Pliny could have seen and intended to describe must either have been finished sculptures or blocks intended for sculpture. The dark color of iron, perhaps slightly brownish from rust, would have found a closer parallel with the brown and black shades of the stone rather than the greenish one, but Pliny makes no such fine distinctions. Moreover, the hardness of the stone is given equal weight in Pliny's opinion, which points to a slightly different evaluation of the stone's character than the judgments of the modern period. He highlights a feature of the stone that is closely related to the craftsmanship required to produce a sculpture, rather than solely to the reception of the stone's appearance when carved and polished. Pliny is aware, and makes his reader aware, of the difficulties involved in manufacture, and perhaps even quarrying this stone.

The equation of the hardness of iron and lapis basanites has been almost completely ignored, perhaps because it is, according to modern, quantifiable measurements, incorrect. Iron does not even come close to the hardness of greywacke, since it ranks at only a 4 on the Mohs Scale of hardness compared to

[150] Belli 1842; Corsi 1845.

[151] Eg. Furtwängler's (1895, (Engl. Trans.), 228) description of the color of the lapis basanites torso of the Doryphoros in the Uffizi gallery (inv. 308, cf. Belli Pasqua 1995, 21) as having the color of a bronze with a noble patina.

[152] It did exist, but was uncommon: Pliny *NH* 34.141 (statue of Hercules at Rhodes); 34.48 (statue of Arinsoë at Alexandria).

the 6 of lapis basanites.[153] Iron ranks much closer to the hardness of limestones and marbles, whose values vary between 3 and 4. Lapis basanites falls among the much harder stones like granodiorite (5-6) and the lower range of basalt (which can vary from 6-8), but its very fine grain and uniform color, at least over large areas, enables the carving and visibility of precise detail that cannot be attained in the other Egyptian black stones. It should be pointed out here that the Mohs Scale is not incremental; the difference in hardness between each numbered level on the scale is not proportional. The change between a 3 and 4 is a 25% increase, while between 9 and 10 is more than 300%. From a modern, objective point of view, lapis basanites is much, much harder than iron.

Pliny's perspective, however, is experiential. Iron is the strongest of Pliny's most important metals, noticeably harder than bronze (3 on the Mohs scale), silver (2.5), and gold (2.5). His treatise clarifies the properties of each of these, but his readers probably already had a sense of the relative hardness of iron compared to other metals. It is this conception of relative hardness that is important in order to understand the discrepancy between Pliny's point of view and our own. For example, in 1730, the naturalist G. Gimma wrote that the grain of lapis basanites strongly "consumes iron, which it resembles in color."[154] In practical terms, this statement refers to the fact that when iron tools are used on a stone that is harder than the metal, the stone wears away the tool, metaphorically eating away at its point and "consuming" it. The process destroys the tool, but still makes progress carving or sawing through the stone. Experiments have shown that even a copper drill (3.5 on the Mohs scale) can be used to carve granite (harder than lapis basanites), although it took some 20 hours to drill a 60mm deep hole and the drill lost 90mm of its length.[155] It is not efficient, but it is successful. Certain techniques were adapted to offset this difference in hardness between

[153] Named after its creater Fredrich Mohs; cf. http://www.britannica.com/science/Mohs-hardness

[154] "Riceva buona pulitura, e la sua grana molto il ferro consuma, a cui somiglia nel colore," Gimma 1730, 14, cf. Belli Pasqua 1995, 22 (Fonti no. 18).

[155] Cotterell 2010, 129-30; Stocks 2001, 1999.

stones and tools, like the addition of sand as an abrasive.[156] In the carving of lapis basanites, iron tools would wear away more slowly than bronze and would be more efficient at carving or quarrying it. Still, in the process of carving lapis basanites with iron, both stone and tool are affected by the hardness of the other. The tool chips away at the surface of the stone and in return the stone eats away at the metal. From this experiential perspective, iron is equally as hard as lapis basanites, and Pliny's claim is completely valid.

Moreover, in a separate discussion, Pliny again appeals to an experiential understanding of the hardness of lapis basanites. In a discussion of which stones are the best to use as a mortar-stone, lapis basanites comes in third for the production of medicinal powders or salves, because the "stone yields nothing from its own substance" (*NH* 36.157). In other words, there is no risk that the mixture will be contaminated by the material of the vessel flaking or rubbing off when abraded during the mixing. The hardness of lapis basanites, for Pliny and his contemporaries, is defined by how it is affected by other materials and vice versa. Pliny's third mention of lapis basanites is as a touchstone for testing hematite, which leaves a blood-red smear when it is rubbed against the much harder greywacke (*NH* 36.146). In this way, hard stones like lapis basanites could be used as touchstones to determine the purity of a variety of other minerals, including gold and silver.[157] In the ancient world, hardness is relatively defined and lapis basanites' durability, in addition to its color, draw connections to the various metals that are used to work it, including carving it for sculpture. Harder than bronze, as hard as iron, it has the color of iron and of aged-bronze. In several ways, the valuation of the stone and the sculpture play off visual and technical relationships to iron. The virtuoso skill of the artist is evident in his ability to carve such a hard stone and to compete with the highest quality works in bronze and marble. The expense of carving adds to the stone's identity as a luxury commodity, already costly for its quarrying and transportation.

[156] Mentioned by Pliny in another section *NH* 36.51-53. The sand improves efficiency because the tiny particles of quartz that are sand's major component have a hardness of 7 on the Mohs scale.

[157] The fifth century *Lexicon* of Hesychii Alexandrini writes that *lithos basanos* (separated from *lithos basanites*) is used as a touchstone for gold (β 270; ed. Latte. Cf. Belli Pasqua 1995, Fonti no. 6, p. 19).

Additionally, Pliny's comment about the hardness – *duritia* – of the stone could be taken as an allusion to the more metaphoric meaning of the term *durus* in ancient art criticism. While *durus* and its counterpart *σκληρός* (sklēros) are used for the physical characteristic of "hard", they are also often used to describe the harsh or stiff sculpting style of the archaic and early classical periods.[158] In the classicistic tradition, the value *durus* is contrasted with *mollis*, soft, as a distinction between pre- and post-Myronic sculpture. The *lapis basanites* athletes, and indeed the majority of Roman sculpture in this stone, derive from prototypes designed by artists contemporary with or following Myron. Moreover, the qualities of Polykleitan works – with which several of these athletes are associated – that were most valued, particularly in his rendering of athletic forms, were his *decor* and *diligentia*.[159] It is not entirely clear that Pliny meant to imbue *duritiae* with this stylistic meaning, since in this passage he is concerned with the properties of the stone in general rather than specific sculptures or sculptors. Rather, there is one further meaning of *durus* that might have shaded the meaning of hardness in Pliny's description of the stone. The natural historian also uses *durus* to describe colors (*NH* 35.98 and 137) in a somewhat derogatory way. It is different from *austerus*, which refers to a particular stylistic genre or technique, in that it can be used to describe a painter who is "too hard" in his colors. Though this metaphoric meaning of *durus* is hard to pin down, J.J. Pollitt suggests that it refers to the lack of either modulation by light and shadow, as with chiaroscuro, or of blended transitions between colors.[160] The sharp transition between unmoderated colors has been established as characteristic of archaic and early classical styles of sculptural polychromy.[161] Bright pigments applied homogenously over a field, juxtaposed with other solid fields would seem to stand in contrast with the uniform dark surface of lapis basanites, even after details might have been added to it with

[158] Pollitt 1974, 254-55, 359-61.

[159] Quint. *Inst*. 12.10.7f. See also Strabo 8.6.10 and Pollitt 1974, 200, 235, 422-3. On *decor* and *diligentia*: *Ibid*. 341-7, 351-7. On the use of the Polykleitan style and its associations redeployed in sculpture alongside other styles and their paired semantic meanings, see Hölscher 2004, 86-102, with bibliography (esp. n. 14).

[160] Pollitt 1974, 361.

[161] Cf. the contributions to the *Transformations* 2014 catalog, especially by Brinkmann (2014b) and Blüme (2014).

pigment. A lapis basanites sculpture is not durus because its pigmentation resembles the color of the polychromy applied to earlier painting or statuary. Rather, the stone is durus because its dark color and its ability to retain a high polish make its surface reflective, creating sharp tonal contrasts between dark and light, rather than soft transitions between colors or modelled chiaroscuro gradations. For the same reasons, the dark, metallic surface of iron is also durus in this metaphoric way. The stone and the metal possess equal "hardness" from both a physical and metaphorical perspective.

The connection between lapis basanites and iron enriches the stone's identity, suggesting visual, technical, and even metaphoric lenses through which an ancient viewer could conceptualize the stone's use for Roman sculpture. With a single sentence, Pliny's description manages to situate an exotic stone, quarried far away and perhaps unfamiliar to his readers, within a specifically Roman frame of reference. Perhaps the comparison was a commonplace one that Pliny is simply repeating or perhaps it is his own observation. Either way, it draws a link between one of the most elite materials of the Roman empire – given greywacke's traditionally royal Egyptian exploitation and its use for imperial portraiture and commissions – and one valued precisely because of it was the rudest of metals.[162] The juxtaposition is poignant, especially considering the moralistic resistance – feigned or authentic – to imperial portraits in precious metals, including silver. Though the full cost of a lapis basanites portrait may have been the same or more than a silver one, and the stone's history may have been linked to Egyptian kingship rather than Republican values, its affinity with iron and bronze may have helped redeem it for use in the Roman imperial period.

4.2.e Struts

Despite the many relationships with bronze and other metals, lapis basanites is a stone, and few aspects convey that physical reality more than the struts which support the sculptures. Since the struts of

[162] Cf. Pliny's introduction to his section on iron, *NH* 34.138-40.

the lapis basanites athletes are preserved only as traces at their points of attachment and none of the athlete torsos have been restored, it is now easy to overlook their presence. In antiquity, however, even if the statue presented an appearance nearly identical to that of an antique bronze sculpture, the struts were a tangible and easily visible refutation of the illusion. They would have been understood immediately as a signal of the statue's lithic character by a viewer familiar with the white marble ideal sculptures that populated cities and villas. In white marble sculptures, the struts have been understood as an index of the marble's relationship to a bronze prototype and of the technical skill of the artist, reminding the viewer of the difficulty of executing the composition in stone.[163] In this role, structural supports make evident the weightiness of the stone, the lower tensile strength and proclivity to break, the deductive and expensive process of carving instead of casting, and more. The lapis basanites strut, however, is only completely appreciated in its relationship both to white marble sculptures and to bronze. This rare stone bears the color and manages to achieve the sheen and sharpness of bronze-work. It requires a process of production similar to marble and so its struts denote the same characteristics, but since lapis basanites is harder and more expensive, an even higher level of craftsmanship.

Moreover, while there is often great divergence in the size and location of struts, even within a single replica series, the supports utilized for the lapis basanites athletes are perfectly in keeping with those preserved on the white marble replicas.[164] Despite the enormous differences between the lithotypes, the similarity in size and placement of the struts suggests a consistency in sculptural approach that enhanced the visual connection between the two finished products. No matter the color or appearance of lapis basanites, in this respect the sculptures carved from it conform to the norms of white stone sculpture of the period. A viewer who had seen the numerous white marble and bronze statues of athletes standing around Roman bathhouses could thus easily see the combination of both traditions in the lapis basanites athletes.

[163] Hollinshead 2002; Anguissola 2013.

[164] Landwehr 1982, 2010; Claridge 2015.

The dark-stone athletes participate in a linked network of evaluation that highlights their reliance upon several traditions as well as their unique reaction to those traditions.[165]

The display context of at least one of these sculptures may have capitalized upon the established visual dichotomy between bronze and white marble athlete sculptures and its critique by the *lapis basanites* works. The Ephesos Scraper, the only one of these sculptures whose primary context is known, was excavated in the Villa of Domitian at Castelgandolfo. Although the excavator notes that the statue was not found *in situ*, it was recovered near a white marble sculpture of another male nude, of the Westmacott Ephebe type.[166] Perhaps the two were also near each other in their original context as well, set up as pendants in a popular Roman mode of display; seriality was thematized in this villa's sculptural decoration, as evidenced by the grouping of four replicas in white marble of the male nude Pouring Satyr that were probably displayed together in the theater.[167] The juxtaposition of the *lapis basanites* athlete with a nude male in white marble would definitely have stood out in this villa context and would have provoked additional interest in the unusual material of the Ephesos Scraper.

4.2.f The stone's Egyptian provenance

In first century AD Rome, the appreciation of this unusual stone would have led directly to an interest in its geographic origin.[168] The identity and valuation of a stone was intricately linked to its provenance, which helped to determine its use and signification in sculpture and architecture. As described above, the sole source of lapis basanites known to the Romans was located in the eastern desert of Egypt,

[165] On this concept of comparisons of formal types, cf. Anguissola 2013.

[166] Castelli 1933, 579; Nogara 1933, 70; Liverani 1989, n. 21. The Beneventum torso is the only other example with a provenance, but it was excavated in a secondary context, reused in the foundation of a seventh century wall (see above, n. 59).

[167] Brilliant 1984; Neudecker 1988, 141; Zanker 2015, 110-11; *Serial/portable classic*, cat. 25-28, p. 216-17 (A. Anguissola).

[168] Cf. Schneider 1986; Gregarek 1999; Pergola 2002; Schneider 2002; Pensabene 2013; Allen 2015, 157-59.

in the Wadi Hammamat, a canyon that runs from Coptos on the Nile to Quseir on the Red Sea.[169] The expense of a quarrying expedition to this remote land-locked site could only be borne by a powerful government that, in turn, usually restricted the use of the stone to the most elite class of citizen. In the Roman period, the quarry was entirely controlled by the state, principally for imperial commissions, continuing a tradition of Ptolemaic and Pharaonic royal ownership and exploitation.[170]

Before the Roman commissions were completed, however, the first lapis basanites sculptures to reach Rome must have been Egyptian antiquities. Imported via well-established trade routes for centuries before the empire, Egyptian artworks arrived in greater numbers as war booty after the Augustan victory at Actium. On the Italian peninsula, large-scale sculptures were deployed as *ornamenta* in the gardens and villas of noblemen and in temples – specifically, it seems, temples dedicated to Egyptian deities – and smaller scale works found a place even in private homes.[171] Like their Greek counterparts, although less well-attested in the literary sources, these sculptures constituted a corporeal display of the history of sculpture and provided a specifically Egyptian tradition of exploitation against which to judge new Roman creations. The catalogs of Egyptian sculptures in Rome and its environs collected by Roullet and Lollio Barberi et al. provide only an impression of what kind of Egyptian sculptures might have been visible in the first few centuries AD since many must have been destroyed in massive fires, like the one that devastated the sanctuary of Isis and Serapis in the Campus Martius in 60 CE. The restoration of the site by Domitian must have relied heavily on newly imported antiquities as well as creations that were Egyptianizing in style.[172] Still, the material context certainly included sculptures in *lapis basanites* and other very hard, black stones including black granite, granodiorite, and basalt.

[169] On the quarry, see Appendix B. Del Bufalo 2002's proposal of a second quarry, also in the Eastern desert, is unconfirmed.

[170] Klemm and Klemm 2008, 302, 306-7; Pensabene 2013, 246-49.

[171] Roullet 1972; Lollio Barberi et al. 1995; Swetnam-Burland 2015b. See Chapter 6 on the reception of Egyptian antiquities in Italy.

[172] Lembke 1994a; Lollio Barberi et al. 1995, 57-69; Brenk 1999; Swetnam-Burland 2015a; Versluys 2017.

In ancient Egypt, such hard stones were extremely valuable from a financial and symbolic point of view and their use was restricted to representations of the elite, pharaohs, and the gods.[173] In keeping with Egyptian canonical style, these statues erred on the side of stability and blockiness. Representations of the pharaoh, moreover, often depicted an anatomically ideal, semi-nude, well-muscled, seated or forward-striding male. The majority of the sculpture imported to the city dates to the Late Period (664 – 332BC) or the Ptolemaic period (332 – 31 BC), when Egypt was often ruled by foreigners.[174] Still, the sculpture of this period conforms with Egyptian tradition and even displays some intentionally archaizing traits, linking its forms to earlier periods.[175] There is, moreover, evidence that the Romans preferred to import colored stone sculpture rather than limestone, suggesting that dark stone Egyptian sculpture was prized and sought after.[176]

From the perspective of form, there are many points of comparison between these Egyptian male figures and the Roman lapis basanites athletes, which of course, represent a Roman version of the Greek masculine ideal: fully nude, more heavily muscled than the Egyptian, weight balanced in active rest. The similarities become even more poignant given that the Greek classical athletes are descendants of the Archaic *kouroi*, which are inspired by the Egyptian sculpture visible in the late seventh and early sixth century BC. These are thus statues of the very same period as those which were later imported to the city of Rome.[177] This evolution was, of course, not a part of the Greek or Roman legend about the origins and development of sculpture; the art historical literature of the Greek and Roman periods make it very clear that they believed the origins of art to lie in Greece, not Egypt or the Near East.[178] However, the shared use

[173] Morgan 2011.

[174] For a further discussion of this material and the few outliers, see Chapter 6, section 6.1.

[175] Russman 2010.

[176] Müskens 2017, esp. 322-3.

[177] Cf. the recent evaluation of this argument in Boardman 2006, 12-24; and earlier: Ridgway 1977, 52; Davis 1981. Greek bronze-working is likewise indebted to the technique and style of Egyptian bronzeworking (Bianchi 1990; Mattusch 2008, 423-4;).

[178] E.g. Pliny *NH* 151-3, describing the story of the potter Butades, responsible for the first modelled likeness.

of lapis basanites for the Egyptian antiques and Roman replicas of classical statues seems to at least beg a comparison between the two paradigmatic modes of the representation of the male body that belong to the two major artistic traditions represented in the city of Rome. Although Greek in form and style, the lapis basanites material of the athlete tethers the representation in a relationship to Egypt and Egyptian sculpture, highlighting a contrast between the new Roman works and the way the stone was traditionally used. Differences in form and style are countered by similarities in subject, material, and even polychromy.

Although the polychromy of Egyptian sculpture is as yet under-studied, there is some evidence that Old Kingdom sculpture in hard stones – greywacke, diorite, and red granite – left the stone visible as the skin of the statue while details were added in pigment.[179] The material of the hard stone sculpture was emphasized as an integral component of the statue's signification. In particular, the black stones held a connection with darkness and the underworld as well as with the potent fertility of the black silt of the Nile. Held in check by the complementary powers of the colors red, white, and green, black stones represented one part of the mineral universe of Egypt. Nevertheless, adding polychromy to this stone was a crucial part of bringing it into statuehood, a process which included the "Opening of the Mouth" ritual that emphasized the eyes, nose, and mouth. Well-preserved pigments on four hard stone tomb statues, including one in black diorite, that represent a fifth Dynasty official provide an example of such coloration, though they date to much earlier period than most works imported to Rome (fig. 4.27).[180] The eyes were painted white, with black irises, and fine interior red lines. The wig and facial hair were painted with black, even on black stones. Fingernails were given a pink color, while garments were bright white with yellow to mark pleats and jewelry in green and blue could also be added. This approach stood in marked contrast to the treatment

[179] Morgan 2011, esp. 6. Morgan notes two possible exceptions: red paint – only on the face around the eyes, nose, mouth, ear, and jaw, perhaps related to the Opening of the Mouth ceremony – a Fourth Dynasty greywacke statue of Menkaure now in Boston (Abrams 1999, no. 67), and a quartzite head of Djedefre in the Louvre (Ziegler 1997, no. 1, p. 42-45).

[180] Ziegler 1997, cat. no. 35-36.

of limestone statues, whose skin was colored with ochre, red or yellow depending on age, gender, and other markers of identity.[181]

If the polychromy of the lapis basanites athletes described above is correct, these Roman statues that replicate a characteristically Greek subject and form also share many visual characteristics with Egyptian dark-stone statues. The color of the stone was left visible and meant to be identified as the skin while details of the face and the hair were painted. Naturalistic color was also given, probably, to fingernails and nipples and, likely, to clothing elements and figural supports. The use of pigment for these details on the lapis basanites athletes draws them closer to the traditional treatment and appearance of Egyptian hard stone antiques than it does to classical Greek bronzes. Coloring a statue with pigment rather than metal makes available a wider palette of colors in more vibrant hues with a matte, opaque character. The palette of the antique bronzes could, as recent research has shown, be widely varied by techniques of casting and added chemical patinas, but its light and dark colors seem to have been defined by metallic sheen. Perhaps it is even possible to distinguish two different treatments of the lapis basanites athletes. The Doryphoros head and torso, the Diadoumenos head, and the Diskophoros torso may have employed pigment in the way described above, allowing – if not intentionally drawing – a connection with Egyptian sculpture. The groove around the nipples of the Ephesos Scraper torso, however, suggest that they might have been inlaid with a metal, probably copper if following the example of bronze. If this is the case, the Ephesos Scraper leans further toward a relationship with bronze than do the other lapis basanites athletes.

The hypothesis that lapis basanites was used to intentionally imitate the appearance of bronze has previously constituted a blanket statement that too heavily prioritized the formal relationship to Greece and entirely overlooked the long history of Egyptian sculpture in the stone, sometimes while simultaneously claiming that the sculptors of these works must have been Egyptian.[182] It is true, of course, that sculptors trained in Greece, Italy, and Asia Minor were accustomed to working the much softer limestone and marble.

[181] Morgan 2011, esp. 5.

[182] Belli Pasqua 1995, 32-44.

These stones were locally available in most regions and had been traded widely through the Mediterranean for centuries, while the Egyptian hard stones were primarily limited to the direct control of the Egyptian and then Roman states. By the time Rome gained control of the quarries, sculptors had been working granites, diorites, and greywacke in Egypt for millennia; traditions, tools, and apprentice-style training passed on these practices in a localized manner.

It would be simplistic to assume that the sculptors of even Augustan period commissions in hard stone were Egyptian – either ethnically, by birth, or even by residence.[183] Alexandria was a cultural center with a large Greek contingent, but the Ptolemaic parceling of land to veterans of the wars among the successors of Alexander had distributed Greeks throughout even more rural areas.[184] Cross-cultural exchange began centuries before the arrival of the Romans. Language too, shows integration, since nearly all the Roman period inscriptions near the Wadi Hammamat, including personal dedications at a small shrine, were inscribed in Greek.[185] The skillful execution of the athlete sculptures testifies to an already well established integration of Greek classical and Hellenistic styles in a variety of media including Egyptian hard stones. This integration must have taken place under the Ptolemaic rulers, who exploited the stone for royal portraits and statues of gods.[186] The Hellenistic representation of Egyptian gods sometimes borrowed elements and approaches from Greek sculpture, but often still adheres to the frontal format and conservative approach to the block of stone. The greywacke portraits of the Ptolemies, by contrast, may have been more expressive and volumetric, like the head of Ptolemy III (fig. 4.28) that, however, has been

[183] The sunken relief hieroglyphs, that decorated Roman obelisks or Egyptianizing sculptures, for example, have been shown to have been carved in Italy by local craftsmen (Parlasca 2003).

[184] Romeo 2006.

[185] Bernand 1972; Di Leo 1989. Most of the inscriptions, papyri, and ostraca found in the Eastern Desert are in Greek, although there are significantly more in Latin near Roman army sites and a variety of foreign languages at ports (Gates-Foster 2012, 739). However, it has been shown that the laborers working at the nearby Mons Claudianus were free Egyptians (van der Veen and Hamilton-Dyer 1998).

[186] Ashton (2001) investigates the shared or juxtaposed use of Greek and Egyptian styles in Ptolemaic portraits from Egypt. Stanwick (2002, xv) maintains a more strict delineation between the types of stone that 'native' and 'Greek' craftsman worked: " "Egyptian-style" or "Egyptian" refers to hard stone and other statues created by native craftsmen, even those that display strong Greek influence. "Greek-style" or "Greek" describes statues made by Greeks, typically in marble or bronze."

heavily reworked in the modern period.[187] Its technique and style has much in common with the Lysippan portraits of Alexander the Great, and some sharing of techniques and models must have occurred in the Hellenistic period. However, while the style is changed, the subjects – portraits of the ruler of Egypt and statues of gods and goddesses – largely remained the same through the Hellenistic period.

It is not until the commissions of the Romans that the function of statues in *lapis basanites* change. The athletes, for example, seem to have been intended as *ornamenta* rather than as portraits of the emperors or cult statues.[188] At the moment of this change, the artists who were accustomed to working this stone were experienced with the Egyptian canon and Hellenistic portraiture; scholars of this period argue that it was the Egyptian hard stone sculptors who adopted Greek styles, while Greek sculptors show no interest in the Egyptian formal tradition.[189] Thus, the artists accustomed to replicating classical bodies in stone were experienced with much softer stones. An early attempt to bridge this gap is the second century BC basalt torso that belongs to a nude male, Greek type (fig. 4.29); its muscles are harshly formed and the skill of the execution is hardly comparable to the Augustan sculptures. This early torso's arms are carved separately, attached in the middle of the upper arm, a technique that might associate its production with Egyptian workshops.[190] Plutarch perhaps describes a Ptolemaic replicative interest in Greek statuary (*Mor. De Sollertia Animalium* 984), noting that two delegates of Ptolemy I Soter took a cast of a statue of Persephone that stood in the port of Delphi and left the original in place. The cast substituted for a real statue that they were supposed to bring back from Sinope, before they were diverted by a storm; the cast was probably destined for reproduction in stone by Egyptian sculptors.

[187] Copenhagen, Ny Carlsberg Glyptotek, inv. AEIN 933. The stone is currently described as diorite on the museum placard, rather than greywacke.

[188] Although it cannot be proven without the heads that belong to the athletes, it is unlikely that these were intended to be paired with an imperial portrait as the combination of nude athlete with imperial portrait is unattested, even in bronze and white marble.

[189] Ashton 2001; Stanwick 2002; Ashton 2004.

[190] Gregarek (1999, 47 and 258, cat. F9) connects this technique with Egyptian sculpture in plaster based on only two examples. Further analysis of Egyptian piecing and sculptural tradition is required to verify this suggestion.

Whoever was responsible for producing Roman sculpture in lapis basanites must have been conscious of the meeting of a Greek formal and Egyptian technical traditions. The lapis basanites athletes are more reflective of this intersection than many of the other sculptures. The nearly nude or nude male form, standing in a primarily frontal position, his skin dark – either exposed stone or aged bronze – was common to both the Egyptian and Greek tradition. The use of pigment to color the details of the lapis basanites athletes intensified the relationship to the Egyptian sculptures, whether intentionally or not. These athletes, like the Roman portraits of the emperor in lapis basanites, the representations of the Nile, and even representations of Venus – often syncretized with Isis – open up a conversation between Greco-Roman sculpture and Egyptian culture, materials, and more.[191] Sculptor, patron, and viewer could hardly avoid the comparison and sometimes it was clearly prized. Even if the connection to bronze was emphasized with material inlay, as it may have been in the Ephesos Scraper, the physicality of the stone remains a constant. Even an attempt to obscure it, to complete the illusion of imitation of bronze, in fact draws attention to the act of representation enacted with the unusual material. The unique properties of the stone that enable the imitation are the same ones that identify its Egyptian origin. The exoticism of Egypt that was in vogue under Caesar is here something less foreign and much more entangled with elements of the Helleno-centric canonized past. The lapis basanites athletes thematize the Roman reception of Greek and Egyptian antiques. Selecting from a wealth of available models, the sculptors combined form, technique, material, and superficial treatment from different traditions to create something that manages, simultaneously, to be decidedly new and blatantly derivative.

[191] This engagement involves an exchange of style as well as deeper and broader connections that turn on various acts of reception. Ashton (2001, 45-53) rehabilitates the association of a Ptolemaic queen statuary type with the royal cult, distinguishing it from the Roman use of the type to connect the subject with Isis and illustrating the steps in this transformative reception. Ashton's work clearly illustrates the varied nature of the interactions between Hellenistic Greek and Egyptian artistic cultures, but the analysis awaits an extension into the Roman period.

4.3 Material plurality: the re-mediation of traditions

The lengthy investigation above has established that the Roman use of lapis basanites for the representation of Greek athlete figure types enmeshed the statues within multiple material relationships of varied character and strength of resonance. As many scholars have proposed, one of these was a resemblance relation to the darkened appearance of antique Greek bronzes. The affinity of color between the two could be highlighted with superficial adornment of the statue, as perhaps was the intention of the Castelgandolfo Ephesos Scraper. Most of these sculptures also aimed at replicating the precise incisions and careful modelling that was more easily achieved in the bronze (or, more properly, the wax model) of their type's predecessor. It is possible that this constitutes an intentional material imitation, but since the sculptors likely worked from plaster casts without direct recourse to the original, it is equally possible that the goal of formal replication necessitated an imitation of certain aspects of the material of their model (a subject to which this analysis will return in the following section). Even if the latter is correct, sculptors may still have been conscious that a bronze predecessor lay behind their plaster model, as is clearly conveyed by particular aspects of the Baia plaster casts discussed in the preceding chapter, and thus they may have looked to the antique bronzes of their local environment in order to effect a material imitation. The age-darkened surfaces of these statues may further have provided sculptors with a model for handling planes and edges or the polychromy of details in a new, dark-colored material in a way that they knew was appealing to the Roman audience.[192]

However, the lithic character of the lapis basanites statues was clearly visible to the viewer in ways that drew connections both with white marble sculpture and with Egyptian antique dark-stone works. The prevalent use of pigment rather than metal entrenches the superficial decoration of the lapis basanites athletes in traditional stone sculpture rather than bronze. While this pigment may have been limited to the articulation of details, it marks a conscious decision that counters the argument that lapis basanites ideal

[192] Even if the statues were roughed out in Egypt, they were almost certainly finished in or nearby Rome. On the stone trade and the work done in the quarry versus at the final destination: Russell 2013.

sculptures strove for a particularly ambitious imitation of an archetype's bronze material. Moreover, it draws important links with Egyptian statues and their material traditions, suggesting that the provenance of the stone was not elided by the color's resonance with aged bronze, even in works that replicate canonically Greek forms. On the other hand, the struts supporting arms and attributes in the *lapis basanites* athletes provide a visual comparison with white marble sculpture and situate the statues well within the Roman tradition of the reception of Greek period styles. The struts differentiate the dark stone from the bronze it resembled, essentially piercing the illusion of material imitation in a way that emphasizes material and facture. A necessary remnant of the sculptural process of replicating bronze prototypes in stone, the struts are similar in size and location to those of white marble and reveal the shared approach to carving both stones, regardless of the many differences in lithotype. Moreover, the struts help to emphasize the derivative nature of the representations, especially in types whose identity is strongly tied to their Greek predecessors. The lapis basanites athletes were intended to be received as Roman elaborations on inherited Greek forms, not as substitutes for Greek originals, but as commentaries upon them, a fact further signified by the peculiarly Roman joining of Egyptian material and Greek form.

The nature of the stone's facture lies at the heart of the material's connection with iron. Emphasizing the difficulty of carving as well as, perhaps, the harsh tonal contrasts of light and dark of the polished surface of lapis basanites, Pliny's comparison to iron is one kind of resemblance relation that defines the materiality of the stone. Yet scholars have never proposed that lapis basanites imitates iron, perhaps because there are few attestations of sculpture in the base metal. The prospect that lapis basanites imitates the darkened appearance of aged silver statues has also never been raised, not least because scholars remain divided on whether silver was allowed to tarnish or whether its blackened appearance was desirable. More relevant, however, is the fact that only small scale silver statues are preserved while the numerous bronzes excavated at Herculaneum, with their particular restoration patinas, have clouded the picture. The scholarly fixation on discovering the bronze original behind the Roman copies combined with an artificial visual affinity to produce a consensus that lapis basanites ideal sculptures aimed at the lofty goal of imitating the bronze of their archetypes. Where formal imitation could be identified, material imitation was

understood as a secondary means of enhancement. Other meanings for the material were allowed only for certain subjects which did not have such antique precedents, particularly the imperial portraits that clearly employed the material for political purposes, namely, to signify continuity with the Ptolemaic and pharaonic rulers of Egypt. In this case, the stone's ability to signify in the political realm – by a kind of material imitation of Egyptian tradition – overshadowed additional considerations of its material relationships. Scholars have not considered, for example, whether the similarity to aged bronze might have made lapis basanites more acceptable as a material – despite its costliness – for imperial portraiture in the city of Rome.

As the investigation above shows, however, previous identifications of material imitation have failed to address the multiplicity of material relationships that pertain to the reception of sculptural materials. By studying materials as secondary to and dependent upon form or subject, the field has pre-determined the range of relationships that it recognizes. The nature of Roman art's reception and adaptation – whether intentional or by copyist's error – of Greek art has been primarily examined as a problem of form complicated by the translation of bronze works into marble. Material imitation served as the handmaiden of *Kopienkritik* and *Meisterforschung*, but while these methodologies have been challenged, the concept of material imitation and the process by which it is identified have not. Instead, the term appears ubiquitous throughout Roman art history and, more problematically, the concept maintains many of the assumptions inherited from its early usage in the study of white marble ideal sculptures.

In particular, practitioners of copy critique predicated their analyses on the fact that a copyist's goal was to make the marble imitate, as much as possible, the qualities of the bronze of the original. For this reason, a stone which also imitated the color of the metal, like lapis basanites, was easily understood as a higher form of imitation. In current scholarly approach, the legacy of this premise is the assumption that material imitation, where identified, links the material of a work to the target material in a specific, intentional and circular looping. Like the illusion of a tromp l'oeil painting, the viewer can either be conscious of the material of the work or see through it to the imitated material. This closed circuit has, in the study of Roman art, tended to blind scholars to the multiplicity of other relationships that contribute to a sculpture's materiality and, by extension, its varied levels of meaning.

Materiality, here, should be understood to refer both to the inherent characteristics of the raw material (color, hardness, friability, etc.), which affect its capabilities in production, as well as to the characteristics attributed to the material by the contemporary audience based on their frame of reference.[193] The former, while they are in one sense 'universal'[194] and unchangeable, are subject to varying interpretations by different audiences.[195] For example, as described above, Pliny's observation that lapis basanites is as hard as iron is equally as valid and accurate as the judgement that the stone is much, much harder than iron following the modern Moh's scale of hardness. Moreover, while the ancient and medieval periods attribute a visual parity between lapis basanites and iron, the modern period sees the stone as more closely resembling the patinated appearance of bronze. Regardless of the fact that the properties of the stone may be unchanged from antiquity to the present day, the experience of those properties is remarkably subjective according to a cultural context, localized practices, and even individual interactions. Personal experiences are largely irretrievable, since even the testimony of ancient authors is channeled through rhetoric and self-representation. Yet together with the material evidence, the literary sources help to identify cultural and perhaps even localized conceptions of materiality. Of course, such identifications must remain hypothetical in many cases, not least because of the well-known discrepancy between the preserved works of (usually Roman) art and the (usually Greek) ones described in the literary sources, but also because an unfortunate majority of the evidence about the superficial treatment of ancient sculptures is lost and cannot be recovered.

Investigating the relationships between materials, as in the case study above, provides the best opportunity to recover a contextualized ancient materiality. By tracing connections and relative evaluations, the material of a given artwork is viewed in the fullest possible way and the various factors that may have

[193] For a much thorough discussion of materiality, see Chapter 1, section 1.1.

[194] E.g. Ingold 2007.

[195] Holly 2013, on materiality as "the meeting of matter and imagination"; Applying this context-dependent understanding of materiality to ancient material culture: Steiner 2001; Swetnam-Burland 2015b; and, to early Christian materials, Bynum 2011.

impacted the selection of the stone, choices about its craftsmanship or superficial treatment, and the eventual reception of the work in its display context become visible. The material relationships articulated by the archaeological evidence and the literary sources help to reconstruct the frame of reference by which Romans evaluated and exploited materials. Among the Romans, material resemblance realtions are perhaps one of the most important and most frequently utilized of these relationships, but, even within a single sculpture, these are still conditioned by the many other material relationships that are relevant.

Roman materiality requires an approach that engages with its pluralistic nature in a more intentional way. Previous accounts have failed to recognize that Roman materiality embraces plurality in the same way that the style of Roman art adopted and deployed a plurality of styles to different purposes. Otto Brendel, in his *Prolegomena to the Study of Roman Art*, has clearly articulated the freedom of choice between conflicting standards that characterized the period's approach to form and style: "In short, the conditions of historical Italy developed in such a way that there was every chance for artists to choose at will between various competing traditions."[196] Brendel's treatise has spawned inventive reassessments of the practices of formal replication and imitation employed by the Romans that provide a useful model for a re-examination of material imitation (to be discussed below).[197] However, because these models are based upon the logic of imitation – likeness and difference from established formal models – they unfortunately cannot encompass the variety of relationships that constitute materiality. The link between *lapis basanites* and iron depends in part on the experience of their relative hardness, a relationship which has nothing to do with imitation even if it does depend upon similarity. The study of material relationships in Roman art has been restricted by its affiliation with formal imitation and thus relationships that depend upon experiential knowledge, shared techniques of facture, and perhaps others are largely still unidentified.

[196] Brendel 1979, 124 (first published in 1953 in the *Memoirs of the American Academy in Rome*). His essay "Roman Art in Modern Perspective", written in 1969 but unpublished until it was added to the 1979 edition of the Prolegomena, further indicates that Brendel thought it necessary to engage with the diversity of Roman art rather than impose structure upon it.

[197] In particular, Hölscher (2004), which however, identifies a systemic order in the selective use and adaptation of period styles in Roman art.

The study of Roman materiality can benefit from new perspectives, particularly ones that take the medium as their point of departure and allow for its multiplicity of points of reference. In this respect, the concept of remediation, developed for the study of New Media, that is, TV, film, and, especially, digital media, offers the best model.[198] In formulating the concept of remediation, scholars have examined the way that such media "define themselves by borrowing from, paying homage to, critiquing, and refashioning their predecessors."[199] There are several parallels between the description of remediation and the evidence presented above about the nature of Roman materiality. First, remediation is inherently retrospective, it is characterized by borrowing from and relying upon previous exploitations of media. The Roman use of materials is heavily involved in tradition and, especially, in a relationship with the materials of the art they inherited as antiquities, as in their use of artificial, darkening patinas on bronze and silver. Second, remediation describes the way that a new medium defines itself by relationships, of varied nature, to multiple pre-existing media. In other words, the way that television repurposes the text of books next to photographs and film is broadly comparable to how the athlete statues in lapis basanites define their materiality with the sheen of bronze, the technique and surface treatment of white marble and Egyptian statuary in dark stones, and the hardness of iron. As is clear in this final comparison, however, the concept of remediation, as it has so far been theorized, is not an exact fit for the Roman examples.

While books, photographs, and television are each independent media, sculpture has traditionally been treated as a single medium, regardless of its material, in contrast with painting, for example. Its three-dimensionality and plasticity is contrasted with the two-dimensional canvas that can be augmented with color.[200] As mentioned in Chapter 2, this concept of medium specificity, particularly its formulation by critics of modernism, does not seem to apply to the ancient world.[201] Compositions, styles, and figures that

[198] Bolter and Grusin (1999) first conceptualize remediation and lay out its theoretical underpinnings. For a thorough discussion of remediation, see Chapter 2, section 2.2.b.

[199] Grusin 2004, 17.

[200] Greenberg 1973.

[201] Kopcke 1964; Allen 2015, 154.

originate in one material proliferate in others and the most highly valued sculptures were those that had been painted well.[202] In the Roman period, it is more constructive to think in terms of histories of the exploitation of specific materials, their mediascapes. While many sculptors may regularly have worked in several materials, each material was bound by certain technical abilities that have a force comparable to the distinctions between film and photography. The additive method of bronze-casting versus the deductive sculpting of marble has often been attributed a significant power over the determination of form, as have their varying tensile strengths. The possibilities of surface decoration add another layer of differentiation. Perhaps the most crucial point, in this context, is that there was a consciousness of each material's long tradition of exploitation as well as a tangible representation of that history present in the city of Rome.[203] That the physical environment could be conceived in this way is evident in Pliny's *Natural History*, which provides a general history for each material and blends its accounts of Greek artists with a mentions of where their works could be seen on display in the capital.

Each material – bronze, lapis basanites, terracotta, and more, perhaps even the different types of white marble, though this is more difficult to analyze today[204] – has an individual history of exploitation. The historic uses of each material in some sense codified over time, especially as examples of works from around the Mediterranean collected in the capital, and then became available for reuse, reprisal, and remediation. Thus the Palatine terracotta sculptures make use of inlaid eyes and incisions around the lips to "recall" the craftsmanship of bronze, to which the quality of their modelling seems to aspire.[205] Indeed,

[202] E.g. Pliny *NH* 35.133.

[203] Pollitt 1978; Roullet 1972; Miles 2008; Bravi 2012;

[204] It is notoriously difficult to determine the provenance of a white marble with confidence by examining the surface. The visual examination of a fracture or the scientific analysis of the chemical signature is more reliable, but is still sometimes uncertain. That ancient viewers did sometimes associate specific white marbles with a cerain statue or structure is perhaps more important than whether they were correct in their identification, which in most cases we are unlikely to ever ascertain; assigning provenance to a white marble was meaningful. It remains to be established the extent to which ancient identifications of white marbles' provenances map onto our own and how meaningful the (in)accuracy might be.

[205] Touchette 2015, 302.

the omnipresent attribution of material imitation relies upon the distinction between material traditions, even if the boundaries and character of these traditions have been assumed rather than explicitly described. It is these long histories of exploitation, present and tangible within the ancient city fabric, that justify the consideration of each material as a distinct medium against which new sculptures and materials could define themselves.

Expanding the concept of remediation in this way makes its precepts particularly relevant for the study of Roman sculptural materiality. Remediation posits that each new medium is characterized by a retrospective engagement with the past that, however, hinges on the present's reinterpretation of that past, a notion that is perfectly in keeping with the culture of the Roman imperial period. The approach aligns with, for example, the systems of extracting and re-using elements of Greek period styles to articulate the new Roman value system.[206] Indeed, remediation can be considered a description of these formal practices as well, in the way that sculptors selected and re-combined figures and styles to create a novel kind of a representation. As Ellen Perry writes of the portrait groups that deploy the Venus of Capua and the Ares Borghese body types, "The… groups appropriated, quoted, and alluded to earlier works of art and by this means themselves became models for subsequent works."[207] What is gained by considering remediation as the overarching model for Roman materiality, however, is, first, the ability to include and discuss relationships that are based on characteristics other than visual resemblance and, second, the importance of the contemporary environment.

While critics of Roman systems of formal borrowing or imitation have continued to assert the relevance of the Greek origins of their models, even if in a de-historicized usage, remediation emphasizes the power of the surrounding environment at the moment that the intervention, a new sculpture, for example, occurs.[208] The color of lapis basanites resonates with antique statues, but, specifically, it is their current

[206] E.g. Hölscher 2004 (1987) and Hallett (2012), described below, as well as Touchette (2015).

[207] Perry 2005, 144.

[208] Hölscher's (2004) system, for example, is predicated on the power that specific models held because of their association with, for example, the style of Polykleitos or Myron. Surely it is how these styles are conceived by the Romans, and Hölscher emphasizes that the semantic system required the styles to lose their historic specificity, but it

aged appearance that is visible in the city of Rome that helps to define the stone's character, not their appearance when they were created. Whereas styles only age in relation to other styles, materials might transform with age and material relationships must be evaluated against the contemporary environment. Moreover, this model emphasizes how each sculptural intervention's critique of existing statues and existing media simultaneously redefines those predecessors for the contemporary viewer. In the words of remediation's original proponents, "What is new about new media comes from the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media."[209] How would a viewer's reaction to the nude, male, white marble Westmacott Ephebe replica in the gardens of Domitian's Villa at Castelgandolfo change if it was juxtaposed with the lapis basanites Ephesos Scraper? Did the Palatine Ephebe's location inside the Sanctuary of Apollo, which was dedicated in honor of the Battle of Actium, heighten some connection to Egypt through the origin of its material, despite its lithe Greek body? Remediation offers the opportunity to engage with multiple, co-existing, cooperating, and even contradictory material relationships at the same time. It encourages students of Roman materiality to embrace the plurality of references, acknowledging that they are necessarily less precise than formal ones, but richer because of their ambiguity. Sitting with the dissonance of this plurality is as necessary as a precise categorization of the various types of material relationships that contribute to such remediations.

Finally, one more aspect of the concept of remediation should be considered. As Bolter and Grusin have described it, remediation is characterized by two contradictory goals that exist in tension with one another, oscillating in importance: immediacy and hypermediacy.[210] A medium aims at immediacy when it seeks to erase the act of mediation, presenting what is represented as real, truthful and experienced firsthand

is still a person and style of the past that is evoked. The material references described in this chapter concern themselves both with the past and with the current condition of the past, e.g. in the relationship to the aged appearance of bronzes, not to their appearance when they were created.

[209] Bolter and Grusin 1999, 15.

[210] Bolter and Grusin 1999, 15, 33-34, 47.

by the viewer. By contrast, hypermediacy multiplies the layers of representation, drawing attention to and expressing a fascination with media and the act of mediation. The sculptural examples discussed in this chapter reveal that while there is a tendency toward immediacy in Roman sculpture, a presencing of what is represented, there is a distinct emphasis on the act of mediation and remediation.

Examples of remediations can be found in earlier periods, and the roots of many features of Roman materiality can be identified in Classical, Egyptian, and particularly, Hellenistic art. Just as the late Hellenistic period saw the beginning of the retrospective selection of styles, it also initiated an interest in the current appearance of the materials of antiques, as exemplified by the creation of the black sulfur oxide patina.[211] It is the physical presence of all these traditions in the city of Rome, however, that spurns the peculiarly Roman, intensive remediations like the lapis basanites athletes. The imported works increased the interest in historic styles and the desire for *ornamenta* at a moment characterized by an unprecedented availability and variety of materials.[212] The processes of formal replication that provided sculptors with established forms and methods of production encouraged experimentation in other areas, a kind of invention at the margins. One direction that such experimentation took was eclecticism, the pairing of multiple styles in a single work.[213] In another direction sculptors experimented with reprisals of existing materials, as in the case of the Palatine terracottas, or employed newly available materials in the representation of established types, as in colored stone ideal sculptures.

The lapis basanites athletes are one particularly rich example of this ingenuity and they demonstrate the ways that such experimentation could engage in hypermediacy, by multiplying layer upon layer of representation. The sculptural type is meant as a representation of an athlete, but the use of the dark stone makes it, in some way, a representation of the aged sculptures of athletes. The illusion of the artwork, the immediacy, takes representation and hypermediacy as its subject. As the multiplicity of material

[211] Willer 1994; Eggert 1994; Descamps-Lequime 2015.

[212] On the new availability of materials: Schneider 2002; Pensabene 2013.

[213] Perry 2005, 111; Landwehr 2010; Touchette 2015.

relationships refuse to cohere, the material adds another obstacle to the illusion. The lapis basanites athletes thematize a critique of multiple sculptural traditions at once, representing histories of representation rather than an athlete. A similar tendency is recognizable in the Roman selection of subject matter and form, which is increasingly characterized in the Roman empire by abstraction, stereotyping, and a resistance to change in which "the consistent portrayal of reality played only a secondary role".[214] While New Media aim at ever greater immediacy, the ideal sculpture of the Roman empire seems to have aimed at greater mediation. In its selective reuse and modification of earlier traditions of style and material, Roman sculpture bears some resemblance to collage and photomontage, both hypermedia in which "to create is to rearrange existing forms."[215]

Sculpture in polychrome stones should be characterized by a desire for hypermediacy that plays with immediacy – both in artwork's material and formal qualities.[216] It thus inverts the relationships of remediation described for New Media and much of Western art since the Renaissance, in which the desire for immediacy holds dominance and is qualified by hypermediacy.[217] These highly mediated Roman works must have contrasted sharply with the majority of Roman sculptural production of painted white stone statuary, which expressed a greater naturalism – immediacy – than the palette of either bronze or terracotta.[218] This immediacy was countered in the context of display by the Roman predilection for seriality or pendant display in groupings of white stone statuary, expressing clearly the tension between immediacy and hypermediacy. In many ways, it is the derivative nature of the formal composition that engages the

[214] Hölscher 2004, 89.

[215] Bolter and Grusin 1999, 39.

[216] Bolter and Grusin (1999, 21) regard the two logics of remediation, immediacy and hypermediacy, as "practices of specific groups in specific times" rather than aesthetic truths. While they identify an affiliation between the Renaissance development of linear perspective and the quest for immediacy of digital media, this chapter argues that the peculiar historical conditions of Roman art encouraged a reflection upon hypermediacy, perhaps even in reaction to the aim at naturalism and immediacy so highly valued in Greek art. In this light, it might be productive to consider all sculpture as a single medium maturing over time, since "The rhetoric of remediation favors immediacy and transparency, even though as the medium matures it offers new opportunities for hypermediacy." (*ibid.*, 60).

[217] Bolter and Grusin 1999, 34.

[218] Abbe 2015, 177.

innovative, numerous, and multi-faceted material relationships that characterize the lapis basanites athletes. It is the use of the material for a composition with an extensive history and broad currency that activates a series of connections and allows the material and its treatment to function as a critique of the history of the composition and the material.

Similar remediations can be identified in a variety of Roman sculptural works of the first and second centuries AD, when this mode of engagement with sculptural tradition seems to have been particularly in vogue. For example, the lapis basanites statue of Agrippina Minor (fig. 4.19-20) engages with other media, whether or not the hypotheses about its superficial polychromy outlined above are correct. If Agrippina's representation was left predominantly dark in color, with only her eyes and perhaps hair highlighted with color, the material would resonate with the Egyptian tradition of depicting female rulers and goddesses in dark stone statuary.[219] If, however, her skin was painted light, then the pairing of pale female skin and dark garment relates her representation to that of the statue of Fortuna from the sanctuary at Palestrina (fig. 4.22).[220] The goddess and her cult at this site were linked to that of Isis, whose priestesses were known as *melanophoroi*, black-garbed.[221] The Palestrina statue of Isis/Fortuna builds upon this tradition with the use of a dark grey stone imported from Greece whose use was unusual in Italy in the second century BC. Points of insertion easily visible on the statue show that her limbs and head were carved separately, probably in white marble, and joined to the dark garment. This tradition of pairing light skin and dark garments was exploited more frequently in the second century AD, suggesting the continued relevance of such statues in later periods. The Matidia Minor from Sessa Aurunca (fig. 4.23), the Niobids from Hadrian's Villa (cf. fig. 6.21), and the statues of Isis exploit the color pairing – with varieties of dark limestone and marble – for dramatic forms reminiscent of the Palestrina Isis/Fortuna, while the second century AD Isiac priestesses display a more restrained attitude. From a local point of view, the Agrippina Minor must also have shared

[219] Belli Pasqua 1995, 35-41.

[220] The statue utilizes a dark grey marble that has been associated with the *lapis taenarius*, but not definitively identified (cf. Appendix B, p. 446).

[221] Eingartner 1991.

a visual affinity with the so-called Vittoria dei Simmachi, the lower part of a draped statue in bigio antico and a hawk in black granite, all of which were found in a fragmentary condition reused in a later wall on the Celio.[222] The statue type adds further connections to other women characterized as priestesses as well as to the *orans* type in other combinations of materials, like the porphyry-garbed form in the Louvre.[223] Moreover, all of these statues, and other Roman composite statues, participate in a refashioning of the long-standing practice of realistically painting the garments of white marble statuary, which should themselves be understood as a remediation (with origins in the distant past) of the real textiles that swathed acrolithic cult statuary. In the Roman statues that combined polychrome garments with white marble skin, the color, sheen, and pattern of polychrome marbles stands in for rich fabric.

Take, for example, the monumental, composite *giallo antico* and white marble statue of Cybele now in the Palazzo Massimo (fig. 4.30).[224] At the moment of her discovery, scholars already understood the strong affiliation of the Numidian *giallo antico* with gold. Assessing the golden garments and the Luna marble skin (attested by the right foot) put to use on a classicizing form, they saw a connection to the appearance of chryselephantine statuary and identified this as a representation of Minerva. The statue was thus restored with a new plaster replica of the head of the Athena Carpegna, basalt hair, and a red stone aegis complete with composite Medusa head. The statue type, however, represents the goddess of Cybele, as Heike Gregarek has clearly demonstrated.[225] The loss of the goddess' attributes allowed the layers of material remediation to take precedence as defining characteristics in the modern scholars' interpretations. Cybele, a goddess frequently depicted in gold, here partakes of and transforms both her own statuary tradition and the chryselephantine one; two other statues of the goddess participate in the same type of

[222] Talamo 2007.

[223] Moltesen 2007b.

[224] Gregarek 1999, 190-91, cat. B57.

[225] *Ibid.* The identification of the original date and sculptor of the prototype are much debated, cf. the summary of different propositions in Tomei (2014a, 318, cat. 125 (G. Scarpati)).

remediation by using warm yellow alabaster for her garments.[226] The composite composition, moreover, adapts the practices of separately carving and joining portions of white marble statues, a practice which is was also directed at composite white stone statuary that might privilege higher quality stones for use in the representation of skin. The Hadrianic or Antonine statue of Cybele from the temple of Magna Mater on the Palatine lacks her head, arms, and right foot, all of which were originally worked separately and attached to the Pentelic marble garments and pedestal.[227] The eloquent combination of materials and style in Palazzo Massimo statue inserts the goddess's representation into the ranks of the most esteemed of classical statues while reveling in the novelty of this particular material manifestation.

Composite statues that utilize colored stones provide the clearest examples of Roman ingenuity in the realm of materials and the layering of representation, but more subtle examples are also available. The Palatine terracottas discussed in the previous chapter remediate the history of terracotta sculpture with an emphasis on clay's generative role in serial production, especially of bronze sculpture. Reflecting upon the same medium, its history of exploitation, and traditional uses is a special kind of remediation that helps to redefine existing media in the face of new ones.[228] Likewise, while the 'substitution' of a cheaper or more easily worked stone for a traditional one has been received as an economically-motivated choice, it may often express a remediation that appeals to modern taste. The use of the black marble from Göktepe, south of Aphrodisias in Turkey, for the Egyptianizing figures associated with the Serapeum at Hadrian's Villa has been considered a second-rate substitution for the dark, expensive, hard stones of Egyptian tradition.[229] The material, however, was most popular precisely in this period, its rise perhaps associated with that of the Aphrodisian sculptors who worked at the villa.[230] This is a topic to which Chapter 6 will return. Taste,

[226] Gregarek 1999, 191, cat. B58, B60.

[227] Coarelli 2012; Tomei 2014a, 318, cat. 125 (G. Scarpati).

[228] Bolter and Grusin 1999, 49.

[229] E.g. Attanasio et al. 2009a, 339-40, n. 111; Belli Pasqua 1995, 56-58.

[230] Squarciapino 1943, 1983.

perhaps as much as cost, might encourage such a substitution and remediation of tradition, if all of the relevant material relationships are examined. In every case, the subject, style, material and long histories of material exploitation participate in constituting the materiality of a sculpture. The aesthetics of formal repetition – that drive the 'fossilization' and standardization of the formal repertoire[231] – engender a greater attention to the act of mediation between the real and the portrayed that representation performs. It directs attention to the material that enacts that mediation, which encouraged inventive and original responses in the selection, treatment, and reception of sculptural materials. Investigating the dynamic plurality of resemblance relations and layers of representation made possible in Roman sculpture by the interaction between material, subject, and style will illuminate the intricacies of Roman seriality, reception of the past, and, perhaps, its turn toward more overtly mediated, symbolic rather than naturalistic forms of representation common in late antiquity.

4.4 Selective imitation as transformative reception: a comparison with form

Reading Roman material relationships within the frame of remediation offers a new opportunity to critique the various types of resemblance relations that have been most commonly identified in Roman art, that is, material mimesis, allusion, and substitution. If material mimesis – or allusion or substitution – are one among many material relationships that define a statue's materiality via remediation, then it should be possible to investigate more precisely how each of these resemblance relations is constructed and functions in concert with the others. The case study of the lapis basanites athletes has already provided an example of this approach. By identifying which aspects of their materiality – inherent characteristics, elements of facture, and context – relate to distinct material traditions, the analysis has distinguished between, for example, a partial material mimesis of antique Greek bronze statues that co-exists with elements that resonate with imported Egyptian hard-stone statuary. Each constitutes a distinct medium with its own

[231] Hölscher 2004, 111.

established tradition; the materiality of the lapis basanites athletes reflects a selective engagement with each tradition whose character varies even within this small group. The Castelgandolfo Ephesos Scraper, if its nipples were inlaid with metal, imitated bronze both with the stone's color and sheen *and* with bronze's use of superficial metal attachment for polychrome details. Both of the statues of the Doryphoros type, by contrast, seem to have used pigment for such details, linking them more closely to stone statuary traditions despite the resonance of the stone with bronze. The selective nature of these engagements is typical of material relationships and allows their co-existence in a single statue. The combination of multiple references even in a single figure or work has already been well-established in the investigation of formal relationships to Greek predecessors, and it is here that the methodologies of formal imitation and adaptation become relevant to the investigation of materials.

Noticing a distinct gap between the modern appreciation of works of art created in the Archaic period and the lack of attention given to later 'archaizing' works that deploy elements of the period's style, Christopher Hallett argued that the style "looked quite different to the ancients from the way it looks to us."[232] Hallett carefully details both the qualities that modern commentators have valued in Archaic art and the features that Roman archaistic art employed, articulating the possible political and religious aims of those features. Moreover, his analysis of the monuments identifies the process of selective borrowing that the Roman artists undertook in their creation of the Archaizing style, a method he compares to that of the authors of the period, who helpfully provide their own testimony. From Cicero to Horace, Latin authors speak of refining their writings with archaisms but improving upon their models with the finish of later periods.[233] Thus, in archaistic works of art, sculptors pair faces whose proportions are closer to the Severe style with more delicate, youthful features and the inscrutable Archaic smile, which may even grace Classical style heads in archaistic works. Likewise, the graceful figures with swallow-tail edged garments

[232] Hallett 2012, 71. Fullerton (1990) and Zagdoun (1989) argue that the distinction between the terms archaistic (as sculptures that are principally archaic in style) and archaizing (that only imitate select archaic features), is too subjective.

[233] Cf. Hallett 2012, 92-3, discussing Cicero, Ennius, Terence, Quintilian and others.

of, for example, the Augustan relief of the Apolline triad in the Villa Albani, glide across the panel in front of a temple rendered in Hellenistic perspective.

Hallett's model of selective borrowing and redeployment of the Archaic style among other period styles draws particularly on the model of Tonio Hölscher, whose landmark book, *The Language of Images in Roman Art*, outlines the Roman use of Greek period styles as a semantic system.[234] In Hölscher's formulation, the period styles of Greek art came to be identified with particular values that were relevant to the Romans and each style was deployed in its appropriate place. The Hellenistic style was well-suited to the representation of battle scenes, with their tragic suffering and dynamic action. The Classical style, by contrast, "was, however, put to use with changes of meaning: for the depiction of *dignitas* and *auctoritas*, that is for ideas that belonged firmly to the core of the Roman system of values."[235] Hallett and Hölscher share an emphasis on how the Roman reuse of Greek styles re-defined them for use in the present. As Hölscher writes of the classical style in use on the Ara Pacis, "Hence the concept of Classicism applies only on a limited scale here: art is not displaying a general historicising backwards turn toward Classical Athens; it is rather expressing the new situation of Rome and the Empire, alive to the present and looking to the future. Only in this light does the further tradition of this style of representation become intelligible."

Moreover, both Hallett and Hölscher emphasize ways that elements of multiple styles are engaged in single figures for the creation of something new couched in the familiarity of established norms. In the study of Roman art, this kind of combination of multiple models, subject types or period styles has often been called 'eclecticism'[236] although it appears even in 'classicizing' works like the Ara Pacis processional frieze.[237] Particularly prevalent in the art of the late republic and empire, eclecticism has been understood as a reaction to the importation of art as the result of Roman conquest in Magna Grecia, Greece, and,

[234] Hölscher 2004.

[235] Hölscher 2004, 54.

[236] Perry 2005, 111; on the process of selection and recombination, cf. 111-49.

[237] Hölscher 2004, 76-82.

particularly Asia Minor. The presence of so much art, in all the styles described in the art historical treatises – and sometimes the actual works described there – inspired artists as they sought to create art that would suit Roman patrons.[238] Hallett's analysis is an important expansion of Hölscher's in that it is heavily critical of the divergence between ancient and modern viewership and in its description of selective borrowing and redeployment within a more loosely established system. Hölscher's semantic model emphasizes relatively limited meanings for certain forms[239] while Hallett's forms have more associative relationships with values.

While both of these models are concerned purely with form and neither deals with the materials of Roman art, they offer a comparison for the kind of selective borrowing and recombination described above for the lapis basanites athletes. Material imitation, even an intentional one like perhaps the Castel Gandolfo Ephesos Scraper represents, was not an all-encompassing illusion that looped back and forth between material and target and was focused on the material of the archetype. Rather, it was partial and it was complemented, subverted, and challenged by other forms of material relationship. It operated by selecting elements – not the entirety – of the target material to imitate and emphasize and by exploiting other connections to the same material, like the subject of a victorious athlete whose historic representations were in bronze. Material imitation is distinctly different from formal imitation as it can *only* be conducted selectively. Whereas techniques of reproduction could create two nearly identical forms, even centuries apart, the only way to make lapis basanites imitate bronze is to exploit an inherent resemblance relation – the color and ability to attain a high polish – and to identify other elements that are transferrable, like the superficial addition of metal. Lapis basanites cannot become bronze. Its imitation is naturally partial and the other forms of resemblance relation are partial as well. Material allusion is likewise a selective process that exploits a particular resemblance relation in the construction of a metaphor, synecdoche, or metonymy. Material substitution relies on a resemblance relation of mimesis or allusion. Each of these takes part in a

[238] Touchette 2015, 293. Hölscher 2004, 87-8: "These formal resources, which in the past had been developed one after the other, were now available for use together. Out of a diachronic development, there came into being a synchronic range."

[239] Hölscher 2004, 86-101.

remediation of an earlier material tradition that is further qualified by other material relationships as well as the subject and style.

There is one additional type of material imitation that must be dealt with, however. In the study of Roman sculptural replication, the term has often been employed to discuss the marble sculptor's attempts to reach the precision of carving and dynamism of the bronze material of the archetype. As discussed in the section on carving above, this is indebted to an old approach that assumes intended fidelity to the model for the purpose of having an identical substitute for the archetype. It also fails to account for the transformative nature of the polychromy applied to stone sculptures that might be the cause of their less precise carving. Still, as in the case of the replicas of the Doryphoros, it is clear that stone-carvers strove to replicate the impression of the volumetrically but precisely modelled hair or the sharpness of the eyebrow ridge or the edge of the lips. Such characteristics are inherently bound to the nature of bronze manufacture; the clay and wax models allow for a dexterity and a sharpness that was not achievable in the same way in stone. In this sense, the handling of the stone-carving in the replicas imitates bronze, but it is not precisely the same kind of material imitation outlined so far in this section. These characteristics of bronze technique are bound up in the articulation of the style. A replica of the Doryphoros or even a statue that sought to be classicizing based on the model of classical athletes imitated these details of carving as a necessary part of the formal imitation. In certain cases, the character of the formal archetype is made possible because of the capabilities of its medium. The definition and recognition of the period style depended on an adherence to such details of manufacture and they were thus replicated. The imitation of form engenders an imitation of material, but it is of a different character than the kind of selective material mimesis previously described. Via plaster casts and models, these fossils of the archetype's material were passed on as a part of period style but their presence does not necessarily indicate an intentional imitation of the bronze materiality of the original, which was not conveyed through the plaster cast. Hölscher describes a somewhat similar situation for the formal realm. In all the artistic production of the empire, not every artwork was imbued with the greatness of Greece, the history of styles, or the representation of important values. Sometimes "the received forms

were allowed to become value-free elements in a language of imagery, which one simply used".[240] The imitation of the capabilities of bronze as a part of the reproduction of period style was not necessarily significant for the materiality of every sculpture that derived from a bronze archetype. Differentiating such material fossils from material mimesis may only be possible on a theoretical level, but it helpfully clarifies the nature of the latter as a selective process engaged in critique rather than re-creation. Moreover, questioning how material resemblance relations can work with or against styles and form reveals unexpected and evolving material relationships and remediations, which will form the subject of the next chapter.

[240] Hölscher 2004, 126.

Chapter 5

Agents of Change: Conservatism, innovation, and evolving materialities

The examination of the lapis basanites athletes in the previous chapter illustrated the multiplicity of material relationships, especially to the contemporary environment, that constructed the materiality of Roman ideal sculpture. In many ways, however, that analysis offered explorations of possibilities rather than provable theses for specific statues. With only one exception, the ancient display context of each of the greywacke athletes has been lost and it is no longer possible to identify which relationships might have been strongest in determining the character of each statue. While this situation allowed the investigation of broad, abstract themes and established the plurality that characterized Roman materiality and remediations, it cannot address more specific questions about how the selection of the material related to nearby sculptures or architectural environments. Moreover, this group of objects, representing a single subject, in a single material, whose representation was relatively stable over the entire time period the sculptures were created, prevented the investigation from addressing the changing perception of materials over time.

This chapter shifts the focus of the examination to Roman ideal sculptures that can be associated with a rich architectural context and whose peculiar material features situate them in a linked chain of remediations that occur over the course of more than a hundred years, from the early Augustan to the Hadrianic period. Rather than begin from the formal tradition, by examining a group of sculptures that are related by subject or style, however, this investigation departs from a material tradition: the pairing of red and black stones in Roman ideal sculpture. By identifying and tracking the evolution of such relationships over time, this chapter reverses the traditional approach to the study of Roman materiality and remediation, establishing the existence of patterns and relationships among materials, and then examining how their materiality may be nuanced in their sculptural use by a pairing with a particular subject or style. It offers opportunities to engage with material traditions independently from formal ones, examining, for example, the ways that material relationships can drive reinterpretations of established statuary types. This approach pays particular attention, moreover, to the life of materials and objects, illuminating the ways that the

physical aging of materials altered their material relationships over time and made new remediations possible. The logic of remediation, applied to these sculptures, illustrates the process by which innovation responds to tradition and then slowly crystallizes into the familiar, demarcating the bounds of decorum and effecting change over time. Each sculpture can be seen as an intervention into the material environment, exploiting a multiplicity of material relationships to confirm or challenge the status quo of material traditions. The approach modelled here offers opportunities to study the Roman reception of artistic traditions from a new perspective, illustrating the ways in which foreign media practices could be integrated into Roman art with – or without – their historically paired formal practices. Perhaps most importantly, this reversed approach has the ability to reveal Roman material relationships that are unexpected and surprising and that illuminate the sometimes vast divergence between Roman materialities and our own modern ones, which is one of the biggest obstacles for future work in this field.

5.1 The Red and the Black: a favored color pairing

Among Roman ideal sculpture, there are two groups of works whose intentional juxtaposition of red and black stones is quite certain and which are associated with architectural contexts about which a great deal of information is known, even if the actual environment is no longer preserved. Chronologically, the first of these is the group of female half-herms excavated on the Palatine Hill that have been convincingly identified as the statues of Danaids that once adorned the Portico of the Temple of Apollo Palatinus (fig. 5.1).[1] The remains of this series pertain to at least five individual statues. Three are preserved in a black limestone, one of which is nearly intact, while only three arms in a red marble are preserved.[2] The statues all present the same schema, mirrored, so that some raise the right arm to the head and lower the left to lightly grasp and lift a handful of their skirt's fabric while others raise the left and lower the right.

[1] Tomei 1990b, 2006. Their identification and the counter-arguments will be thoroughly discussed infra.

[2] These pertain to either two or three statues. Detailed accounts of the remains, the excavations, and the possible provenances of the materials are provided infra.

The affinity to the type, in form and dimensions, is close enough that the two of the three quite fragmentary arms of the red statues can each be securely associated with one of the compositions known in black. One of the red right arms is raised, one is lowered, indicating that each one of the spectral compositions was also represented in red marble. Enough remains of the series to suggest a group of mirrored, identical half-herms with each type represented in both red and black. Their relationship to the Palatine hill in the Julio-Claudian period is cemented by their excavation context, but their relationship to the mythological Danaids displayed in the Portico of the Temple of Apollo Palatinus is more controversial.[3] For those who considered them to be these Danaids, displayed in one of the most prominent Augustan monuments, the statues are understood to thematize juxtaposition in both their material and formal pairing.[4] Their patterned color scheme has been understood as an element of their archaizing retrospection[5] and as an aspect of Augustan ideology, a symbolic reflection of the duality of the political situation of Rome after a civil war[6] – conqueror and conquered, victorious and penitent.

The analysis of this chapter begins with a reexamination of the Palatine herms that confirms their identification as the Danaids that decorated the portico of the temple of Apollo Palatinus. It then moves to a consideration of their material resonances. Since these statues are the first example of the Roman pairing of black and red stones and this building is widely hailed as one of the earliest monumental uses of polychrome marble, scholars have assumed that its choice of stones represents an innovation. Outside of Rome, however, the color scheme has clear predecessors in Egypt and in Isiac shrines on Hellenistic Rhodes, where the use of local red and dark grey limestones has been understood as a material substitution that was intended as an approximation and continuation of Egyptian practices of using red and black stones.[7]

[3] Prop. 2.3; Ovid *Am.* 2, 2.3-4; *Ars Am.* 1.73-4; *Tr.* 3, 1.59-64.

[4] Cf. Tomei 2006.

[5] Hallett 2012, 87-91.

[6] Tomei 2006, 382-3; 2014a, 168 (M.A. Tomei).

[7] Gregarek 1999, on Rhodes: 55-7, 162-3 and 2002, esp. 206-8; following Gregarek: Allen 2015, 159-60.

While the stones used for the Danaids are much more vibrantly hued than their Egyptian or even Rhodian predecessors, the connection of these stones with Egypt – in the Roman mind, at least – is confirmed by their use for later sculpture related to the worship of Isis in Italy.[8] The Danaids are thus shown to remediate an Egyptian color scheme in a consciously transformative way; the stronger hues of the red and black stones might have decreased the precision of the resemblance to tradition, but they did so in a way that seems to have been intended to suit their Roman context. Their Archaic Greek forms contrast with their Egyptian material, highlighting the geographically conflicted patrimony of the bride/widows and avenger/murderers.

The second group of sculptures to be considered here are dated to the Hadrianic period and were excavated within the emperor's villa at Tivoli.[9] The group is composed of the two, so-called Capitoline Centaurs carved in a black marble traditionally called *bigio morato* (fig. 5.2 and 5.3) and the so-called Red Faun, carved in red marble (fig. 5.4).[10] The two centaurs were excavated in the same room of the Accademia, while the Red Faun was found in the area of the nearby Mimizia; their subjects, sculpting, and attributes suggest they were intended to be viewed as a related sculptural group. Duality plays out in multiple ways among the three sculptures. The centaur pair is grouped in a joint material juxtaposition with the Red Faun, who is distinguished by his striking and bold color as well as his subject and standing, mostly human form. All three were sculpted by Aphrodisian stone-carvers and their relationship to Dionysus and one another is accented by the *nebris*, the fawn skin carried over the arm of the Young Centaur and the Red Faun. Scholars have considered these statues part of a group, but have not given attention to the relationship between the red and black stones, instead interpreting each material's exploitation independently. The black

[8] On the black and red Egyptianizing sculptures at Hadrian's Villa, cf. Mari 2008, 2003 and Chapter 6, section 6.3.

[9] Cf. Haskell and Penny 1981, 178-79; Morawietz 2005, 47-49, cat A1 and J1.

[10] Gregarek 1999, cat. D168 and D169 (centaurs) and cat. D65 (Red Faun).

is commonly understood to imitate the bronze of the formal archetype[11] while the red is understood as a metonymic reference to the wine that associated the faun with Dionysus.[12]

That their materials should be interpreted as an intentional juxtaposition is supported by the existence of other, composite replicas of the centaur types in red and black stones.[13] A second Hadrianic era group of the Young and Old that exploited the red stone for the human bodies and the black for the horse portions was excavated on the grounds of the Villa Doria Pamphilj at Albano. These, unfortunately, cannot serve as an intensive case study in their own right, since the Young statue has been extensively restored on two separate occasions and the Old has been lost since the late 19th century (fig. 5.5).[14] A third red marble torso of the Young type from the first century AD, with the base of its torso prepared for insertion into a separately carved horse body of unknown stone, suggests the existence of at least one earlier composite group that might have made use of this pairing. The fully black centaurs from Hadrian's Villa differ from this trend, perhaps because they were intended to be seen in relation to the fully red faun; as will be illustrated below, these sculptures' materials, subjects, and more seem conceived in relation to one another.

Thus the Capitoline Centaurs and the Red Faun provide the second case study. The analysis begins with a study of the centaurs' complex restoration history, which contradicts the commonly-accepted interpretation that their black stone was intended to imitate the bronze of their prototype. Instead, their emphasis on the color of the stone and their juxtaposition with the Red Faun links them more closely to this material tradition of paired red and black stones. However, their textured surface appeared more grey and matte than that of the Danaids. The ancient surface of the Red Faun is not securely understood, but the

[11] First proposed by Brunn (1853-59, Vol. I, 400-401, 414) and, more recently, by Kell (1988, 29), Smith (1991, 132); and Morawietz (2000, 111-12; 2005, 55).

[12] Gregarek 1999, 143-6; Borghini and Gnoli 2004, 288.

[13] This pairing of the materials has been considered an imitation of the polychrome abilities of the bronze material of their formal archetype: Morawietz 2005, 55.

[14] The Young is now displayed in the Doria Pamphilj Gallery in Rome. Cf. Gregarek 1999, cat. D167; Morawietz 2005, 52-3, cat. J3;

transformed appearance of the black speaks to an alteration in the tradition of this color pairing that, perhaps, speaks to an attention to aged surfaces of earlier works that paired the same materials. The black limestone or marble of the groups would rather quickly oxidize to a greyish color that was similar to the unpolished surface of the stone utilized for the centaurs.[15] The Portico of the Danaids could not have served as an immediate model, since it was damaged, probably in the fire of 64AD, and the statues interred beneath the substructures of the Flavian palace.[16] Still, the centaurs and the faun should be considered the descendants of the material tradition initiated by the Danaids' remediation of the Egyptian use of red granite and black hard stones. This should not, however, be taken as an argument that the centaurs and faun make a material reference to Egypt. Rather, in the course of the intervening decades, the color pairing seems to have been remediated so dramatically that its original relationship to an Egyptian material tradition was less relevant in its Hadrianic employment.

Other examples of this pairing of red and black stones certainly existed, although it is often more difficult to identify the intentional construction of a relationship of juxtaposition between the sculptures, either because of a lack of archaeological context or because the sculptures were not clearly commissioned as a defined group. The most prominent pairing of these red and black stones, for example, likely occurred in a haphazard manner, as statues accumulated in the sanctuaries of Isis around the city of Rome. Antiquities imported from Egypt often included sculpture in red granite as well as in black, hard stones ranging from basalt, grey granite, and granodiorite to the dark shades of the greywacke known to the Romans as *lapis basanites*.[17] Meanwhile, Roman-era statues of Isis, Serapis, Osiris, as well as other Egyptianizing figures

[15] Lazzarini 2013, 142-3.

[16] Candilio 1989, 88. On the re-structuring of the Palatine and other areas for the installation of the Domus Aurea, cf. Lugli (1946a, 348-9, 481).

[17] On the antiquities imported to Rome: Roullet 1972; Lollio Barberi et al. 1995; Lembke 1994a; Swetnam-Burland 2015b, 2015b. See also Chapter 6.

and Isiac priestesses were often executed in a variety of black stones and red marbles could be used for Egyptianizing subjects.[18]

This analysis thus moves on to consider how the effacement of the 'Egyptianness' of this material tradition was effected thanks to the plurality of material relationships that characterize sculptural materiality. While red marble, especially paired with black, could signify a connection to Egyptian tradition, the same stone was also widely exploited for representation of the followers of Dionysus thanks to its metonymic relationship to wine. The intersection of these traditions is clearly marked in the two statuettes of canephorae in the Museo Barracco (fig. 5.6).[19] Formally related directly to the Palatine Danaids but using the iconography of the *nebris* and dedicated at a sanctuary of Iuppiter Liber, the Danaids' form and material is perhaps a model, but is here redefined. The lack of the paired black stone, moreover, is a conspicuous refusal of Danaids' connection to Egypt. This section illustrates how easily materials can bears multiple meanings that are specified via the statue's subject, style, and more and demonstrates how this plurality could be selectively refashioned.

The composite centaurs in red and black, for example, remediate and transform the meaning of this color pairing in a way that turns on the concepts of contrast and opposition that was inherent in the Egyptian tradition and was passed on through the spectrally opposed and internally conflicted Danaids. By this point, however, the original remediation of an Egyptian tradition seems to have been distant enough to be largely overshadowed by the other relationships at play between the Hellenistic subjects. In short, this chapter outlines a series of remediations that seem to spark from a specific and novel one and then to follow a branching generational chain. An Augustan means of materially referring to Egypt has, by the Hadrianic period, crystallized into a way to signify opposing natures of, especially, characters associated with the Dionysiac realm. If this is correct, it begs the question of how the Hadrianic period engaged with or

[18] The statues are collected in Gregarek (1999, 142-3 and 193-210: catalog C: Egyptian deities). The catalog includes sculptures in alabaster and serpentine, but black and dark grey stones predominate.

[19] Recently: Gregarek 1999, 235, cat. D147-8; *I marmi colorati*, 354-5, no. 59-60 (M. Nota).

materially referred to Egypt. Were Egyptian traditions, still represented in Rome via imported antiques, still relevant? Or, were Hadrianic remediations of Egyptian works derived from earlier Roman receptions of Egyptian media practices? Chapter 6 will illustrate that both modes of engagement were practiced, suggesting that remediations like the one discussed in this chapter may spawn their own followers without overwriting the relevance of the antiques and the inherited media histories they presented.

5.2 The Palatine Danaids

The group of half-herm canephorae in black limestone and red marble that were excavated on the Palatine have bearing on a wide variety of scholarly discussions, even while their identification as the Danaids of the Portico of the Temple of Apollo Palatinus remains controversial. M.A. Tomei's 1990 article is the first to identify them as the original statues of the portico, rather than as later variants of those statues.[20] She has discussed them as the archetype of numerous related canephorae sculptures ranging from the Herculaneum 'dancers' to the red marble statuettes in the Museo Barracco.[21] They have also been identified as representative of the particular archaistic tendencies of the Octavianic/Augustan period and its selective pairing of features from numerous Greek sculptural periods.[22] The half-herms have featured in contradictory proposals about the reconstruction of the portico, although some scholars still disagree with the notion that they were even displayed there.[23] W. Trillmich, for example, proposes that a lost archetype that spawned the Siracusa-Nemi series of caryatids should instead be identified as the statue type that adorned the portico,

[20] Tomei 1990b.

[21] *Ibid.*: these relationships will be discussed below, with bibliography.

[22] Hallett 2012, 87-91.

[23] The current proposals for the portico's reconstruction are represented by the reconstructiosn advanced by either Iacopi and Tedone (2006) or Quenemoen (2006).

thus relegating the red and black half-herms to secondary variations (perhaps not even Danaids) from some other context.[24]

Interpretations of the significance of the materials used for the Palatine statues have shifted to suit the subject at hand, they have never been engaged as the central focus of an examination. The following discussion, by contrast, prioritizes a study of the material remains (as well as their problematic reconstructions) and their likely relationship to the portico. It moves on to focus on the intentionality behind the juxtaposition of the two stones by investigating the possible material forebearers that could have provided a frame of reference for a viewer of the portico in 28BC. The novelty of the statues, as one of the earliest uses of monumental colored marble sculpture in the city of Rome, has prevented scholars from searching for material models. However, the pairing of red and black that is so emphatic in the mirrored series is attested in Egyptian sculpture, architecture, religion, and sense of the cosmic universe.[25] This point of reference was tangibly present in Rome's Egyptian sanctuaries via imported statues; the Hellenistic red and black sculptures of Egyptian subjects that populated sanctuaries on the island of Rhodes shows that the pairing could be adopted as symbolic of Egypt.[26]

This discussion shows that, if the half-herms pick up on this tradition, they perform a radically transformative remediation of it, using different stones for forms and an arrangement that are unattested in Egypt or even in the Roman display of Egyptian sculpture. The materials of the statues are employed for decorative patterning in a paratactic space and they are meant to be costly manifestations of empire. Still, the combination of their Egypt-oriented color scheme and their depiction of water-bearers secure their identification as Danaids. As pendant-paired, serial Danaids meant to evoke connections to Egypt, found beneath the Temple of Apollo Palatinus, the evidence is quite suggestive that these are the statues that stood in that temple's portico. The materiality of these canephorae, moreover, confirms that the Temple of Apollo

[24] Trillmich 2010, esp. 198-200.

[25] Aufrère 2001; Walters 2002.

[26] Gregarek 1999, on Rhodes: 55-7, 162-3 and 2002, esp. 206-8; following Gregarek: Allen 2015, 159-60.

– already vowed in 36BC after a lightning strike[27] – was modified to intentionally commemorate and serve as a victory monument for the Battle of Actium in 31BC.[28] The Danaids and their peculiar, novel color scheme were one of the more visible ways in which this commemorative aspect was communicated.

5.2.a The remains of the Danaids and their excavation context

First, it is necessary to briefly review the extant remains of the half-herms in black limestone and red marble and the evidence regarding their identification as Danaids. Today, three restored black female half-herms stand in the Palatine Museum, where they were moved in 1997 from the Museo Nazionale Romano (fig. 5.1).[29] One additional restored red herm, of which only the right forearm and hand are ancient, stands among them and two additional arm fragments in red marble are extant, but not currently on display.[30]

The three female herms in black limestone were discovered in 1869 during excavations on the Palatine led by Pietro Rosa on behalf of Napoleon.[31] First, two fragmentary statues were discovered in the cryptoporticus running beneath the east flank of the Temple of Apollo along with several other statues in marble, ranging from Neronian portraits to the ephebe in *lapis basanites* that is now also in the Palatine

[27] Hekster and Rich 2006.

[28] Lange (2009, 166-81) assesses additional evidence that the temple was connected with the victory at Actium from its outset, countering the arguments of Gurval (1995), who suggests that viewers in 28BC would not make the connection that was later established by Virgil (*Aen*. 8.704-5) and Propertius (2.31).

[29] On their previous exhibition spot: Ghirardini 1881, no. 7, 9, and 11 (text transcribed in Tomei 1990b, 35 n. 3); Paribeni 1932, 89; Candilio 1989. On their reinstallation and move: Tomei 1997, 56-7, Nr. 31-33.

[30] Tomei 2006; 2014a, 171, cat. 13.4 and 13.5 (M.A. Tomei). The latter misidentifies which rosso antico fragment is integrated into the resin replica.

[31] On the excavations of Rosa: Henzen 1862 Rosa 1865; Tomei 1990c. Tomei (1999) studies the collection of letters, held in the Biblioteca Nazionale in Rome, written by Rosa to Leon Renier, 'archeologo di fiducia' for Napoleon, who financed and requested Rosa's investigations on the Palatine (cf 171-8 on the discovery of the black limestone herms). NB: the catalog entries in Tomei (2014a, 170-1, cat. 13.1-3) incorrectly lists the date of their discovery as 1865 instead of 1869 and associates all three with the cryptoporticus findspot without differentiating between those found on the east and the one found to the north of the temple foundations. Earlier publications make it clear that she interprets Rosa's excavation notes as excavating the earlier two finds in the cryptoporticus beneath the temple and the last, nearly complete Danaid in the 'Area Palatina', that is on the same ground level as the temple (Tomei 2000b, 578).

Museum.[32] The third, the most complete of the series, was discovered two months later in the area to the north of the Temple of Apollo, near where the House of Livia would later be excavated.[33] All three were heavily restored, with several pieces integrated in black stone or plaster, shortly after discovery. These restorations provide a very suggestive reconstruction of the visual parity of the statues, but make it difficult, even upon close examination, to discern which pieces are ancient and which are modern.[34] This situation is reflected in the fact that scholarly analyses have consistently used a version of the phrase "broken and repaired"/"restaurata e integrata", followed by a list of body parts; in many cases it is difficult to tell if a fragment is ancient, but broken and reattached, or whether it is modern, carved to suit the ancient form based on comparison with the other statues.[35] Evidence from one statue has been used as grounds to assume a similar situation for the other statues, as Rosa suggested upon their discovery, "…the parts that are missing in one can be perfectly found in the other, a circumstance which gives us certainty of the ability to restore them after the excavations are finished...".[36] Restoration has melded with the ancient work and become a nearly indistinguishable part of its reception and interpretation. The statues have primarily been treated more as a group of identical statues than as individual pieces of evidence. This impression is only partially

[32] In a letter dated 19 February 1869, f. 303 (Tomei 1999, 171-7), Rosa describes finding a head, then a half of another Caryatid without a head, and the arms of caryatids in nero and rosso antico (on the latter see below) on the 17th of February. NB: the Temple of Apollo is noted in the letters as the Temple of Jupiter Victor (cf. Tomei 1990b, 37 n. 9).

[33] Noted in a letter dated 26 April 1869, (f. 313 of the manuscript), see below, n. 10. It is not clear if this statue was also found in the cryptoporticus or on the level of the temple.

[34] Noting the difficulty of discerning the extent of the integrations and their accuracy: Trillmich 2010, 196, n. 111-2. Landwehr (2000, 102, n. 61-2) also maintains that their identification as Danaids cannot be sustained from their form alone.

[35] The recent Palatine Museum catalog (Tomei 2014a, 168-72 (M.A. Tomei)), for example, while cataloging them individually and describing each statue's restorations, does not indicate which statue is which in the photographs, making it especially difficult to distinguish between the two statues with upraised left arms (likewise: Candilio 1989, 88).

[36] Cf. Tomei (1990a, 37) citing Rosa: "… le parti che mancano ad una si trovano perfette nell'altra, questa circostanza ci pone al sicuro di poterle supplier dopo finite le indagini…".

correct, as the analysis below will show, and it is crucial to distinguish between the statues – here done by citing their inventory number – and between the ancient remains and the integrations.[37]

The most complete of the black Danaids is the one that Pietro Rosa found last near the area of the House of Livia. He praised it as having a 'perfect' state of conservation, missing only the left arm.[38] It seems that he was speaking of inv. 1056 (fig. 5.7a), which is preserved from head to toe and clearly provided the model for the terminal of the other herms.[39] The statue lowers the right arm and once raised the left, which is now missing. The features that most prominently distinguish this herm from inv. 1053 (fig. 5.8), which displays the same position of the arms, are the damage to the skirted portion of the herm (difficult to see in photographs, but especially present at the corners), the large scratch across the thighs, and the dowel hole in the center of the remains of the upraised left upper arm. Although Rosa describes it as fully intact with the exception of the left arm, this is not entirely correct. The face from the nose to the chin is integrated – whether it is modern or ancient is not clear – and the head, neck and shoulders are repaired. The right elbow, forearm, and hand are broken and reattached; of the fingers, only the index finger and part of the thumb are preserved. The lowered arm seems to have been carved out of the single block of marble together with the figure. The fold of drapery grasped by the fingers served as a strut between body and arm. The upraised left arm, by contrast, seems to have been carved separately and attached to the body, as indicated by the hole for the iron pin or dowel that remains in the broken end of the left shoulder. That this pin was probably not added during an ancient repair is confirmed by comparison with inv. 1053, whose partially preserved left shoulder ends in an upraised stub (fig. 5.8) that is consistent with practices of marble joining and whose evidence of a join will be discussed below. The eyes preserve a hollow cavity, suggesting that they would have been inlaid with other materials. Moreover, the top of each head of the Palatine statues

[37] My description of the restorations is based upon personal observation but is heavily reliant upon Candilio (1989) and Tomei (2014a, 168-72 (M.A. Tomei)), who provide slightly different accounts of the restorations and integrations.

[38] Rosa describes the discovery of this third caryatid in a letter dated April 26, 1869, f. 313 (Tomei 1999, 182). Cf. also Tomei 1990b.

[39] Gregarek 1999, 242, E4; Tomei 2014a, 170, cat. 13.3 (M.A. Tomei);

bears a rectangular cavity and a hole for another dowel that indicate the attachment of a separately carved element, perhaps a water basin (fig. 5.7c). The cavity on the crown of the head of inv. 1056 measures 7 x 7 cm wide and 1.5 cm deep. The rest of the statue is largely intact. Only small areas of the drapery are broken in several areas and the buttocks are repaired (and are perhaps modern). At the bottom of the herm, there is a small projecting ledge of roughened stone whose function is unclear, but is adapted for insertion into a base

Inv. 1053 repeats the same composition (fig. 5.8), with lowered right arm and raised left arm, but it is only preserved from the waist up.[40] It is paired with an ancient pedestal that does not join with the remains of the ancient torso and, thus, the skirt between the two is a restoration. The upper rim of the diadem and the top of the head are missing, but otherwise the head, hair, and the face are largely intact, although there are plaster restorations in the hair and the neck and shoulders are partially restored from ancient fragments. The eyes are empty sockets, suggesting that they once bore an inlay. On the top of the head is a cavity 8 x 5 cm wide, which is preserved only to a shallow depth after significant damage to the statue's hair. The right arm is preserved to just above the elbow, while the forearm and the hand are ancient, with a small fragment of the forearm visibly integrated. The fingers of the hand are all now broken.

The left arm is described simply as missing[41], but the situation is slightly more complex. The flat, finished stub that projects from the shoulder testifies to an ancient join in the middle of the upper arm. A comparison with inv. 1056, the other statue with an upraised left arm, is instructive (fig. 5.7); its entire shoulder is preserved, along with the hole for the dowel that once attached the arm to the shoulder. In inv. 1053, the shoulder seems mostly intact and its size in keeping with that of a delicate maiden, but the quite muscular representation of the preserved arms of the herms – compare her right upper arm – suggests that it was actually much larger, comparable in size to that of inv. 1056, than it now appears. The most plausible explanation is that, when the left arm of inv. 1053 broke off, it fractured the shoulder in a downward

[40] Gregarek 1999, 242, cat. E2; Candilio 1989, 88, inv. 1048; Tomei 2014a, 170, cat. 13.1 (M.A. Tomei).

[41] Gregarek 1999, 242, cat. E3; Candilio 1989, 88-90, inv. 1053; Tomei 2014a, 170, cat. 13.1 (M.A. Tomei).

direction, along the line of the dowel that joined the two pieces, removing the lower portion of the shoulder and most of the traces of the dowel. The exact position of this arm is likely similar to the upraised right arm of inv. 1048 (fig. 5.9), but its reconstruction remains hypothetical, a point which will be discussed further below. Of the lower part of the figure, nearly everything below the waist is a modern integration, with the exception of the pedestal, a smoothed quadrangular plinth to which the statue attached. This 20cm tall base in black limestone is today affixed onto a modern, cubic black stone base more than three times its height, which, in turn, rests upon a quadrangular colored marble base. No scholar has yet attempted to formulate a reconstruction of the herms' display that makes sense of both this black stone base – ancient and associated with the herms according to scholarly tradition – as well as the preserved roughened end of the herm inv. 1056 that seems intended for insertion into a larger base.

The last of the black sculptures, inv. 1048 (fig. 5.9), preserves a reversed composition, with the right arm upraised and the left arm lowered.[42] The statue preserves, in a quite fragmented and damaged way, about two-thirds of the figure, from the head to the mid-thigh level of the herm, and both arms. The lower part of the herm and the pedestal are modern. The head was broken off at the neck and has been reattached, as has a piece at the back of the head, while modern integrations in black plaster fill in the shape of the nose and complete the central part of the diadem and the adjacent area of hair. The entire right arm has been reattached, although the fingers have broken off, leaving only the thumb and the index finger present. The left arm is also restored and the elbow seems to be a modern integration. The lower forearm and the hand, which is missing all of its fingers, appear to be ancient. One dowel hole in the index finger of the left hand may testify to an ancient repair. The projecting portion of the skirt that is grasped in the hand has been reattached, while the left breast has been restored with a slightly different stone. Some folds of the garment and the buttocks have been restored, perhaps with modern stone integrations. The surface of the statue has been damaged by numerous abrasions, particularly around the level of the waist. It is not

[42] Candilio 1989, 88, inv. 1048; Tomei 2014a, 171, cat. 13.2 (M.A. Tomei).

clear whether the upraised right arm was originally carved separately and attached by an iron pin, as was the case of the other two statues.

The material of the black herms has been described as *nero antico* from the moment of their first discovery, but it is possible to be more slightly more specific.[43] This identification has been continued through much of the modern literature, including the major modern publications on the Danaids. In these primarily art historical works, nero antico is treated as a specific type of stone, identified from a primarily visual assessment as a black marble and associated with the passages in Pliny the Elder's *Natural History* on *lapides nigri*.[44] The stone has been characterized as a marble with a very fine grain, uniform density, and a color that ranges from dark grey to black.[45] The varieties principally exploited by the Romans, according to Pliny the Elder, were quarried in Greece and Africa.[46] However, as discussed briefly in Chapter 4, nero antico is an antiquarian term that refers to a group of similarly colored limestones and marbles that were quarried at a variety of sites around the Mediterranean, notably including Asia Minor.[47] Scientific re-evaluations of the statues' material have been rarely noted in the art historical literature[48], and even the most recent catalog of the Palatine Museum fails to note the minero-chemical identification of the probable quarry of the Danaids' black stone. The statues were first examined during an analysis of the quarries of the *Lapis Taenarius* mentioned by Pliny (*NH* 36.43) from Cape Tainaron (modern Cape Matapan) on the Mani Peninsula in the Peloponnese.[49] The initial tests of the Danaids' material suggested an isotopic

[43] E.g. in Rosa's letters (Tomei 1999) and in Ghirardini (1881, no. 7, 9, 11, transcribed in Tomei 1990b, n.3).

[44] Pliny *NH* 36.135 and 138. Candilio 1989, 85; Tomei 1990b; Tomei 2006; Tomei 2014a, 168-72 (M.A. Tomei). As "marmo nero": Paribeni 1932, 89. Hallett (2012, 87) errs in identifying their material as Egyptian black basalt (citing articles that identify the stone as nero antico, including Tomei 1990b and 2002).

[45] Candilio 1989, 85; Tomei 1990b, 35 n. 4.

[46] Pliny *NH* 36.135 (Greece) and 138 (Africa).

[47] For a complete discussion of black stones and their terminology, see Appendix B.

[48] Candilio (1989, 85) is the exception, offering the most in depth examination of the material, associating it with the Tunisian quarries of Djebel Aziza, which was then the only known African source of the stone (*NH* 35.138).

[49] Bruno and Pallante 2002, 173-4.

similarity with the fine-grained, black limestone outcrops of Mani but also with the values then reported for the black limestone quarries of Ain El-Ksir, near ancient Chemtou, the famous quarry of giallo antico. More recent analyses of the Tunisian quarries of black limestone have maintained that the stone of the Danaids was quarried at Ain El-Ksir[50], a suggestion that is additionally supported by the fact that archaeological surveys of the black limestone outcrops on the Mani peninsula have found little clear evidence that they were exploited in antiquity.[51]

The modern usage of the term nero antico, moreover, has slightly shifted and is no longer appropriate for the description of the Danaids. L. Lazzarini and P. Pensabene have attempted to map lithotypes onto the primarily color-determined antiquarian system, suggesting that a limestone of grey to black color should be technically classed as a *bigio morato* in order to distinguish it from a marble – a *bigio antico* – of the same color range.[52] The term nero antico, by contrast, is used by these scholars as a blanket term that covers grey to black limestones and marbles and can be used when uncertain of a statue's lithotype.[53] Under this schema, the material of the Danaids should be classed as a black bigio morato, but this risks confusion among the majority of scholars who still consider these antiquarian terms to primarily describe a range of colors rather than a lithotype and for whom bigio morato thus still refers to a more greyish stone. Rather than continue this confusing melding of old and new terminology, it is better to make use of the results of scientific analyses when available and, in this case, to name the material of the Danaids as a black limestone, probably from Ain El-Ksir in Tunisia, but possibly from Cape Tainaron in Greece.

Three fragments of arms in red marble that belong to herms of exactly the same proportions and compositions are today the only testimony of the existence of red half-herms that supplemented the black

[50] Agus et al. 2006.

[51] Bruno and Pallante (2002, 166) note that modern quarrying in this area is extensive and could have erased the traces of ancient exploitation. Still, based on the extant artifacts, the 'lapis' that Pliny identifies as being quarried here should apparently be identified with the black or grey marble quarried at Cape Tainaron.

[52] Pensabene and Lazzarini 1998; cf. Appendix B for a full discussion of their proposed system and the conflicts it creates with the traditional method of the naming and classifying black and grey marbles and limestones.

[53] Lazzarini 2013, 142.

ones. Pietro Rosa, in a letter dated February 19, 1869, notes that arms in red marble were found alongside those of the caryatids in black stone, within the same cryptoporticus that supported the temple that would, later, be identified as that of Apollo.[54] Rosa notes that the fragments are the same size as the black ones, but does not specify how many fragments were found. Since only the arms were preserved, it seems the red marble herms were considered too fragmentary to reconstruct even if their form could be almost completely projected. In any case, after the mention in the letter, their eventual fate was unclear until recently, when a cataloging project in some of the Palatine store-rooms led to the 're-discovery' of two arms that matched the size and disposition of the black Danaids.[55] Since the red herms were only suggested based on Rosa's notes until their 2006 publication, they remain less well-known and are sometimes overlooked in analyses of these statues. When they were recovered in the storerooms, a thick layer of dirt and encrustation completely obscured the rich red color of the marble, which made them more difficult to identify among the many other marble fragments kept on the Palatine, despite earlier attempts to locate them.[56] The removal of this encrustation during restoration revealed the ruddy color of the stone[57] and these fragments are now widely considered to be those excavated and described by Rosa.

Each fragment pertains to the right arm of a different statue. One represents the central portion of an arm, broken in the middle of the forearm and the middle of the upper arm (fig. 5.10).[58] The elbow, bent at a quite sharp angle, is sufficiently preserved to match its shape and angle to that of the upraised right arm of the black Danaid inv. 1048 (fig. 5.9).[59] The second fragment, by contrast, preserves the lower part of a

[54] In a letter dated February 19, 1869, f. 303 (Tomei 1999, 171-7); cf. Tomei 1990b, 39; 2006. The catalog entries in Tomei (2014a, 171, cat. 13.4-5) incorrectly lists the date of their discovery as 1865.

[55] Tomei (2006, 381, n. 14) credits V. Moesch and S. Trevisan with the re-identification of the fragments.

[56] *Ibid*.

[57] The restoration project was carried out by L. Ruggeri and S. Murrone of the Soprintendenza Archeologica di Roma (*Ibid*., 381, n. 15).

[58] Palatine Museum, inv. 486338: *Ibid*., 382, no. 1; 2014a, 171, cat. 13.4 (M.A. Tomei).

[59] Comparable to Palatine Museum, inv. 1048.

forearm and the hand, except the fingers (fig. 5.11).[60] It pertains to a lowered right arm whose fingertips grasped the skirt of the herm, pulling it up and outward in the manner of the two black Danaids with lowered right arms (inv. 1056 and 1053, fig. 5.7 and 5.9, respectively). Recently, the Palatine museum has integrated this hand into a reconstruction of a full rosso antico herm with lowered right arm (fig. 5.12), which was created by making a resin replica from an overcast of the most complete black Danaid, inv. 1056.[61]

The third fragmentary arm in rosso antico that has been identified as belonging to the Danaid series was excavated separately, in the Domus Tiberiana in 1981.[62] It represents a left hand rather than a right one, is missing the fingers, and is broken just above the wrist. The fragment has not been able to be identified as either an upraised or a lowered left arm, so it is not clear to which type it pertained. Still, its size and disposition conform precisely to the left hands in nero antico, providing additional testimony that the red herms reproduce the same schemata as the black ones. The fragments discovered by Rosa, moreover, already attest to the fact that both types – with upraised and lowered right arms – were attested in red marble as well as in black limestone.

Referring to the red marble by its more common name, *rosso antico*, is slightly more precise than calling the black stone nero antico, since there were only a few primary quarries of red stones exploited for Roman sculpture. The first was located on Cape Tainaron (modern Cape Matapan) on the Mani peninsula of Greece[63] while the second was in Iasos[64], in Caria, in Asia Minor. Traditionally, the term rosso antico has been intended to apply specifically to the former, while the latter has been referred to, in antiquarian terminology, as *cipollino rosso* or *Africanone* (also called *Marmor Iassense* or *Marmor Carium*). The

[60] Palatine Museum, inv. 486331: Tomei 2006, 382, no. 2; 2014a, 171, cat. 13.5 (M.A. Tomei).

[61] Tomei 2014a, 171, cat. 13.5 (M.A. Tomei).

[62] To my knowledge, no photograph has been published. Palatine Museum, inv. 528736. Cf. Tomei 2006; 2014a, 171, cat. 13.6 (M.A. Tomei).

[63] Also called *Marmor Taenarium*: Lazzarini 1990; Gorgoni et al. 2002; Lazzarini 2004; Lazzarini 2007, 71-96.

[64] Variously called in antiquity: *Marmor Iassense*, *Marmor Carium*; and in antiquarian terminology: *cipollino rosso*, or *Africanone*: Andreoli et al. 2002; Lazzarini et al. 2005; Pensabene 2013, 397-98. Perhaps another yet to be identified quarry in Caria also existed; the small quarry of red stone near Aphrodisias is unlikely to be it, since the stone appears only in thin beds banded by grey and black marbles (Lazzarini 1990, 241-4).

Carian stone can present with bands of grey – thus the comparison to the green-banded *cipollino* of Euboea[65] – but the stone exhibits a quite wide variety of appearances from the veined and brecciated versions to a homogenously deep red that bears great similarity to the Greek stone.[66] The name rosso antico has thus sometimes been applied to identify any stone of this solid, rich red hue, particularly if there has been no scientific analysis of its composition. To my knowledge, the stone of the red marble Danaids has yet to be archaeometrically examined, but given its rather homogenous color (although only small areas are preserved) and their well-established Augustan date, the fragments should most likely be associated with rosso antico (Marmor Taenarium).[67] The quarries there were exploited for revetment slabs and architectural elements for Italian locales from the late republic, and for sculptural productions from the first century AD onward, though it became especially popular in the late first and early second century AD (although some of these may be re-assigned to the quarry in Iasos in the future). These canephorae would be the earliest large scale figural works in Marmor Taenarium. The Roman use of the Carian quarries (like most in Asia Minor) seems to begin in the second century AD (or, possibly, as late as the Severan period), and it becomes one of the most highly prized stones in late antiquity.[68] The red stone of the Danaids is thus likely a true marble, in contrast with the limestone of the black herms. That the Romans recognized a difference between the two is certain from the texts of Pliny, who identifies some stones as *marmor* (e.g. Marmor Carystium *NH* 36.48) and other as *lapis* (e.g. *lapides nigri* of Africa, *NH* 36.138), but the distinction seems not to have

[65] Lazzarini 2007, 183-203.

[66] Lazzarini et al. (2005, 327) note that the homogenous variety of the stone was mostly used for small statuary, perhaps even as a substitute for Marmor Taenarium.

[67] Lazzarini 2007, 71-96.

[68] Andreoli et al. (2002, 13) notes that the quarries show some evidence of exploitation in the Hellenistic period. Attanasio et al. 2013 have identified this stone as the material of several works at Hadrian's Villa. On the diffusion of Marmor Taenarium: Lazzarini 2004; Lazzarini 2007, 71-96. Marmor Iassense tends, moreover, to be used for architectural elements and revetment and only for small statuary (Lazzarini et al. 2005, 321).

significantly affected the selection of colored stone for sculpture, where preference for hue and pattern seems to have dominated.[69]

In total, the fragmentary remains of the herms represent five or six independent statues (five if the red left hand from the Domus Tiberiana might belong to one of the herms attested by the Rosa right arms). While these are produced in two different materials and in two mirror-images, all belong to a single formal composition. Even as a small group, they thematize seriality by adorning their homogeneity with a patterned, undulating kind of *variatio*. If they are correctly identified as the Danaids, a group of fifty statues set up within the precinct of the Temple of Apollo, a hypothesis which will be discussed below, this impression of contrasting sameness must be imagined to have continued through an additional forty-four statues. The largely fragmentary character of the remains, as well as the relatively few statues of the series – only six of fifty – that are partially preserved can be attributed to the nature of their deposition. The cryptoporticus in which the majority of these statues were found housed a lime kiln, dated by its sculptural finds to the end of the Julio-Claudian period, predating, moreover, the foundations of the Domus Flavia; the Danaids and numerous other sculptures seems to have been collected here for eventual burning.[70] Whether the herms stood in the Portico of the Danaids or elsewhere, their display context seems to have been damaged in the fire of AD 64, which destroyed a significant amount of the structures on the Palatine and made way for the construction of the Domus Aurea and the Flavian palace. The Danaids and the other sculptures found with them seem to have been systematically removed from the damaged buildings and broken into small pieces for easier burning in the lime kiln. In this light, even the fragmentary remains of five or six statues of such close parity is suggestive that there might have been many more.

[69] The ancient marmor does not reflect a specific geological formation, as it does in modern terminology, but was used to refer to the qualities of stones – and thus also included porphyries and other non-marbles – that were polishable, durable, and brilliantly colored (Schneider 2002, 83).

[70] Candilio (1989, 88) describes the re-structuring of the Palatine and other areas for the installation of the Domus Aurea. See also Lugli 1946a, 348-9, 481. Candilio (1989, 88) notes that Lugli's pl. 8, spot M marks the findspot of the herms, but it does not quite align with that described by Rosa (on which see: Tomei 1990b, fig. 4).

As a result of their very fragmentary state, as well as their extensive restorations, there remain many open questions about the final appearance of the half-herms. Three issues are the most important. First, Tomei has suggested that one statue may have extended her unpreserved left arm significantly further upward, based on the arm's fragmentary remains and the position of the shoulder. Second, the cavities on the heads of the Danaids suggest that a separate element was attached to their heads, but there is little evidence preserved about its form or even its material. Third, although scholars have generally accepted the homogenous surface of the black herms as a reflection of their ancient appearance[71], there is reason to believe that more than just their eyes were augmented with polychrome elements. None of these questions can be answered with certainty, but the preserved statues offer more evidence than has typically been allowed.

The question of whether their composition was differentiated to display varied positions, specifically of the raised arms, is perhaps most important, since it would entail a significant change to the impression of mirrored copies that the group currently provides. Tomei first argued this theory in her 1990 article that identified these statues as the Danaids from the Portico of the Temple of Apollo, but it has subsequently fallen out of her analyses without an explanation. Her later descriptions, particularly after the discovery of the red fragments in storage, favor a mirrored disposition of the statues in the portico rather than serial, differentiated appearances.[72] Tomei's original suggestion has never been critiqued but it is deserving of analysis, particularly as it seems to have formed a crucial piece of her argument that the red and black herms are the model from which numerous other statues derived. As Tomei continues to advance this latter theory in her recent publications, it is worth examining her claims about the possible differentiation of gestures in the Palatine statues. It is undisputed that the herms are associated with a

[71] E.g. Hallett (2012, 88) who explicitly suggests that no color except the eyes were added.

[72] Not mentioned in her reconstruction of the portico (Tomei 2000b, on the Danaids, cf. 578-82) but the mirrored interpretation appears from her publication of the red fragments (Tomei 2006, 379).

statuary type of canephorae – first identified by Andreas Rumpf and further discussed by Paul Zanker[73] – but most scholars do not see the Palatine herms as the model for the other statues.

In addition to the Palatine herms, the statuary type is represented most notably by the so-called dancers from Herculaneum (fig. 5.13).[74] The six bronze sculptures were excavated in the Villa dei Papiri and seem to have been displayed within the peristyle, although their exact arrangement is debated.[75] Rather than herms, the figures are fully sculpted and, while the peplos-draped bodies are broadly similar, each sculpture engages in a different gesture. Their heads are also differentiated by hairstyle, pose, and ornament. None of them replicate precisely the form and gestures of the Palatine statues, but one seems quite closely related. The figure NM 5604[76] (fig. 5.14) bears a quite similar hairstyle and she grasps her skirt with her left hand, pulling a fold up and outward, while raising her right arm above her head. Even in these gestures, however, there are significant differences. The Herculaneum maiden's arms are both significantly more extended than those of the Palatine, which feature acutely bent elbows on at least the lowered arm. Moreover, there is no evidence that any kind of attribute was ever attached to the head of this or any of the other Herculaneum statues.[77]

Tomei's 1990 article identifies a strong parallel between the Herculaneum NM 5604 and the black herm inv. 1056. Examining the hole that housed the iron pin that secured the Palatine herm's separately carved left arm to the shoulder, she suggests that the angle of the pin indicates a much more strongly vertical

[73] Rumpf 1950; Zanker 1983.

[74] Mattusch 2005, 195-215 with a survey of interpretations of the statues and the analysis of their sculptural type; Forti 1959; Pandermalis 1971; *LIMC* III,1 340 n.40, s.v. *Danaides* (E. Keuls). See also: Tomei 1990b, 36, n.3.

[75] Mattusch 2005, 212-5. Mattusch also notes that the sixth statue, the smaller figure NM 5603, is traditionally treated with the others but may represent a different commission and type of representation – perhaps an idealized portrait of a young member of the family in traditional dress.

[76] *Ibid.*, 195-7, fig. 5.15-22.

[77] Nevertheless, before Tomei (1990), the Herculaneum statues were widely considered to replicate the form of the Danaids from the Portico of the Temple of Apollo. Recently, Candilio (1989, 88), following Rumpf (1950, 39-40), suggests they could have been balanced without being affixed permanently. Contra, Tomei (1990b, 40) and Mattusch (2005, 212); even after thorough examination of the technical details of the statues, Mattusch maintains that no point of attachment is present.

extension of this figure's arm by comparison with the other two black herms. Tomei also identified a slight difference in the fall of drapery and suggested this was due to the more upraised arm. If correct, this would imply first, a much greater similarity between the Palatine and Herculaneum statues and, second, the existence of diversity among the compositions of the Palatine herms, which would lend further weight to the idea that Palatine works were the model that was greatly adapted for the Herculaneum Dancers.[78]

The existence of the same form for canephorae is attested by the two rosso antico statuettes now in the Museo Barracco (fig. 5.6).[79] They were excavated in the ruins of a small temple near modern Poggio Mirteto in Sabina that was dedicated, by an inscription in the epistyle, to Jupiter Liber, associating the statuettes with the realm of the Italian equivalent of Dionysus. The figures, moreover, are characterized as followers of the god by the fawn-skin *nebris* – the face of the skin is clearly visible lying on the right shoulder – that they use as a cushion between their heads and the water basins they carry. Their composition is almost exactly a mirror of the Herculaneum maiden NM 5604, with the addition of the nebris and the water vessel. The loose and extended arms, in particular, differentiate these from the Palatine herms. With the exception of Tomei's interpretation, this type has been seen as a derivation from a fifth century BC model, probably a caryatid, but neither the bronzes nor the statuettes show evidence that a beam or other architectural element might have rested on top of them.[80] The statuettes clearly served a votive purpose at the temple. A third fragmentary replica in red marble is preserved in the collections of the Capitoline

[78] Tomei 1990b, 41-2.

[79] Museo Barracco inv. 115 and 116: Helbig and Barracco 1893, 38f., pl. 42; Lippold 1950, 133, n. 4; Rumpf 1950; Pietrangeli 1963, 67, nr. 115 and 116; Helbig[4] II, 628, no. 1868 (H. von Steuben); Zanker 1983, 37 n. 29; Nota Santi and Cimino 1991, 90; Gregarek 1999, 235, cat. D147-8; *I marmi colorati*, 354-5, no. 59-60 (M. Nota).

[80] Helbig[4] II, 628, no. 1828 (H. von Steuben); Gregarek 1999, 235, cat. D147-8; *I marmi colorati*, 354-5, no. 59-60 (M. Nota). Forti (1959) considers the Herculaneum statues as replicas of Greek works.

Museums[81], as is a very similar, life-size head with a fawn-skin cushion in the Capitoline Museums.[82] The statuary type is also replicated in relief by two female figures on an altar now in Milan.[83]

While it clear that there is a relationship between the Herculaneum dancer NM 5604, the Museo Barracco statuettes, and the Palatine herms, the idea that the herm inv. 1056 replicated their gesture cannot be sustained. The most telling evidence is the preserved right side of the Palatine statue, which reveals an acutely bent right elbow that, thus, grasps the skirt at the level of the hip, rather than the mid-thigh. In both the Herculaneum maiden and the red canephorae, the greater extension of the upper arm is paired with an exactly pendant extension of the lowered arm. Thus in the Palatine statue, the bent, lowered right elbow of the herm should imply an acutely bent, upraised left elbow. The Palatine statue's shoulder, moreover, is not displaced upward at all – which does not, in itself, rule out an upraised arm – but the remnants of the upper arm and shoulder are nearly identical to that of the angle and disposition of the other statues. Even the angle of the pin is paralleled by the now largely lost dowel-hole that attached the upraised left arm of inv. 1053. From what is preserved of the Palatine herm, it seems clear that the statues display a single schema, varied only by mirroring the position of the arms.[84] Their restricted variation of pose and their herm terminal argue against the idea that these were the model for the subsequent statues of the type. Rather, it seems more likely that they are specifically archaizing variants of a pre-existing model. The similarity between these works and the female figures represented on several of the Campana plaques, first highlighted by Tomei[85], suggests that the two are connected to a shared model, but is not evidence that the herms are the archetype

[81] Paribeni 1953, the statuette is discussed under cat. no. 86. Noted in Helbig[4] II, 628, no. 1868 (H. von Steuben).

[82] Capitoline Museums, inv. 2436. It was found in the Piazza della Bocca della Verità in 1940. See also, *EA*, 1999-2000 (Jandolo); Helbig[4] II, 437-8, no. 1645 (H. von Steuben).

[83] Civico Museo Archeologico inv. A 1079: Zanker 1983, 27, fig. 4.

[84] Although some scholars (e.g. Koortbojian 2002, 202) have noted the slight differences in position of the heads, it is not clear if this is an effect of restoration or of the ancient design. The otherwise strict similarity and symmetry seems to argue against the antiquity of this type of differentiation, but does not preclude it.

[85] Tomei 1990b, 41-3.

for the other statues.[86] Rather, both are perhaps adaptations of the same pre-existing model, suggesting that it may have been these figures' repeated and novel use in the Palatine complex that spurned interest in the subject (and thus all the later examples including the Herculaneum), even if the herms did not serve as the archetype for further commissions.

Greater variation among the Palatine statues may have occurred in the addition of attributes or polychrome ornament. In particular, there is very little evidence about what type of object the herms may have carried on the tops of their heads and in which material it was executed. In connection with their identification as Danaids, most scholars have assumed that they carried water basins or jugs, perhaps like those preserved in the Museo Barracco statuettes (fig. 5.6). Others have pointed out that the arm does not reach quite high enough to grasp or even stabilize whatever object rested atop their heads.[87] While this is true, at least based on the current restoration, the consistent presence of rectangular cavities on the tops of their heads provides clear evidence that they balanced something there (fig. 5.7c). In terms of iconography, the most likely candidates are, as Tomei has consistently pointed out, either a water vessel or a round basket of the sort visible on the heads of the very similar figures of the Campana plaques (fig. 5.15).[88] Although Tomei has suggested that a basket would be particularly leaky and thus appropriate for the punishment of the Danaids, this iconography is not previously attested in their representation.[89] The possibility that the surmounting attribute was varied rather than identical in each herm has been raised based on the different size and depth of the preserved cavities.[90] However, these differences are so small that they are perhaps insignificant. The shallower cavity on inv. 1053 is due to the fact that its height is not fully preserved thanks

[86] The Campana plaques may, moreover, predate the red and black herms (Iacopi and Tedone 2006, 363-75, esp. 374); the relationship between these two groups of objects is discussed further infra.

[87] Trillmich 2010, 196.

[88] Tomei 1990b, 41-3; for the best photographs of the Campana plaques cf. Tomei (2014a, 150-9 (M.A. Tomei)).

[89] *Ibid.*, 42. Their iconography of the Danaids is discussed infra, section 5.2.d.

[90] Tomei (*Ibid.*, 42-43) bases this interpretation on comparison with the variation in the Campana plaques and continuing her idea that the herms also displayed variety in their gestures.

to damage. It remains unclear if it originally had the same 1.5cm depth as the others. This cavity does have different measurements (8cm x 5cm) than the others (inv. 1056: 7 x 7cm and inv. 1048: 7 x 8cm), but this may not reflect a different attribute. The tenon that fit into this cavity would have been completely obscured at the point of attachment so its dimensions may not have been strictly regulated. Moreover, there is no clear pattern that pairs, for example, the lowered right arm with particular measurements of the join.

Whatever it was, the object must have been worked separately, since there is a clear cavity and dowel for attachment on each of the herms (e.g. fig. 5.7c). Based on comparisons with contemporary joins, the basin could have been carved from stone – perhaps even the same black limestone as the herm, but probably not.[91] The shallow socket paired with a deeper, narrower hole for a dowel is largely in keeping with the practice of joining stone arms in the Augustan period.[92] The Palatine herms employ monolithic blocks for the entire body of the maidens (preserved in inv. 1056) from the terminal of the herm through the body and head, and although restorations make it difficult to tell, perhaps also through the lowered arm. The elbow of the upraised arm, by contrast, projected forward from the rest of the figure and would have increased rather significantly the size of the block required. Carving the upraised arm separately was logical and cost-efficient. The attribute on top of their heads, by contrast, would be in line with the body's column of stone and would have little need to be carved separately. Its pieced addition is thus somewhat conspicuous and suggests that it might have been added in a different material from that of the herm. A nearly contemporary comparison of a colored stone body surmounted by an element in another material is found in the three pavonazzetto kneeling Parthians that once supported a tripod of another material, perhaps precious metal.[93]

The only evidence available regarding the identification of the material of the attribute comes from the method of joining the basin to the statue. The deeper hole for the securing dowel is located at the back

[91] Claridge 1988, 1990.

[92] Claridge 1990, 147-50, fig. 17-20.

[93] Schneider 2002, 84-88; Talamo 2002.

of the head, rather than precisely in the center of the socket where it is normally placed in joins.[94] The placement of the dowel would seem to risk fracture as it is quite close to the surface of the back of the head, but that concern seems to have been less important than a desire to anchor the basin over the back of the neck, where its vertical force countered the forward-projecting weight of the face; the socket for the basin, meanwhile, coincides directly with the width and position of the neck, essentially directing the weight of the basin down upon the most secure, columnar part of the statue. The join displays a concern with weightiness and its safe, secure distribution, strongly suggesting that the basin was carved from stone rather than a lighter material like a precious metal, which could be attached with much less substantial means.[95] Perhaps the color of the surmounting element's stone was intended to contrast with the stone of the figures – a red basin with a black herm, for example – in a continuation of the pairing and juxtaposition so prevalent in the conception of these statues or, maybe, white marble attributes served as a point of similarity and connection among the series. Maybe there are fragments of these still to be identified in the storerooms of the Palatine or perhaps they were, in fact, executed in metal and their absence is due to the removal and melting down of these materials before the herms were sent to the lime kiln. For the moment, these must remain only plausible suggestions.

Lastly, while most scholars have assumed that the color of the red and black stones was augmented solely with the addition of inserted eyes, there is good reason to expect at least a minimal amount of polychrome adornment. The fragmentary condition of the statues and the intensive projects of cleaning and restoration have probably erased any remaining traces of the addition of pigment or even gilding that have been identified on many ancient sculptures. However, as discussed in the previous chapter, more recently recovered polychrome sculptures like the rosso antico Marsyas excavated in the Villa delle Vignacce display telling traces of pigment and inlay and at least some color should be expected to decorate even black

[94] Cf. e.g. Claridge 1990, 147-50, fig. 17-20

[95] Pensabene (2002c, 437) proposes that the element was a kalathos that could have a maximum diameter no greater than 13-16cm because of the size and depth of the cavities on the their heads, but he does not specify in which material he imagines this vessel.

statues.[96] Today the only clear evidence of colored adornment to the Palatine statues is the presence of empty eye sockets, which suggest that their eyes might have been inlaid with enamel and/or precious materials, perhaps also involving the use of bronze eyelashes. The materials of the eyes unfortunately seems to have been removed in antiquity, perhaps in preparation for the disposal and burning of the stone, as there are no modern descriptions of the materials that filled them.[97] The modelling of the incredibly dark and shiny surface of the black limestone herms, especially, is difficult to read without the addition of some highlighting pigment. It is impossible to know whether their skin was painted light, which would create the effect of a maiden wearing colored garments, or not. At the least, perhaps the colorful articulation of their diadem and its sculpted palmettes should be expected. As a point of comparison, the lips of the Herculaneum maidens were highlighted with copper and several of them wear fillets that were inlaid with decorative metal patterns including rosettes, dots, wavy lines, and meanders.[98] The borders of several of their garments are also distinguished with geometric elements like stripes, squares, linear borders separated by twisted twine, and triangles.[99] No two statues display the same decorative scheme, either on their garment edges or fillet. The identical carving of the diadems of the Palatine herms suggests that their costumes presented a more uniform appearance than that of the variegated Herculaneum maidens, but the maidens suggest that the presence of some ornament should be deemed likely on the herms – even if only to make the sculptural detail more legible. The homogeneity of the added pigment and decorative ornament, of fillets and/or garments, might cooperate with the formal replication to help to visually unify the group despite their striking contrast in color and material.

[96] Cf. supra, Chapter 4, p. 204, fig. 4.7.

[97] Rosa's letters note that the eyes must have been inlaid ("avere avuto gli occhi di smalto" cf. Tomei 1990b, 37; Tomei 1999) and Ghirardini (1881, transcribed in Tomei 1990b, n.3) writes "Gli occhi erano inseriti di pietre di altro colore", an assumption apparently derived from the empty eye sockets since no other color of stone was specified.

[98] Cf. NM 5619, NM 5620, NM 5621: Mattusch 2005, 200-8, figs. 5.45, 5.57.

[99] NM 5604, NM 5619, NM 5620: *Ibid.*, 200-8, figs. 5.47, 5.54.

5.2.b The Portico of the Danaids and the Temple of Apollo Palatinus

Since Tomei's study in 1990, many scholars have accepted the identification of the red and black half-herms with the sculptural series of Danaids that ancient authors describe in the portico of the Temple of Apollo Palatinus.[100] Still, several others have raised critiques and there are many unresolved issues regarding the statues' subject, their connection with the Portico of the Danaids, and even the location and reconstruction of the portico. Evidence about the Apolline complex on the Palatine derives from both archaeological and literary sources, both contemporary with its dedication and later. The temple to Apollo was vowed in 36BC and was dedicated in 28BC, and its construction was accompanied by a precinct that included a portico and libraries.[101] Its location was determined by a lightning strike that the haruspices determined was sent by Apollo and that hit a part of the houses that Octavian had acquired on the Palatine in 42BC.[102] Having already adopted Apollo as a personal protector and having attributed his 36BC naval victory in Sicily to the god's aid, Octavian vowed to make over a part of his house on the Palatine to construct a public temple complex dedicated to the god.[103]

The temple and its eventual porticoes were so richly decorated that they caught the attention of ancient authors. There are numerous references to the portico as well as a few longer passages that discuss both the materials of the architecture and the sculptural decoration. Propertius writes the most complete description of the space, using its delights as an excuse for his lateness to a meeting with his lover Cynthia:

> Apollo's golden portico has been opened by mighty Caesar. The whole of it had been marked out for a promenade with African columns, between which stood the many daughters of old Danaus. Here stood a marble statue, which seemed to me fairer than Phoebus himself as with parted lips it sang to a silent lyre; and around the altar stood Myron's herd, four steers by the sculptor, statuary which seemed to be alive. Then in the middle rose the temple, of dazzling marble, dearer to Phoebus even than his Ortygian home: upon the pediment of this stood the chariot of the Sun, and doors

[100] Tomei 1990b.

[101] Suet. *Aug.* 29.3; Aug. *RG* 19. The best survey of the structures associated with Octavian/Augustus on the Palatine and their evolution over time is Iacopi and Tedone (2006), paired with Zink (2008), specifically on the temple.

[102] Hekster and Rich (2006) have shown that the site and the original dedication were related to the interpretation of the lightning strike.

[103] Dio 49.15.5; Vell. 2.81.3. On a connection with Apollo before 36BC, cf. Hekster and Rich 2006, 160-2; Lange 2009, 39-42. Contra: Gurval 1995, 91-113. The naval victory has frequently been cited as the primary motivation for vowing and constructing the temple. Cf. also Lange 2009, 39-42,166-81.

> which were a famed piece of African ivory; one door lamented the Gauls cast down from Parnassus' peak, the other the deaths of Niobe and her children. Then between his mother and his sister the god of Pytho himself, wearing a long cloak, plays and sings.[104] (2.31)

The Portico with the sculptures of the Danaids is mentioned by numerous other authors, most frequently by Ovid, who mentions it as a point of reference in the city twice (*Am*. 2, 2.3-4; *Ars Am*. 1.73-4), and, in the Tristia (3, 1.59-64), seems to indicate that the Danaids were represented in the moment before their murderous deed.[105]

The Danaids have been seen as a difficult and problematic sculptural subject for the portico given the heinous nature of their crime.[106] The Danaids (or the Belides as they are alternately called) were the fifty daughters of Danaus, whose brother Aegyptus sat on the throne of Egypt. A quarrel between the two brothers led Danaus to flee to Greece, where Apollo helped him to conquer the city of Argos. Danaus was accompanied in his flight by his daughters, who were pursued by their betrotheds, the fifty sons of Aegyptus. Danaus allowed the marriages to take place but demanded his daughters enact retribution against his brother by killing their new husbands on the night of their wedding. All but one of them, Hypermnestra, carried out their father's revenge. The daughters, who some versions say were killed, in turn, by Aegyptus[107], received further punishment in Hades, where they were tasked with the Sisyphean labor of drawing and carrying water in vessels that leaked out their contents before they reached the destination. The Danaids enacted an impious act of murder which was seen by many Augustan authors as a crime, yet their sculptural presence within the portico of the Temple of Apollo is certain.[108] According to Ovid (*Tr*. 3,

[104] Trans. Goold 1990.

[105] Ovid (*Her*. 14) also writes an entire letter from the one Danaid who did not complete task, Hypermnestra, to her groom, Lynceus, in the Heroides, but the portico is not mentioned.

[106] Cf. Newby 2016, 52-53. Kellum (1985, 173-5) and Balensiefen (1998) have seen the Danaids as negative *exempla* while Lefèvre (1989, 12-16) and Galinsky (1996) have seen the them as presenting a justified response and pious expiation of misdeeds.

[107] Bonner 1902; Graves 1963, 246ff, esp. 249; Keuls 1974, 46, ff.; *LIMC* III,1 (1986) 340 n.40, s.v. *Danaides* (A.E. Keuls).

[108] For example, Ovid's letter from Hypermnestra (*Her*. 14) describes at great length the reasons why she refused to commit the horrible murder of her husband and how sick she feels that her sisters carried out the deed. Cf. Newby 2016, 52-53.

1.59-64), their 'barbarous' father was also represented, with drawn sword. One late source suggests that the sons of Aegyptus were also present in the form of equestrian statues, but the testimony is unreliable.[109]

The Danaids are, moreover, an unusual choice for sculptural representation because they did not have an extended and well-known iconographic tradition, although images of them appear from the fourth century BC, particularly on pottery.[110] The Niobids and the Gauls represented on the ivory doors probably adopted established figural types and scenes. The lack of an established iconographic tradition or sculptural type is part of the reason that it is difficult to identify the red and black herms as Danaids based on their form and attributes, even if what was probably their most telling attribute – whatever they carried on their heads – is now missing.[111] In what iconography is attested, Danaids wear a peplos and bear vessels; at least this much may be expected of the statues that stood, according to Augustan authors, interspersed with the exotic columns of Numidian marble that supported the portico.

Unfortunately, despite the numerous ancient literary descriptions of the temple and portico, the archaeological record preserves very little of both. The identification and reconstruction of the Temple of Apollo and its portico depends on the accurate interpretation of the entire south-western area of the Palatine Hill, including the libraries of the same complex, the House of Octavian, the House of Livia, and the subsequent constructions in the area, especially under the Flavians.[112] The site was excavated first by Pietro Rosa in the 1860s and again in the 1950s and 1960s, although neither of these campaigns fully published their findings.[113] Several scholars have proposed plans and reconstructions of both the temple and the

[109] The scholia to Persius 2.56 are the only source to mention the presence of the brothers and bridegrooms. The lack of earlier testimony, despite the numerous contemporary mentions of the portico and its Danaids, as well as the likely destruction of the portico in the AD 64 fire make this source unreliable.

[110] Bonner 1902; Graves 1963, 246ff, esp. 249; Keuls 1974, 46, ff.; *LIMC* III,1 (1986) 340 n.40, s.v. *Danaides* (A.E. Keuls).

[111] On difficulties of identification: Landwehr 2000, 102, n. 61-2. Häuber (2014) reviews the arguments for and against identifying the Palatine statues as Danaids.

[112] The most comprehensive overview of the archaeological remains is: Iacopi and Tedone 2006.

[113] Partial reports of Rosa's excavations: Rosa 1865, 1869, 1873; see also Tomei 1990c, 1999 (NB: Rosa identified the remains as the Temple of Jupitor Victor). On the works of the 1950s and 1960s: Lugli 1965; Carettoni 1966, 1978.

portico, particularly after the more recent archaeological studies led by M.A. Tomei in the 1990s.[114] The present appearance of the site derives, at least in part, from the reconstruction undertaken by Rosa, although portions of it were removed during the excavations of the 20th century.[115]

The temple is better preserved and its reconstruction less contested than that of the portico. Most of the *opus caementicium* core of the podium remains and several fragments pertaining to different architectonic elements allow a relatively accurate projection of the structure, even though none of these remain *in situ* today.[116] The most important recent contribution is Stephan Zink's extended study of the archaeological remains of the temple, as well as the earlier structures it superseded, that have furnished important new data about the site and its reconstruction.[117] The temple was Corinthian, hexastyle, and pseudo-peripteral, with ten columns down the flank, seven of which were engaged with the wall of the cella. Many of the measurements of the architectural elements find parity with those of the Temple of Apollo Sosianus, but the wider intercolumniations produce a quite different visual effect. Zink suggests that the Palatine temple façade finds its closest parallel in the porch of the Augustan Pantheon.[118] Both of these appear notably stouter, because of their wider intercolumniations, than their contemporaries.[119] He characterizes both as closer to the Republican traditions of architecture, suggesting that they displayed a conscious archaism of form in comparison with more elegant, *pycnostyle* marble temples that appeared elsewhere in the city.

[114] Colini 1941; Balensiefen 1995; Tomei 2000b; Iacopi and Tedone 2006; Quenemoen 2006; Balensiefen 2009.

[115] Tomei 1999, 167, n. 131, fig. 104. Lugli (1946a, 470) described the stairs reconstructed by Rosa as only in part ancient while the rest was an invention.

[116] Cf. Zink 2008, 58, fig. 12.

[117] Zink (*Ibid.*) refines earlier reconstructions (esp. Lugli 1965 and Iacopi and Tedone 2006) with additional analysis and the discovery of new fragments. On the remains of the structure commissioned by Octavian, particularly in relation to earlier structures in the same area, cf. Zink (2015, cf. his Phase 6, summarized on p. 369).

[118] Zink 2008, esp. 62-3.

[119] Cf. *Ibid.*, 62, fig. 13.

Moreover, Zink notes a certain austerity in the superficial treatment of the temple, despite its novel and rich use of shining, white Italian marble. First, he observes that the carving of the marble is simpler and coarser than in than other Augustan temples, adding to a reduction in ornamentation. What Zink and his colleague H. Piening have been able to reconstruct of the temple's polychromy via minero-chemical analysis shows that it complemented the formal restraint of the architecture.[120] Although it is difficult to generalize, since comprehensive analyses of architectural polychromy of Roman temples are otherwise lacking, the polychromy seems meant to highlight the simplicity of the carving rather than, for example, to add floral or geometric flourishes not present in the carving. Zink and Piening's analysis, however, slightly undervalues the way that this austerity and clarity of approach was contradicted by the richness of the materials that achieved it. Finished in 28BC, the temple was one of the first of Octavian/Augustus' projects that so emphatically utilized the white Luna marble. Much of its surface seems to have been left a glistening white that contrasted with the bright pigment applied to geometric elements and with light ochre pigment paired with gold leaf applied, respectively, to the body and leaves of the Corinthian capitals.[121] If the form of the temple and its carving project austerity, tradition and simplicity, the materials exhibit a novelty and conspicuous costliness that characterizes the 'archaizing' style of the temple as a conscious affectation. The materials of the temple portico, particularly its famous *giallo antico* columns, would only have emphasized the expense of the construction.

The portico of the temple is less well known from an archaeological point of view, and although the textual descriptions provide some crucial details that have been linked to remains found on the Palatine, there is a great deal of debate about the position and appearance of the portico. As noted above, the portico seems to have been destroyed as early as AD 64 and built over during the construction of the Domus

[120] Zink and Piening 2009 and 2014, 245-6.

[121] Zink and Piening (2009, 113) identify via the gilding of the leaves by the remnants of a *bolus* layer, a clay earth that is typically applied as a preparation layer beneath gold leaf.

Flavia.[122] The temple, meanwhile, survived into late antiquity, but burned probably in 364AD.[123] Two different theories about the location of the Portico of the Danaids have found favor among scholars. The first is that the portico surrounded the sides and back of the temple (standing on the west, north, and east). Rosa described a monumental frontal staircase that descended a series of terraces toward the Circus Maximus, suggesting that the portico did not enclose the southern end of the precinct fully, or at all. His restorations removed what little evidence was preserved about the construction of these stairs and nothing remains, archaeologically, of any south end of the portico. Rosa, and those who followed his line of thought, propose that a three-sided portico stood on the same terrace level as the temple, enclosing it within a precinct[124]; this interpretation of the evidence generally lost favor after Carettoni's excavations, and scholars proposed another theory in which the portico was located on a lower level, in front of the temple (though precise reconstructions and locations vary).[125]

Re-examinations of the finds excavated by Rosa and new archaeological investigations on the Palatine in recent decades have reinvigorated the first theory and a few scholars now strongly favor the idea that the Portico of the Danaids stood on the upper terrace, surrounding the Temple of Apollo on at least three sides. Tomei has argued in favor of this location on the basis of the remains of a monumental arch, whose inscription she reconstructs, with the help of Eck and Panciera, to refer to the portico of the Danaids.[126] She posits that the arch served as an entrance to the precinct through the north end of the U-

[122] Candilio 1989, 88. This is supported even if the red and black herms, whose deposition is dated to the AD 64 fire, are not from the portico, since the Flavian palace is built over the top of all the structures that could be associated with the porticoes or libraries of the Temple of Apollo Palatinus (cf. Tomei 2000b; Iacopi and Tedone 2006).

[123] Lugli 1965, 266-7.

[124] For early argument regarding its location adjacent to the temple: Pinza 1910, 34-36; 1913, 205-10; 1914, 192-4; Richmond 1914, 200; Lugli 1965, 286.

[125] For recent reviews of the archaeological evidence and proposed locations, see: Iacopi and Tedone 2006 and Balensiefen 1995. Some (Coarelli 1989, 134; cf. Carettoni 1978, 72-4, fig. 1) have envisioned that it consisted of the western of two smaller porticos standing on this level, one near the libraries and ones in front of the house of Augustus. Iacopi and Tedone (2006) propose that these were destroyed for the construction of a single, large rectangular precinct in front of the temple. For earlier reviews of the evidence: Gros 1976, 95, n. 116.

[126] Tomei 2000b.

shaped portico and thus facing the rear of the Temple of Apollo (fig. 5.16). Her identification of the eastern and western walls of the portico has rightly been challenged by Caroline Quenemoen, who notes that the concrete foundations she attributes to the west and east wall of the portico postdate the appropriate timeframe.[127] Quenemoen, studying the entire site's archaeology as well as the architectural elements in the storerooms of the Palatine, refined Tomei's argument for a position on the upper terrace level (fig. 5.17) and proposes a reconstruction of the elevation as well (fig. 5.18). Her placement of the walls of the portico is based on a row of travertine piers, located beneath the temple level, that form part of a courtyard in the so-called House of Augustus. She argues that these were intended to support the weight of the surmounting terrace and walls and thus reflect the intercolumniations of the portico.[128] Both Tomei and Quenemoen maintain that the red and black herms excavated on the Palatine are to be identified as the Danaids described in the literary sources and that they were employed as paired mirror-images of one another on a second-story level of the portico.[129]

Quenemoen's reconstruction, moreover, suggests that several additional polychrome marbles – portasanta and pavonazzetto in addition to giallo antico – may have been employed for Doric capitals, fluted columns, pilasters, and Tuscan bases of the portico.[130] If Quenemoen is correct, the space employed significantly more polychrome marbles than even the literary sources describe. She proposes a double-storied portico with super-imposed Ionicized Doric orders on both levels.[131] Quenemoen's association of all these polychrome marble fragments with the portico is quite hypothetical and it is not clear, from her article, exactly how she has attributed each of these pieces, but it is worthwhile noting that numerous fragments of polychrome Doric orders were found in the area surrounding the Temple of Apollo. Whether

[127] Quenemoen 2006, 234.

[128] *Ibid.*, 235-6.

[129] Tomei 1990b, 44-6; the load-bearing use suggested by Balensiefen (1995, 194) cannot be sustained.

[130] Pensabene (1997, 153-63; 2002c; Pensabene 2002a, 5) has associated these fragments with the House of Augustus.

[131] On the Augustan use of the Ionicized Doric: Gros 1976, 200-7.

they are all to be associated with the portico – and how – should remain largely in doubt. The famed giallo antico columns mentioned in the literary sources can only be identified in a smaller scale that Quenemoen attributes to the upper story, but she notes that no capitals or bases in the same stone at the same size are extant. Pavonazzzetto columns, pilasters, and pilaster capitals are also to be affiliated with the same level of the portico. Her lower, larger order includes bases and capitals in giallo antico and portasanta, but columns only in portasanta. Quenemoen's arguments are interesting, particularly in the suggestion that the use of several marbles might have subtly distinguished different parts of the space[132], but, as it is presented, the evidence is only suggestive. It is worth considering that, if the portico employed all of these various marbles and directly surrounded the temple, as Quenemoen proposes, it would have a vibrancy and richness that would be strongly opposed to the more restricted coloring of the temple that has been established by Zink and Piering.

The second theory regarding the placement of the portico of the Danaids positions it in front of the temple as a kind of forecourt. The most thorough and archaeologically sound analysis is that proposed by Irene Iacopi and Giovanna Tedone.[133] They propose plans for the entire sequence of building projects on the Palatine under Octavian, from 42 to 28BC. In their view, Octavian's plans to expand the house of Hortensius that he purchased 42BC led him to buy up most of the territory on the southwest area of the Palatine, encompassing the space that would eventually be repurposed for the temple and all the area directly in front of it. He planned and began an extensive renovation of the structures that stood there, including the addition of a courtyard that was placed symmetrically to the one already existing in his house (fig. 5.19). At some point, when this renovation was advanced but not completed, the project was abandoned and these courtyards and the area between them was filled in with debris and building material. The fill supported the construction of a wide terrace that lay in front of the Temple of Apollo and is directly associated with its construction and form. They propose, essentially, that Octavian abandoned the

[132] As, for example, in the Forum of Augustus: Ungaro 2002, 109-14.

[133] Iacopi and Tedone 2006.

renovations of his recently purchased houses in order to dedicate more space to the public sanctuary. In particular, Iacopi and Tedone argue that Octavian initiated the domestic renovations in 36BC, at the same time that he vowed the temple of Apollo on the site where the lightning had struck and that, only in a later moment, perhaps after the Battle of Actium in 31BC, did he choose to abandon those renovations and augment the temple project with the addition of the large portico and the connected libraries.[134] These structures are to be identified, under their interpretation, with the two quite similar buildings that lie at the southern end of the portico, one in alignment with its long axis. With the identification of a large altar whose foundations are preserved directly in front of the temple, Iacopi and Tedone integrate all of the structures affiliated with the Palatine complex into a single plan (fig 5.20).

The foundations and piers that Iacopi and Tedone identify as those of the portico and its surrounding wall are much more substantial than those suggested by either Tomei or Quenemoen and seem better suited to carry the architectural weight of the portico.[135] Their reconstruction of the site is the most reliable and convincing one. However, Iacopi and Tedone do not consider the red and black herms to be the Danaids that decorated the portico, noting the small size of the herms (too small, in their view, to suit an intercolumniation in the structure they reconstruct) and the problematic reconstructions and identification of the subjects of the statues.[136] Instead, they suggest that the Danaids of the portico should be considered to have had a truly architectonic function as caryatids that reached and supported the trabeation, alternating with the columns in a very real sense. Further, they suggest that the architectonic function of these Danaids was reflected in the reuse of their form in relief sculptures of peplophoroi supporting jugs that decorated the attic of the portico surrounding the eastern precint of the forum in Augusta Emerita (modern Merida).[137]

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[134] Iacopi and Tedone (2006, 370-1) cite, in addition, the phrasing of Suetonius (*Aug.* 29, 1.3: "templum Apollinis in ea parte Palatinae domus excitavit quam fulmine ictam desiderari a deo hauruspices pronuntiarant; *addidit porticus cum bibliotheca latina e graecaque*".

[135] Iacopi and Tedone (*Ibid.*) do not address the location of the arch that Tomei identifies as a northern entrance to the Palatine complex, but their suggestions do not rule out its presence.

[136] *Ibid.*, 362-3.

[137] Cf. Tomei 1990b, 43, n. 35 with bibliography. On the precinct: Ayerbe Vélez et al. 2009.

Iacopi and Tedone seem to envision true caryatids whose height, in order to match those of the giallo antico columns the authors reconstruct[138], must have reached five meters. The colossal size of these figures, and their quantity, however, make it conspicuous that not a single sculptural fragment from the Palatine could be associated with such a figure. Still Iacopi and Tedone provide the best archaeological information about the Palatine complex and their reconstruction of the portico, with fifty-one quite wide intercolumniations (a measurement based upon a parallel with the entrance to the Latin library), is quite suggestive of an association with the display of fifty Danaids and Danaus interspersed with the columns.

A truly architectural function for the Danaids has also been proposed by Walter Trillmich, who argues that the Ovidian phrase "signa peregrinis ubi sunt alterna columnis" should be read to mean that the figures were interspersed vertically with columns, in place of other columns. He proposes that, archaeologically, nothing remains of the original Danaids of the Palatine portico, but their form should be identified in the numerous replicas that belong to the so-called Siracusa-Nemi caryatid type, of which the most complete example is preserved in the British museum (fig. 5.21)[139]. The female figure wears a peplophoros and carries a jug in her lowered right hand while her left arm is bent to support a vase that rests on her shoulder; the base of the statue, as well as the vase and the capital surmounting the caryatid are restorations.[140] Trillmich argues that the literary sources indicate an architectonic function for the Danaids that is in keeping with the penintent, load-bearing conception of caryatids in the period. [141] Moreover, in his opinion, the number of replicas pertaining to the Siracusa-Nemi type suggest a famous original that,

[138] Iacopi and Tedone 2006, 359.

[139] Trillmich 2010, with bibliography.

[140] *Ibid.*, 186-7, citing a letter from Susan Walker, then Assistant Keeper of the British Museum regarding the restorations.

[141] Trillmich (*Ibid.*, 198-9) interprets the Ovidian passage "signa peregrinis ubi sunt alterna columnis" as referring not to statues in the intercolumniations but as caryatids that alternate with columns vertically, taking the place of a column for one level of the structure. In his interpretation, then, the original caryatids were carved from Numidian yellow stone, like the columns, which he considers explains the use of the stone for the Cartagena replica of the Siracusa-Nemi peplophoros type. The passage appears in the *Tristes*, written in Tomis without having seen the portico, so any argument based heavily on his descriptive wording should be proposed with caution.

according to stylistic markers, belongs to the classicism of the Augustan period. Trillmich follows Poulsen and several others in identifying a classicizing model for the type[142], rather than earlier propositions that it derived from a Peloponnesian original of the fifth century BC.[143] However, while Trillmich describes his idea of how the sculptures might have been employed in an architectural environment, he does not engage with any of the archaeological reconstructions of the Palatine space.

While Trillmich's thesis is possible, as are the full-sized caryatids of Iacopi and Tedone, neither is fully convincing regarding alternative identifications of the Danaids that might have stood in the Palatine complex. The existence of the Siracusa-Nemi replica series does not necessarily indicate that it derived from a famous original. While it should be associated stylistically with the classicism of the Augustan era in Rome and its subsequent reception around the empire, the type cannot be securely connected to the Palatine. Instead, it should be viewed as an additional testament to a particular fixation on the archaizing, columnar, draped female figure that is attested in the Palatine herms and the replication of the Erechtheion caryatids for the attic of the Forum of Augustus. Moreover both analyses fail to convincingly counter the strong contextual evidence that associates the red and black herms with the complex of Apollo Palatinus. Their sealed findspot clearly affiliates them with display on the Palatine in the Julio-Claudian period and confirms a destruction that coincides with that of the portico. Their serial multiplicity, and their connection – both archaeologically and iconographically – with some of the Campana plaques (fig. 5.15) excavated in the same area argue strongly in favor of their association with the complex of buildings established by Octavian.[144]

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[142] On the history of interpretation of the type and complete bibliography: Guerrini 1986, 38-40. Poulsen 1937, 31, n. 10.

[143] Orsi (1913, cf. esp. 62-72, fig. 13-14) considered the Syracusan statue to be a Peloponnesian original of the 475-450BC. Marconi (1930, 649) recognized it as a Roman copy and considered the original to be of the Peloponnesian origin. Lippold (1950, 178, n. 2) suggested that the work was created in Magna Grecia. Sestieri (1953, 33) identified it as a work of Magna Grecia with elements of Ionic, Attic, and Peloponnesian styles. Guerrini (1986) provides the most complete bibliography and history of interpretation of the type, updated by Trillmich (2010).

[144] On the Campana plaques: Carettoni 1973, 1988; *Augusto*, 226ff (S. Tortorella) with extensvie bibliography; Tomei 2014a, 150-9 (M.A. Tomei). Eight examples with figures of peplophoroi similar to the herms are in the Palatine

The connection with the Campana plaques, however, presents additional problems for the interpretation and identification of the location of the red and black herms. The terracotta plaques were excavated on the Palatine but they are variously associated either with the Portico of the Temple of Apollo[145] or with one of the instantiations of the evolving House of Octavian/Augustus.[146] The latter is most likely, for several reasons. First, terracotta plaques of this kind are commonly associated with the houses and villas of the late republic.[147] Second, when Carettoni excavated many of the fragmentary terracottas in the Palatine complex, he interpreted them as having been employed in a first instantiation of the portico before they were removed and replaced with marble. Iacopi and Tedone have argued, however, that the plaques were excavated in the regions of the House of Augustus that were filled in to construct the terrace of the portico, implying that their deposition predates the first portico. They thus connect the Campana plaques with the renovation of the House of Augustus that was begun in 36BC and abandoned after the 31BC victory at Actium in order to expand the Apolline complex.[148] In their view, the symbolism of the terracotta plaques that has so often been considered a reflection of the conflict between Octavian and Antony is, instead, to be related to the religious-sacral sphere. Any references to Egypt and the presence of Egyptian imagery in, for example, the House of Augustus is likewise attributable not to Actium but to its popularity spurred by Cleopatra's visit to Rome in 46-44BC.

Thus, according to Iacopi and Tedone, the red and black herms that parallel so closely the terracotta plaques should likewise be associated with the realm of priestesses and the sacral and should not be identified with the Danaids of the portico. However, even if all of the terracotta plaques were found in the

Museum: Tomei 2014a, 158, cat. 5.1-8 (M.A. Tomei). Tomei cites additional examples in the British Museum without references and I have not yet been able to locate them.

[145] Carettoni 1971, 1988; Lefèvre 1989; Strazzulla 1990; PPensabene 2002c, see fig. 2.

[146] Iacopi and Tedone (2006, 367, 374) attribute them to a renovation begun in 36BC. Carandini and Bruno (2008, 36-37, fig. 17-18) instead attribute them to a portico that must have been finished in 39BC.

[147] Carettoni 1973, 1988; *Augusto*, 226ff (S. Tortorella).

[148] Iacopi and Tedone 2006, 367, 374-5.

fill for the terrace of the Portico of the Danaids, Iacopi and Tedone fail to account for the fact that two of the black herms and two fragments of the red herms were found in a deposition context that is clearly dated to the end of the Julio-Claudian period by the presence of a portrait of Nero.[149] Two of the statues were collected in the cryptoporticus beneath the temple, near the lime kiln, while the other was found on the same level as the temple, near the House of Livia. Not a single fragment of these herms were excavated in the earlier fill or in the areas that have been identified as the House of Augustus. This strongly suggests that they did not originally belong to the decoration of the house, but rather were associated with the temple area. There is a conspicuous similarity between the iconography of the maidens on the terracotta plaques and the herms, but this is not necessarily an indication that they decorated the same location. It might, instead, be an example of an adaptation of a previously used formal model that was particularly appropriate to the pious and archaizing imagery that Augustus sought for both his house and the temple complex. If the Palatine Danaids are, in fact, adaptations of another statuary type that is also reflected in the Herculaneum Dancers and other statues, as suggested above, there is no need to assume that the herms and the terracottas belong to a single moment of invention. It is perfectly acceptable that the terracottas belong to an extensive domestic architectural project while the herms pertain to the decoration of the slightly later temple complex. Moreover, as the red and black statues display the form of a herm, while all the other affiliated statues and reliefs display a full body and skirt, it is most likely that the Palatine works are the variants rather than the model.

With this review of the evidence, two interpretations for the red and black half-herms are most likely. The first is that the herms should not be identified as the Danaids that stood in the portico of the Palatine complex. Instead, they pertain to the part of the House of Augustus that was not interred during the construction of the Palatine temple of Apollo and, for some reason, their deposition coincided with the destruction of the portico. This version of events would mean that some other sculptures of water-bearing maidens (in my opinion, probably still not the load-bearing colossal caryatids that Iacopi and Tedone

[149] On the portrait of Nero: Tomei 1997, 80, n. 55. On these excavations of Rosa, cf. Tomei (1999, 171-7).

envision) stood between the columns of the Portico of the Danaids. Their forms might be recognized in the Herculaneum bronzes or the Siracusa-Nemi type, even though neither of these is attested even in fragments in the vicinity of the Palatine. This theory requires several leaps of faith and is, in my opinion, less likely to be correct, especially since the presence of a series of statues in costly colored stones – whose exploitation up to this point was limited to architectural ornament – in Augustus' domestic space would be out of place with the personal austerity he promoted. The second possibility, which will receive further support in the discussion below, is that the red and black herms should be identified as the Danaids of the portico. In this context, the Palatine half-herms would represent rich stones in a monumental, public dedication that is in keeping with the pavonazzetto-garbed Parthians of the later Augustan period. This hypothesis is supported by their findspot and the date of their deposition. It rests upon the assumption that the herms are an especially archaizing adaptation of a sculptural type that also inspired the figures on the Campana plaques from the Palatine but that they were not the formal model for the other sculptures of the type. In this interpretation the half-herms were arranged in the intercolumniations of the portico that stood in front of the temple according to the reconstruction of Iacopi and Tedone. The examination that follows studies the possible material connections that could have qualified the reception of the red and black herms in Rome, which gives additional support to the association between the herms and Egypt and, thus, an identification as Danaids, not just caryatids. It illustrates the ways that, like the temple of Apollo Palatinus, the form of the portico and the sculptures it housed were intentionally traditional and archaizing, while its inventive and novel use of materials made physically present the new realities of the post-Actium principate.

5.2.c The red and the black

In previous analyses, scholars have only looked at the material of the red and black half-herms secondarily, suggesting possible associations based on interpretations of their formal and ideological significance. The most extended analyses of the possible meanings of the color scheme have been advanced by Tomei, who has maintained since her 1990 article that the pairing of red and black for the figures of the

Danaids was meant to convey duality in a way that can be variously interpreted. In the context of the recent civil war, she suggests, the double characterization of the women as condemned criminals and penitent priestesses, and as conquerors and conquered, reflected upon the complicated realities of Rome.[150] The series acknowledges the 'crime' of civil war and helps to expiate the sin. For Tomei, this symbolic pairing that helps to emphasize the Augustan ideology of the complex is a counter to the notion that the colors were chosen solely for aesthetic purposes or to present a rich, luxurious environment.

Other scholars have largely avoided discussion of the possible symbolism of the stones or have focused solely on the black stone. Daniela Candilio, writing in 1989 before Tomei first published Rosa's letter that mentioned the red marble antico fragments, suggested that the black color was chosen for aesthetic purposes but perhaps also served to emphasize their act of mourning.[151] Rolf Schneider is aware of the red herms noted in Rosa's excavations (although his article predates the 2006 publication of their rediscovery in the Palatine storerooms), but he focuses on the potential exotic and dark symbolism of the black stone.[152] He suggests that the dark color identified them as figures from distant origins, which contributed to the meaning of the entire sculptural display as a victory over chaos, barbarism, and civil war; the red, he suggests, perhaps symbolized the bloody deeds of the Danaids. Christopher Hallett, writing in 2012, notes that the portico was decorated with figures in both black and red stones, but he focuses his interpretation of the color scheme on the black herms and does not address the bi-chrome arrangement.[153] Moreover, Hallett misidentifies the material of the black herms as Egyptian basalt, by which he probably does not mean volcanic basalt, but, rather, the sedimentary greywacke from Wadi-Hammamat that the Romans knew as lapis basanites.[154] Interestingly, although Hallett accepts the argument that the herms

[150] Tomei 1990b, 48; 2006, 384; cf. also Tomei 2014a, 168-71, cat. 13.1-3; 2014b, 32.

[151] Candilio 1989.

[152] Schneider 2002, 92.

[153] Hallett 2012, 87-91.

[154] Hallett consistently uses the term Egyptian basalt, while citing Tomei's publications (Tomei 1990b, 2002) that identify the stone as nero antico. Basalt is a misleading but common modern name for the sedimentary, dark-colored greywacke (e.g. Sethe 1933, 894; Di Leo 1989) that problematically creates a false equivalency between it and the

decorated the portico of the Temple of Apollo on the Palatine, he does not connect the use of an Egyptian stone with either the Egyptian associations of the mythological narrative or the conquest of Egypt that the temple might have celebrated. Instead, as has been overwhelmingly typical in the study of lapis basanites, the form is allowed to determine the possible cultural references. Hallett prioritizes the archaizing form's connections to the Greek world and suggests that the stone contributed to the retrospective Greek aesthetic of the sculptures. Hallett takes the currently unadorned black surface as an indication that no polychromy, except the inlaid eyes, was ever applied to the surface of the statue. This unrelieved appearance, he suggests, added to the 'primitivist' effect of the terracotta decoration and archaizing style that characterized the complex.

Hallett does not explain exactly how the color black might be archaizing, but it seems likely that he is thinking of the dark patina that covered Greek antique bronze statues thanks to centuries of coats of bitumen or oil for maintenance and/or cast taking.[155] Old bronze might be one viable material relationship for the black half-herms, but not for the red herms. The juxtaposition of the two colors in identical forms would suggest that a reference to antique bronze cannot be the primary resonance for their polychromy, as even Candilio noted when unaware of the red marble fragments.[156] Directed by the Greek form of the sculptures, scholars have found no reasonable material precedents, or even descendants, that can aid in their interpretation of the stones' symbolism. Thus Tomei's interpretation does not address why these particular two colors were chosen – in fact, her theory of duality could turn on the juxtaposition of any two colors in the statues.

In this early period of Roman sculpture in polychrome stones, the fifty blocks of paired colors required for this commission must have been quarried to order, just as the giallo antico columns quarried at

volcanic stone known by the same name. For a clarification of terms and the differentiation of greywacke and nero antico. See Appendix B.

[155] Cf. Formigli 2013a; Descamps-Lequime 2015. See Appendix D.

[156] Candilio 1989, 88.

Chemtou must have been.[157] If Iacopi and Tedone are correct, the portico required fifty-two columns sent from the Tunisian quarries. If the half-herms are the Danaids, they would have required the additional commission of twenty-five blocks of red marble from Cape Tainaron in the Peloponnese and the same number of blocks of black limestone that probably came from the quarry near Ain El-Ksir, but may have come from the black limestone outcrops on Cape Tainaron (perhaps from Mountanistika or Alika[158]). If the black limestone came from the quarry at Ain El-Ksir, near the Chemtou quarry of giallo antico, it perhaps speaks to an association between the commission of the columns and the herms, but not necessarily. In any case, the several identical blocks required for the half-herms indicates a specific commission to distant quarries and the selection of these particular colored stones reflects a conscious choice, a preference that deserves investigation.

Scholars have so far failed to identify the source of the material pairing because their analyses have departed from an assessment of the formal origins of the works. The archaizing Greek style has suggested that their material resonance must also be referred to old, Greek artworks or to new Roman demonstrations of imperium in controlling the materials. Even when Hallett – who accepts the identification of these herms as the Danaids of the portico – misidentifies the black stone and gives it a false Egyptian identity, he makes no connection between the stone's provenance and the Egyptian association of the mythological narrative.[159] In fact, whether or not the half-herms stood in the Apolline Portico of the Danaids, their paired materials make an explicit connection to Egypt and strengthen their identification as Danaids.

The pairing of red and black has a specific and extended history in Egyptian religion and understanding of the cosmos that was reflected in material culture.[160] Textual and archaeological evidence

[157] On the logistics of the stone trade: Russell 2013; Pensabene 2013. Especially at this early point in the trade in colored stones, it is highly unlikely that the blocks of black and red stone could have been on hand in the capital without a special commissions.

[158] Bruno and Pallante 2002, esp. 174. This quarry is quite near the quarry of the red Marmor Taenarium.

[159] Hallett 2012, 87-91.

[160] Walters 2002.

reveal that, in Egyptian temple architecture, only three colors of building stone hold significance: red, black, and white – or light, as it refers both to sandstone and limestone of varying shades.[161] All three, or only two, of these colored stones could be paired to create a decorative effect. One of the clearest examples of this combination are the stones used to build the Red Chapel built by Hatshepsut at Karnak.[162] Granodiorite from Aswan, carved with figures of Nile deities, formed the plinth, while red quartzite from Gebel Akhmar was used for the upper courses of the structure. The black silt of the Nile (*kmt*), symbolizing the terrestrial renewal and fecundity[163], was thus balanced by the red desert, the habitat of the gods (*Dšrt*). Red and black typically signify the complementary realms of the tangible universe, the desert and the Nile.[164] Although other stones may have had symbolic meaning, no other color pattern is so consistent or so clearly articulated.[165] The use of colored stones in temple architecture was particularly prominent in the Old Kingdom (2175-2152 BC), slightly less so in the Middle Kingdom (2040-1783 BC), with a resurgence in popularity in the mid-New Kingdom (1473-1290 BC).[166]

Moreover, red and black maintain their symbolic and visual pairing in a variety of other contexts.[167] They constitute two of the four basic color terms in the Egyptian language, complementary to white and green. These color terms are multivalent and refer to qualities in addition to hues. Black stones were exploited for statuary as a means of invoking the color's relationship to the fertile Nile silt and its connection

[161] Spence 1999, 115. On Egyptian color symbolism more generally: Aufrère 1991; and on its use in temple architecture, Aufrère 2001; Wilson 2010, 789-93.

[162] Lacau and Chevrier 1977, 413; Burgos et al. 2006-2008. Cf. also the dedication of a temple at Medinet Habu by Ramesses III: "I have built for you (Amun-Re, King of the Gods) a noble mansion of millions of years against the mountain of Nebankh before you, built of sandstone, quartzite, and black stone, with a door of electrum and worked copper" (P. Harris I = BM EA 9999, 3, 11-4, 4 (Grandet 1994, 227; Wilson 2010, 781).

[163] Brunner-Traut 1977, 123; Kozloff and Bryan 1992, 142.

[164] Aufrère 2001, 159; Walters 2002.

[165] Barre 1993. Aufrère (1991, 695-707) notes that the symbolic meaning of stones can often only be securely identified in localized use, e.g. of a certain stone for lintel, obelisk, etc.

[166] Spence 1999, 114.

[167] Cf. Walters 2002.

to the underworld and regeneration.[168] Red, on the other hand, was color of the sun, sand, and blood – all necessary but potentially dangerous. The red desert was devoid of and antithetical to life but it was also the realm of Seth, who protected the sun on his journey through the underworld every night; it was the opposite of the sustaining fertility of the riverbed. Rosy colors, like that of pink or golden quartzite and red granite, were closely associated with the sun, and Egyptian statuary and obelisks in this material reflected the connection between the king and the solar deity Re. The deeper colors of red – jasper and carnelian – were used for amulets that helped the wearer harness the more dangerous powers for their own benefit.[169] In one Egyptian magical spell, Isis appeals for protection from 'red things' – where red is a collective category that subsumes evil and hazardous entities.[170] These intense hues were hardly used in painting and no stones of this color that were suited for sculpture or architecture were locally available to the Egyptians.[171] Perhaps only the richly hued red quartzite is similar, but this stone was only rarely imported to Italy and its relevance for Roman remediations is thus less certain.[172]

Surely, it is unlikely that the finer points of the Egyptian cosmological view were known to the average or even the educated Roman, but it is likely that most viewers were aware of the Egyptian provenance of this specific color pairing. Sanctuaries of Egyptian deities located throughout the Italian capital and peninsula were populated with sculptures imported from Egypt long before Actium and a flood

[168] Robins 2001.

[169] Aufrère 2001, 160; 1991, 553-60; Pinch 2001, 182.

[170] Pinch 2001, 182.

[171] Baines (2001, 148) notes the significance of the rare use of "bright, 'focal' red or yellow" in Egyptian painting generally. He also notes (149, 154) that black pigment is rarely attested in the tomb he examines, but its absence is less clearly a choice (although wigs and other elements often expected to be black may be painted a dark blue), since on the one hand, its chemical composition has led to poor preservation and, other other, it is difficult to distinguish from black soot. n the lack of rich reds and yellows in painting. On Egyptian quarries: Klemm and Klemm 2008; Hirt 2010.

[172] On the possible relevance of quartzite in the Hadrianic reception of Egyptian media practices, cf. Chapter 6, p. 381-83. On the quarry: Klemm and Klemm 2008, 215-31. There were two main quarries of quartzite exploited from the pharaonic period: the exploitation of the first cannot be more precisely as a result of modern interventions, it is located in the east of Cairo and produced a light brown to brownish-red or deep brown quartzite; by contrast, on the basis of potsherds and inscriptions, the second was used through Roman times and even later, producing quartzite ranging from pale yellow to reddish-brown.

of booty must have arrived in the city in the years following the victory. The numerous remains of Egyptian statues, columns, and architectural elements excavated in Italy illuminate the palette of Egyptian material culture.[173] The use of grey and black hardstones was paired with the shining pink of Aswan granite, creating an atmosphere that was somehow otherworldly by comparison with the surrounding terracotta, bronze, and white marbles of Roman temples and imported Greek artworks.

A specific and intentional connection between the deep black and rich red Palatine half-herms and this Egyptian tradition of contrasting grey to black stones with pinkish ones has never been proposed, both because of the Greek style of the Palatine statues and because of the quite distinct differences in hue of the red/pink stones. Scholars have long recognized that the Romans used grey to black limestones and marbles as a 'substitute' for Egyptian hard, dark-colored stones[174], but this interpretation has only been applied to works that were specifically Egyptianizing in style and, sometimes, in subject. The use of red marble has pushed the material reference to Egypt even farther away from scholars' minds, since it does not, to the modern eye, share a material resemblance relation with pink granite. No scholar would likely suggest that the rich red 'imitates' the lighter colored stone. Since it is used for an archaizing Greek form, its use has also never been considered a substitution or a replacement for the harder granite. Yet there is still good reason to think that the pairing of the red and black herms was meant to be understood in connection with the Egyptian material tradition.

First, the fact that red marble was considered an appropriate medium for numerous Egyptian subjects, from a bust of an Isiac priest, now in the Capitoline Museums[175], to the hippopotamus now in Copenhagen[176], suggests that the stone certainly came to be affiliated with Egypt later in the Roman period.

[173] On the preference for colored stones in imports: Müskens 2017, esp. 322-3. For a catalog of the monuments: Roullet 1972; Lollio Barberi et al. 1995;Müskens 2017; On the Iseum Campense: Lembke 1994a. Swetnam-Burland (2015b) describes a long and prosperous trade interaction between Italy and Egypt long before Actium.

[174] E.g. Bieber 1977, 34; Gregarek 1999, 111-12; 2002, 206, 209; Lazzarini 2007, 99; Allen 2015, 159-60.

[175] Cf. Mari 2006, 55-6.

[176] Lazzarini 2004, 585.

The Danaids may even have sparked this association. Unlike the Danaids, however, the Egyptian reference of these other sculptures has been considered certain because their subject and stone cooperate in clearly defining the resonance of one another. Thus, while red marble was also appropriate to a variety of other subjects, particularly the retinue of Dionysus given its metonymic relationship to wine, it could be directed toward an Egyptian reference.[177] Second, the pairing of richly hued red and dark grey limestones for Egyptian-associated statuary is attested in a Hellenistic sanctuary of Isis on the island of Rhodes.[178] The use of the two colored limestones is unusual in this period, but as the island had strong connections to Egypt and the statues belong to an Isiac context, scholars have had no difficulty identifying the material relationship to Egypt. Heike Gregarek has described the use of these local limestones as a material substitution for the hard, more expensive Egyptian stones – of which only one example is present on the island.[179]

It is possible that the Rhodian sanctuary provided a direct model for the Roman pairing of red and black stones[180], but it is most important because it constitutes an independent, earlier remediation of the Egyptian tradition. It shows that the pairing of the two colors was an established part of the material, religious, and conceptual world of Isis and Egypt that was transmitted outside of Egypt in the context of Isiac sanctuaries. It provides additional confirmation that foreign observers considered the pairing to be symbolic of and connected with Egypt even if actual Egyptian statuary was not present as a visual point of reference.[181] The sanctuary in Rhodes remediates this pairing as an act of transformative reception, creating a sanctuary that evoked Egypt to their eyes. Perhaps the red and dark grey limestones can be considered

[177] Most of the Hellenistic colored stone monuments are related to Dionysian subjects (Gregarek 1999, 53-64, 162-9) and it continues to be a popular genre for polychrome works in the Roman period (*ibid*, 150-1; Borghini 2004, 288; Allen 2015, 160-1;).

[178] Gregarek 2002; 1999, 53-63. Gregarek (1999, 64) suggests that Rhodes began employing their local colored stones because of a lack of local white lithotypes suitable for sculpture (following Merker 1973, 211).

[179] Gregarek 2002.

[180] Gregarek (*Ibid.*) suggests that the Roman use of colored stones borrowed directly from the traditions of either Rhodes (in the use of stones to evoke metal) or Egypt (in their adoption of black stones).

[181] A red granite statue of Isis was in the Iseum near the harbor (Gregarek 2002, 206; Xen. *Eph*. 5.13).

imitations or substitutions for the Egyptian stones, but they need not be; the decoration of the sanctuary engages with an Egyptian tradition in a local way. In the city of Rome, where sanctuaries of Egyptian gods provided access to numerous imported works of art but not, in the late republic, sculptures in red and black limestones, the situation is markedly different, but the result is similar – a remediation of the Egyptian tradition of the paired colors red and black that employs richly hued red and black stones in way that is completely transformed from the 'original'.

5.2.d the Danaids' remediation of the color pairing

The red and black half-herms excavated on the Palatine do not remediate a specific sculptural or even architectural material precedent. They are a radically transformative reaction to a formal archetype and to a color scheme that thematizes juxtaposition, but not just of color. Red and black contrast with one another in a way that evokes a connection with Egypt. The Egyptian associations of the colors confronts the affected, consciously archaizing Greek form. If the black stone was sourced from Ain El-Ksir, while the red came from the Peloponnese, even the stones mark out a contrast between Greece and Africa. The transformation of the classical figure type with graceful body into a herm with pointedly stiff gestures suggests a desire to make the contradiction of form and material especially vivid. A connected contrast between Greece and Egypt is thematized by the contradiction of formal and material references and this contrast, of course, perfectly parallels the two sides of the conflict described in the story of the Danaids: Danaus, ruler of Argos, pitted against Aegyptus, king of Egypt. The Palatine half-herms, Greek in form and Egyptian in material resonance, represent the fraught situation of the brides. By birth they were daughters of Danaus and of Greece, by marriage, daughters of Aegyptus and of Egypt.[182] The sculptors paired material and form to enrich the representation of the conflicted nature of their story. Duality of the sort that Tomei identifies is certainly relevant, but in an even more pointed way. The Palatine Danaids are a manifestation

[182] The story of the Danaids is deployed by Greek authors in the Archaic period to draw a strong connection between Greece and Egypt that, however, also emphasizes their many differences (West 2003, 266-8; Lloyd 2010, 1069-72).

of internal conflict and while their activity, bearing-water, serves as an unending expiation of their crime, their immobile herm terminals, stiff gestures, and archaizing form firmly establish the 'past-ness' of that conflict. These Danaids are no longer dangerously impious, their actions are controlled by formal circumscription, limited to eternal piety. Their father, Ovid tells us (*Ars am*. 1.73-4), brandished a sword inside the same portico; he is cast as aggressor, they as penitents.[183]

The pairing of the red and black stones clearly articulates their connection to Egypt, but this does not in itself confirm that they decorated the portico. Their Egyptian material connection might also suit a display within the House of Augustus, in whose painted decoration Iacopi and Tedone identify a connection to Alexandria.[184] As mentioned above, however, large-scale sculptures of colored stone are in this period more likely to be found in a public space. Moreover, their material connection to Egypt and Africa, paired with a formal connection to Greece and Rome is characteristic of several other features of the Apollo Palatinus complex. The portico was famous for its Numidian giallo antico columns, which, from the archaeological evidence were fluted with Doric capitals. Propertius (2, 31.1-16) highlights the African provenance of the ivory that decorated the doors, carved with scenes of the Niobids and the defeat of the Gauls, subjects whose forms were well-established in Greek art. Finally, several massive blocks of red granite imported from the Egyptian Aswan quarries were found during excavations of the temple podium.[185] In the 19th century, some of these blocks were sent to Paris and some seem to have been earmarked for other restoration or sculptural projects; it is not clear how many of these were dispersed from those that

[183] Ovid indicates in the same passage that the Danaids are depicted before their crime, plotting against their husbands, but this does not suit the Palatine half-herms and, moreover, does not suit any of the figure types that have been associated with portrayals of Danaids, all of which are engaged in some form of water-bearing (*LIMC* III,1 340 n.40, s.v. *Danaides* (E. Keuls)).

[184] Iacopi and Tedone (2006, 374) suggesting a connection with the fashion for Egyptianizing decoration prevalent after Cleopatra's visit to Rome in 46-44BC. Contra: Carettoni (1983, 417) attributes the paintings to an artist active just after the Battle of Actium.

[185] Zink (2014, 246, n. 32 and fig. 10) plans full archaeological investigation of these fragments. The blocks were excavated in 1864 during the excavations of the Temple of Apollo by Pietro Rosa, but he did not employ them in his reconstruction of the temple. Rosa wrote that his restoration of the temple podium included "la riunione sopra di esso di quei frammenti di architettura che possono appartenergli" (letter dated 16 June 1866: Tomei 1999, 167), suggesting that perhaps he thought the red granite blocks were unrelated to the structure.

remain, today, stacked near the remains of the temple podium.[186] Zink has suggested that these may have formed either the lintel or the sill of the temple door. If correct, the temple employs an Egyptian material, in a location that follows Egyptian tradition, within a temple whose Roman form and decoration are somewhat austere and archaizing but made with a novel, shining, Italian material. The Apollo Palatinus temple complex incorporates the empire, including the newest part, in a selective process of remediation that blends the formal and material traditions of Rome, Greece, Africa, and Egypt. The red and black half-herms, identified as Danaids by their formal and material pairing, are perfectly suited to this environment.

Interestingly, while the color scheme may have helped the Roman audience associate the sculptures and, by extension, the temple and its dedication with the conquest of Egypt and the expiation of the crimes of the civil war, their particular remediation seems not to have been especially eloquent to their Roman audience. While red marble comes to be used for Isiac priests and black stones continues to be used for statues of Isis and Egyptianizing statues, the two are never again juxtaposed in a circumscribed group of statues that are clearly related to Egypt. Instead, the Romans seem to have strongly favored dark grey or black stones, as well as white marbles and stones quarried in Egypt, like pink granite, for the material of Egyptian and Egyptianizing works. Yet, at the same time, the pairing of richly hued red and black stones seems to have spoken to a certain Roman taste; in the sculptures that follow, the material relationship was remediated to serve completely different subjects and styles. What was maintained, however, was the use of the two vibrantly hued stones as a means of articulating juxtapositions and contrasting natures. The Danaids' remediation of an Egyptian material tradition connected the color pairing with an archaizing, Greek style thus providing, even if inadvertently, a model for future remediations of the color pairing with other Greek forms and giving birth to a peculiarly Roman material tradition.

[186] Tomei (1999, 167-9, fig. 106) collects the references to these red granite blocks in the letters of Rosa (letters dated from April to July 1864). In a group of notes about the continued uncovering of the temple, he notes, "Blocchi di granite rosso. Progretto di vasi col detto granito…" (30 April 1864) and, later, notes that he sends some "sopracosti" of the granite blocks found near the temple (25 June 1864 and 13 July 1864). On their discovery, see also: Carettoni 1966, 72-3.

5.3 The Capitoline Centaurs and the Red Faun

The Capitoline centaurs (fig. 5.2, 5.3) were found in the Accademia at Hadrian's Villa, near Tivoli, between December 1736 and January 1737 in excavations led by Alessandro Furietti, whose name is sometimes still attached to them in the moniker of the 'Furietti Centaurs'.[187] Their stone is the black marble quarried at Göktepe, near Aphrodisias in Asia Minor, which was used for numerous sculptures at Hadrian's Villa and other imperial sites.[188] The pair is composed of two separate sculptures in the round, created as pendants of formal likeness and variance. The two centaurs, twisting at the waist in opposite directions, are not quite mirror images in composition. Slight changes in the distribution of weight on the four horse legs, different postures of the arms and head, as well as the obvious distinction in age and emotional state, distinguish one from the other. In their modern forms, each is missing a crucial compositional element, a small cupid who rode on the horse's back and served as a key to the group's subject. On each of the Capitoline centaurs, there are traces of the points of attachment, and the Eros figures are preserved in other replicas of both centaur types.[189] The younger centaur, happily prancing and smiling back at his rider, is at ease with the baby god of love and delights in his powers. The older, twisting unsteadily toward his lifted right foreleg, hands bound behind his back and face contorted in pain, seeks respite from his tiny tormentor. The vagaries of love at different ages are eloquently thematized.[190] At Hadrian's Villa, however, the two centaurs were likely displayed with or near the so-called Red Faun (fig. 5.4), a standing figure carved in

[187] Young Centaur Musei Capitolini, inv. 656; Old Centaur Musei Capitolini, inv. 658. Whether they were found in December 1736 or January 1737 is unclear as contemporary sources contradict one another (cf. Morawietz 2005, 47, n. 2). At least one was found by December 28, according to Valesio (Valesio 1978). Both were certainly in Rome in January 1737; Arata 1998, 206) draws attention to the "Diario 'privato'"of Alessandro Gregorio Capponi, secretary to Pope Clement XII, who writes that the Old Centaur came to the studio of the restorer Carlo Napolioni on 7 January 1737 and the Young Center arrived there on 9 January 1737 (Capponi, *Pitture e Anticaglie*, f. 146, r.). Cf. also Morawietz 2000, 90-91.

[188] Attanasio et al. 2009a, 334-35, table 3.

[189] Portions of the Eros riding the Young Centaur in the Vatican are ancient, as are different parts of the Borghese Old Centaur (Morawietz 2005, A2 (Borghese) and J2 (Vatican)). On the points of attachment on the Capitoline Centaurs, and possible restorations: Rockwell 2003, 80.

[190] Smith 1991, 132; Morawietz 2000, 89-132.

red marble.[191] It was discovered in 1737, in the area of the Mimizia just outside the Accademia, but it has often been associated with the centaurs – and there is good reason, discussed below, to think they were created as a group. Although the centaurs have a long previous life as a duo, in this display context they were visually related to the Red Faun, both formally and by invoking the tradition of paired red and black stones that is attested in at least one other centaur group.

The following analysis begins with a reexamination of the interpretations given to the centaurs' material, countering the traditionally accepted argument that the black stone was selected in order to imitate the bronze material of the proposed sculptural archetype. In particular, this study analyzes the restoration and conservation projects that have dramatically transformed the appearance of the centaurs. Their suggested ancient appearance differed significantly from the modern one, whose shiny black patina has offered misleading evidence. Instead, the ancient surface of the statue prioritized the stone and its provenance. Next, expanding to consider the composite centaurs in red and black stones and the Capitoline Centaurs' juxtaposition with the Red Faun, this section argues that these sculptures too may have played down any resonance with bronze that a shiny patina might have encouraged. Instead, in each group of sculptures, the contrasting materials seem most targeted at highlighting the nature of the depicted subject and contrasting it with an opposed nature (whether internal to the sculpture or within the group). It is this complementary but confrontational pairing of red and black that places their use of materials within the same tradition as the Danaids. The connections between these two disparate uses of a single color pairing will be further discussed in the following section of this chapter.

[191] Capitoline Museums, inv. 657: Raeder 1983, 65f, Nr. I 48; Gregarek 1999, 220-1, cat. D65. There is some scholarly disagreement as to whether the red marble is to associated with Marmor Taenarium (modern Cape Matapan, Lazzarini 1990; Gorgoni et al. 2002; Lazzarini 2004; 2007, 71-96) or with the red marble quarried in Caria, Marmor Iassense (also called *cipollino rosso*, Andreoli et al. 2002; Pensabene 2013, 397-98). Perhaps another yet to be identified quarry in Caria also existed; the small quarry of red stone near Aphrodisias is unlikely to be it, since the stone appears only in thin beds banded by grey and black marbles (Lazzarini 1990, 241-4).

5.3.a Current interpretation of the centaurs' material

The pair of centaurs had some popularity as a sculptural group in antiquity, to judge from the several replicas of both the old and the young that are extant, although the Hadrian's Villa sculptures are the only examples that are definitively a preserved pair.[192] The existence of the replica series was one of the decisive pieces of evidence that suggested to scholars that the group replicates a famous, bronze, Hellenistic pair of prototypes of the second half of the second century BC.[193] In addition, since stability and strength are considered the inherent concerns for designing a composition to be executed in marble, scholars have argued that the two compositions could not have been conceived for stone originals.[194] Each centaur is balanced on three delicate equine legs and one strut under the upraised fourth hoof. The upraised right arm of the Young Centaur, the casual spread of his fingers, and the vibrant locks of curling hair on both the elder and younger are further extensions into space for which the composition provides no internal support. Since each of these elements requires stabilization by a marble strut, including a broad tree trunk beneath each horse's belly, they have been considered unjustifiable as part of compositions designed to be executed in marble. Instead, the black marble statues have been understood to imitate the abilities and material of a bronze forbearer. In recent scholarship, the replica series and the use of the dark stone have mutually reinforced the idea that a famous Greek, bronze pair of prototypes once existed and was intentionally

[192] Morawietz (2000, 90-102) argues that the Borghese Centaur (old) and the Vatican Centaur (young) are a second statue group, but while his argument is convincing, the documentation of their discovery, two centuries apart, was poor and it is not clear they were displayed together (cf. also Morawietz 2005, cat. A 2 (Borghese) and J 2 (Vatican)). Moreover, the Young Centaur in the Galleria Doria Pamphij was, at first report, said to have been found with fragments of three other centaurs (Henzen 1850 (June), 175, after noting only the Young Centaur's discovery in his March note in the same journal, cf. Henzen 1850 (March)). In the same year, Braun (1850) is aware only of one young and that fragments of one older centaur were coming to light. After 1850, only two centaurs, one old and one young, are mentioned in the reports (Brunn 1853-59, Vol. I, 414); today the Old is apparently lost and the Young is the only sculpture that remains (Morawietz 2000, 104-6; 2005, cat J 3, 52-3).

[193] First proposed Brunn (1853-59, Vol. I, 400-401, 414); previously, a replica series was acknowledged but was not thought to refer to a Hellenistic bronze original. Cf. Morawietz (2000, 118-20 and 2005, 55).

[194] Strength and stability: Ridgway 1966, 31-32. On the originally conservative manner of carving (with numerous struts) of the centaurs cf. Rockwell (2003, 80-82) and, on the centaur's bronze archetype, Morawietz (2000, 112).

replicated for the Roman market.[195] Together, they have overridden the fact that the centaur group cannot even suggestively be matched with a Greek composition described in literary or epigraphic sources.

In fact, the Hadrian's Villa sculptures provide the only ancient written source about their origin and their sculptors' intentions. Identical inscriptions are present on the bases of both sculptures, naming in Greek the artists and their hometown: "Aristeas and Papias of Aphrodisias" (fig. 5.22 (Old) and 5.23 (Young)).[196] Since there are certainly replicas of the centaurs that predate the second century AD, it is clear that Aristeas and Papias sign their work as copyists, not as the original creators of the compositions of the two types. Since the first moment that Aristeas and Papias were identified as copyists, the act of inscribing their signature on a derivative work has been understood as an indication that the sculptors wanted to draw attention to their technical skill in replicating an existing composition in a different material.[197] The use of a black stone that resembled bronze has thus been treated as a way to raise the stakes in their game of emulation by copying the color and sheen as much as the form and style of the prototype.

Only one scholar has raised doubts about whether the stone of the Hadrian's Villa centaurs was truly intended to resemble bronze in antiquity. Peter Rockwell, whose work as a sculptor as well as a scholar of ancient art make him particularly attentive to material concerns, published a short article that discussed the restorations of the Young and Old Centaurs.[198] There, Rockwell discussed the findings of a 2001-2002 study and conservation of the centaurs by the Centro di Conservazione Archeologia (CCA), in which he took part, revealing information about the original surface of the centaurs in comparison with the transformations that earlier restoration projects had enacted upon the material.

For example, it was well-known that, like the Palatine half-herms, the centaurs had been reassembled and that some missing fragments had been integrated in modern black stone. This

[195] To highlight just a few: Kell 1988, 29; Smith 1991, 132; Morawietz 2000, 111-12, and 2005, 55.

[196] Löwy 1885, 259-60, Nr. 369.

[197] Brunn 1853-59, Vol. I, 400-401, 414.

[198] Rockwell 2003, 79-82; see also his text on the original techniques at the website of the CCA: http://www.cca-roma.org/en/original-techniques (accessed 5 Nov 2015).

transformation took place during the first and most comprehensive restoration, which occurred between 1737 and 1740, directly after the sculptures' widely renowned discovery in the domed room of the so-called Small Palace, in the area of Hadrian's Villa known as the Accademia. [199] The Old Centaur had come to light first, preserved largely intact, followed in quick succession by the younger, which is described in reports as "broken" (rotto).[200] The centaurs were immediately transported to Rome, arriving on January 7 (the old) and 9 (the young), 1737 in the studio of the famous sculptor and restorer Carlo Napolioni (1675-1742).[201] According to contemporary taste, Napolioni aimed for completeness in his restorations and since later records document only minor alterations (discussed below), he must have been responsible for most of the interventions (fig. 5.24). Napolioni replaced significant portions that had been lost or badly fragmented, and the integrations were naturally more significant in the case of the poorly preserved Young Centaur. The sculptor also concealed some ancient elements of the sculptures, like the points of attachment for the cupid figures that once rode on the backs of both horses and any trace of the strut that should support the Young Centaur's upraised right arm. In terms of their extension into space, Napolioni's restorations create a much more daring sculpture than the ancient seems to have been (cf. 5.25 for a reconstruction).

In addition to this re-composition, the conservators who performed the 2001-2002 examination identified a layer of semi-transparent coating that had been applied to the surface of the sculptures.[202] After application, this layer was smoothed and polished, giving the centaurs their present dark, highly reflective appearance. This veneer is referred to in the documentation of the second restoration project, performed in 1805 by Giuseppe Franzoni (1734-1818).[203] By this time, the centaurs were in the Capitoline Museums;

[199] Haskell and Penny 1981, 178; Arata 1998, n. 78, p. 206-207, fig. 66-67.

[200] Capponi, *Pitture e Anticaglie*, f. 146, r.

[201] Arata 1998, n. 78, p. 206-207, fig. 66-67.

[202] Rockwell 2003, 81-82.

[203] Rockwell (*Ibid.*, 79) wrongly ascribes the restorations to Giuseppe's older brother Francesco Antonio Franzoni who was both in his seventies and otherwise employed at the time (Carloni 1995, 63-64). Moreover, while both sculptors worked as restorers of ancient sculpture, the documents regarding payment for the centaurs that Carloni transcribes clearly refer to "G. Franzoni" (1995, cf. p. 75).

Cardinal Furietti had refused to sell his prized sculptures during his lifetime, but Pope Clement XIII acquired them from Furietti's heirs in 1765, sent them to the Capitoline Museums, and had them installed where they remain today, in the salon of the Palazzo Nuovo on pedestals that commemorate the occasion.[204] In 1805, Franzoni was employed in the restoration of numerous sculptures throughout the Capitoline Museums, but the descriptions of his actions concerning each work are brief.[205] It was necessary for him to "reattach" and "rehinge" a leg to the Old Centaur and to do the same for one of the Young Centaur's fingers. The record of payment notes that it was also necessary to "re-clean" and "re-patinate" both sculptures. The word "rimpatinare" might suggest that Franzoni's patina – that is, the shiny layer of veneer – was a renewal of one applied by Napolioni, but the evidence is inconclusive. Rockwell does not report any observations, his own or conservators', of multiple layers of this veneer that might indicate that it was originally applied under Napolioni. Representations of the sculptures in the intervening period are line drawings that cannot provide any information regarding their color and written descriptions from the sculptures' discovery to the modern period list the color variously as grey, dark grey, grey-black, or black, without any recognizable pattern that could indicate the presence or absence of a veneer at a certain period. Yet no matter whether the patina was applied in 1737-40 or in 1805, it drastically transformed the superficial appearance of the statues.

During the 2001-2002 project, Rockwell and conservators observed that some areas of the Young Centaur, specifically the lower front and right side of the horse portion, preserve a lightly abraded surface that is distinct from the otherwise polished exterior that preserves only few stray marks of the rasp. This abraded finish, a "levigato fino" in sculptor's terms, finds parallels with un-restored sculpture excavated in Aphrodisias and seems to represent the ancient surface of the sculpture, while the polish was added during

[204] de Guasco 1768; Haskell and Penny 1981, 178; Arata 1998, 206;. The pedestal inscriptions include the date of 1765. On the modern and ancient inscriptions: Löwy 1885, cat. 369, p. 259-60.

[205] Carloni (1995) includes transcription from the "A.S.V. Sacra Palazzi Apostolici, Computisteria, 1805, vol. 1438", recording precise work that he carried out. Cf. p. 75 for the entries regarding the centaurs.

restorations.[206] The ancient surface was thus neither polished nor patinated, but was left a finished, abraded surface. Crucially, the difference between polished and textured surfaces of dark stones also involves a difference in color. A rough or textured surface of a stone allows thousands of microfractures to remain on the surface.[207] These diffract light, rather than reflect it like a polished surface, and result in a more matte general appearance. On a dark-colored stone, the fractures and the diffraction of light make the surface appear lighter in color. In an opposite manner, polishing a stone creates reflective planes, smoothing away the fractures and making the color of the stone appear darker. The polish of later periods and the shiny patina that covers it creates a false appearance of darker, smoother marble whose authenticity is contradicted by the evidence of the "levigato fino". For the horse portion of the sculpture at least, the ancient appearance of the statue must be imagined as a textured, dark-grey color. Unfortunately, with the current patina, it is unclear how distinct or emphatic this texture might have been but, in keeping with second century AD sculptural trends, it seems likely that the horse's coat might have been roughened in order to create a contrast with the polished skin of the man. In this period, such a distinction between gleaming skin and matte hair is common in ideal sculpture as well as portraiture.

Moreover, another sculpture found at Hadrian's Villa testifies to the practice of exploiting this contrast in texture and color between rough and polished dark-colored stones in the Hadrianic period. The black granite krater "a campana" (cf. fig. 6.22) with an Egyptianizing bas relief decoration was found in the villa, perhaps in the Canpous, by A. Castellani, who donated it to the Capitoline Museums in 1876.[208] The krater is largely intact and has only been minimally cleaned and restored, so while it is a different stone than the Göktepe marble, its appearance might at least provide a reliable indication of such a surface effect.[209] Each of the two faces hosts two scenes, separated by an obelisk, with figures represented in

[206] Rockwell on the CCA website: http://www.cca-roma.org/en/original-techniques (accessed 5 Nov 2015).

[207] Rockwell 1993, 8-9.

[208] Ensoli Vittozzi 1990, 47-50, fig. 27-30; La Rocca and Parisi Presicce 2010b (Musei Capitolini, 92-97 (N. Agnoli)).

[209] La Rocca and Parisi Presicce 2010b (Musei Capitolini, 92-97 (N. Agnoli)).

Egyptianizing style and dress interacting with Egyptian gods. Above each of the four scenes hovers the cloud-like foliage of a tree, by its shape perhaps a stone pine (also called an umbrella pine). [210] The foliage of the trees are the only portions of the surface which are not polished. Of course, it is likely that some pigment was applied to clarify the sculptural forms, but the textured, rough surface of the trees (and perhaps their lighter grey color if left uncolored) markedly stands out from the smooth, dark stone ground. The shiny patina that covers the Capitoline Centaurs thus creates an impression of a uniform, polished marble surface that run counter to what should be expected for the ancient surface. For the horse portion of the sculpture at least, the ancient appearance of the statue must be imagined as a textured, dark-grey color.

Moreover, as Lorenzo Lazzarini has noted, all the marbles and limestones in the grey to black color range will "rather quickly" acquire an oxidation patina.[211] That is, the petrified organic material that creates the color of the stone oxidizes when it is exposed to the environment, creating a pronounced greyish cast even on works made from dark black stone and polished. Compare, for example, the Dacian prisoners in the courtyard of the Palazzo dei Conservatori (fig. 5.26).[212] They are carved from the same Göktepe black marble as the Capitoline centaurs but have remained outdoors and, apparently, were not given a patina.[213] While the entire surface has oxidized to a grey color, the left toe of one has been polished to black by the surreptitious caresses of tourists. Additionally, the sculptures of the Dacians exploit the coloristic difference between polished and textured black stone, albeit in a different way from that proposed for the centaurs. Their garments and skin were polished while the marble of the base and the area between their legs has been left with the texture of heavy, brutal strikes of the chisel. Even through the oxidation patina, the polished form is distinguished from the rough background by a difference in color and sheen. The same distinction can be seen in the black stone Ares Borghese in Florence, whose ancient base and tree trunk

[210] Ensoli Vittozzi (1990, 47) suggests it is a sycamore.

[211] Lazzarini 2013, 142-43.

[212] Musei Capitolini, inv. 779 and 773.

[213] Attanasio et al. 2009a, 334-35, tab. 3, no. 7-8.

support are finished, but not polished.[214] The veneer applied to the Centaurs has dramatically altered their appearance by falsifying a uniformly polished surface and preventing the oxidation of the stone which must have also occurred in antiquity if the stone was left untreated.[215]

Rockwell attributes the centaurs' patina to Franzoni and his 1805 restorations, highlighting the transformative effect that the patina had on the color of the sculpture. Napolioni's restorations, according to Rockwell, emphasized an intrepid composition, creating a Baroque sculpture out of the ancient core. His integration of missing fragments made it new, while his erasure of ancient supports and increased emphasis on projections into space brought its style in line with contemporary taste. Rockwell thought that Franzoni's application of the patina, by contrast, was inspired more by an "academic" interpretation of the sculptures' origins. In the early 19th century, scholars were already developing an art historical narrative that suggested that the numerous series of Roman marble sculptures seemed to replicate lost, famous, Greek, bronze prototypes. Rockwell argues that Franzoni intended to increase the resemblance of the centaur's stone to bronze, thus "asserting a scholarly interpretation of Roman statuary".[216] Rockwell is certainly correct that Napolioni's adaptations to the statue created a more daring marble sculpture. Moreover, he is also correct that the patina completely changed the original appearance of the sculpture by increasing its visual likeness to the appearance of bronzes in museums, especially because it prevented the oxidation of the black stone to an increasingly grey color. If Franzoni was the first to apply the patina, perhaps he did so to counteract the oxidation of the surface which would have occurred during the sixty-five years between his and Napolioni's restorations. Yet Rockwell's analysis only scratches the surface of the history of the reception of the centaurs' materials, a history which illustrates the ways in which this perceived relationship between dark stones and bronze became an oft-cited commonplace among scholars of ancient art.

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[214] Uffizi Galleries, inv. 192: Mansuelli 1958, 44-5, cat. 20, fig. 20; Hobbold 1995, 84ff, 110, cat. P14, fig. 67; Gregarek 1999, 171-2, cat. A9, fig. 34. The head, much of the arms, and the white marble helmet and shield are modern integrations.

[215] It is entirely unknown whether the surfaces of black stones might have been treated with some kind of 'ganosis' like that of white marble in antiquity, but there is no literary or, as yet, archaeological evidence of its use.

[216] Rockwell 2003, 82.

5.3.b History of the metal and stone comparison

When the Capitoline Centaurs were discovered in 1737, one replica of the Old Centaur was already on display in Rome. The so-called Borghese Centaur (fig. 5.27) a white marble sculpture now in the Louvre, is first attested in drawings by Rubens dating between 1600 and 1608.[217] There are no records from the moment of its discovery, but it may have been excavated near the Basilica of San Giovanni in Laterano.[218] A part of the Borghese Collection, and sold with it to the Louvre only in 1880, the Old Centaur was one of the most celebrated statues in Rome when the Hadrian's Villa pair were discovered in 1737.[219] Scholars recognized almost immediately that the two Old Centaurs were nearly identical and decided shortly thereafter that the Tivoli iteration was of a significantly lower artistic quality.[220] A similar opinion prevailed when a replica of the Young Centaur (fig. 5.28) was discovered in 1779.[221] Excavated in the Garden of the Brotherhood of Sancta Sanctorum behind the Hospital at San Giovanni in Laterano, the sculpture was restored by Gaspare Sibilla for the Vatican's Museo Pio-Clementino.[222]

Both of the white marble versions were considered to be of higher quality than the pair from Hadrian's Villa and, yet, until the 1850s, the Capitoline centaurs were considered to be the originals from which the others were copied. For Winckelmann and the other 18th and early 19th century commentators, the presence of the signatures of Aristeas and Papias on the bases of the Hadrian's Villa centaurs was

[217] Morawietz 2000, 96-98; 2005, cat. A2, 49-51 with literature. On the findspot: Jaffé 1977, 82, pl. 316.

[218] d'Onofrio 1969, 308; Haskell and Penny 1981, 178-79, n. 21. fig. 93. Fioravante Martinelli records this as its provenance, but is writing in the years 1660-63.

[219] Haskell and Penny 1981, 178.

[220] E.g. Winckelmann 1784 (Fea ed.), Vol. II, p. 384-5; cf. Haskell and Penny 1981, 178-79.

[221] Morawietz 2000, 99-102; 2005, cat. J2, 52 with lit.; Visconti and Visconti 1818, 337-43, Pl. 51.

[222] The dead hare held in his upraised right arm is modeled on an ancient sculpture that is also now in the Sala degli Animali and its combination with the centaur is entirely modern.

insurmountable testimony that they were originals rather than copies.[223] At that time, it was inconceivable that a copyist would sign his work, despite the numerous sculptures which bore signatures whose paleographic date was inconsistent with their proclaimed status as a Greek original. The Venus de Medici and Farnese Hercules both numbered among these inconsistent sculptures. [224]

However, since the carving of the Hadrian's Villa centaurs was considered labored and exaggerated, when Heinrich Brunn first suggested in 1853 that a so "thoroughly intellectual type, one so fine in its balanced contrasts and well-rounded execution is surely not first found in the Hadrianic era", other scholars were quick to accept his opinion.[225] The discovery, in 1849-50, of fragments of an old and a Young Centaur at the Villa Doria Pamphilj in the Alban hills convinced Brunn that there must have been a single, Hellenistic original that served as a model for the two figural types.[226] The Old Doria Pamphilj centaur has since disappeared, but the Young Doria Pamphilj centaur remains and it is a composite work (fig. 5.5), combining a black stone horse's body with a human torso in red stone and, though Brunn makes no reference to these materials, it seems no coincidence that the reevaluation of the Tivoli centaurs directly followed the unearthing of additional replicas in unusual materials.[227] Moreover, Brunn suggested that the inscriptions on the Hadrian's Villa centaurs must name either the original artists of the composition or,

[223] Winckelmann (1784 (Fea ed.), Vol. II, p. 384-5) adds in a footnote, that the fact that the sculptures were carved in "marmo bigio morato" was one further element that suggested they were the originals, although he does expand upon this remark.

[224] Marvin 2008, 118.

[225] Brunn 1853-59, Vol. I, 400-01, 414; immediately following him, cf. e.g. Braun 1854, 181ff; Overbeck 1857-58, 266-69, fig. 93.

[226] Villa Doria Pamphilj discoveries: see above n. 192. The centaurs were found on the grounds of the so-called Villa of Pompey (excavations summarized by Lugli 1946b).

[227] Neither the red nor the black stone of these works has been archaeometrically provenanced. It is likely that the black is from Göktepe, since the three other centaurs in black marble that have been tested are all associated with this quarry (Attanasio et al. 2009a, 334-35, table 3). The red is of the type commonly called *rosso antico*, a marble primarily quarred on Cape Tainaron (*marmor Taenarium*, modern Cape Matapan, Lazzarini 1990; Gorgoni et al. 2002; Lazzarini 2004; Lazzarini 2007, 71-96) or, less likely, in Iasos, in Asia Minor (Iassense, *cipollino rosso*, Andreoli et al. 2002; Pensabene 2013, 397-98). Perhaps another yet to be identified quarry in Caria also existed; the small quarry of red stone near Aphrodisias is unlikely to be it, since the stone appears only in thin beds banded by grey and black marbles (Lazzarini 1990, 241-4).

more likely, the copyists who should be considered a part of a Hadrianic school of sculptors in Aphrodisias. Espousing the latter idea, Brunn pointed to the evidence of a pretentious style of copying – the exaggerated styling of the muscles, the labor of creating in their chosen hard, dark material, and even the inscription with their names as copyists.[228] As further evidence of his proposed bronze prototype, Brunn continues on to describe how the artists sought to make visible in the hard black stone all the best elements of the bronze material of the original and how they sought to create "effects which we are accustomed to see only in bronze works". Brunn is only the second scholar to describe the stone of the centaurs with a comparison between bronze and marble.[229] The first was Ferdinando Mori, who in his 1806 catalog of sculptures in the Capitoline Museums writes appreciatively of the effect of the polished dark stone, suggesting even that the ancient sculptors must have chosen it for its ability to create a grand illusion in imitation of bronze and that they had given it "una patina bronzina" to increase this illusion.[230]

Thus, Rockwell's argument that Franzoni applied the patina in 1805 as an academic interpretation of the centaurs' origins as copies of a bronze prototype is almost certainly anachronistic. In that moment, the centaurs were considered the originals of their type and they would not have been understood to imitate the bronze of an archetype until Brunn's revisions of the series nearly fifty years later. Moreover, with the exception of Mori, there is little evidence that anyone in Franzoni's era thought that the black stone of the centaurs had a visual likeness to bronze. As discussed in above in Chapter 4, it was not even until the 1840s that the colors of greywacke came to be associated with those of ancient bronze based on comparisons with the ancient statues recovered at Pompeii and Herculaneum.[231] While it is likely that Franzoni knew Mori, who must have been working on his catalog of the Capitoline Museums at the same time Franzoni was restoring the statues, even Mori maintained that the centaurs were the originals of the type rather than copies

[228] Brunn 1853, Vol. I, 400-401, 414.

[229] For an extensive bibliography on the Hadrian's Villa centaurs cf. Morawietz 2005, 49.

[230] Mori 1806, Vol. II, 271-74, Pl. 28-29.

[231] Supra, Chapter 4, p. 208-10.

of bronzes. Moreover, Mori seems unaware that the patina was likely the result of modern intervention and perhaps Franzoni, too, thought he was restoring its ancient appearance. Finally, while Brunn's 1853 argument that the sculptures are copies of a bronze prototype was immediately accepted, the idea that the stone was chosen specifically to imitate the bronze material of that prototype was much slower to catch on. For most of the second half of the 19th century, Johannes Overbeck's four editions of *Die Geschichte der griechischen Plastik* are the only texts which mention this material imitation, and they do so by citing Brunn's description directly.[232] It was not until after Overbeck's fourth edition, published in 1893-4, that the mention of the centaurs' color and its imitation of the bronze of the prototype becomes increasingly common.[233] Yet by 1934, Jocelyn Toynbee could write of this phenomenon as if it was common knowledge, describing the centaurs' material by mentioning with no qualification that "use is made of a highly polished, black marble, a device for approximating to the technique of a bronze original which came very much into vogue in the second century AD."[234] In short, the inclination to see a visual similarity between the dark stone of the centaurs and the appearance of bronze grows in direct proportion to the inclination to see these sculptures, and other Roman sculpture in marble, as copies of a Greek originals made out of bronze. The idea that *lapis basanites*, with its more greenish or brownish cast, was selected to imitate bronze caught on much more quickly. Pietro Rosa's 1869 letters of his Palatine discoveries, for example, mention no similarity between the black stone of the Palatine herms and bronze, but suggest that the ephebe in lapis basanites was meant to achieve the heights of bronze-craft.[235] Departing from the millennia-old tradition of comparing basalt with the color and hardness of iron, inaugurated by Pliny the Elder, Francesco Belli in

[232] 1st ed.: Overbeck 1857-58, vol. ii, , 266-, fig. 93; 2nd: Overbeck 1869-70, vol. ii, 318, 338-40, fig.115; 3rd: Overbeck 1881-82, vol. ii, 408-11, fig. 149; 4th: Overbeck 1893-94, vol. ii, 467-70, fig. 227. Braun (1854, 181-84) discusses the material only in the context of how it affected the carving.

[233] Mentioning specifically the color: Bienkowski 1896, 193ff.; Gusman 1904, 299ff., fig. 536, Pl. 11; Klein 1921, 48ff.; Della Seta 1930, 483ff., fig. 162. Not mentioning the color but comparing the handling of the material as an imitation of bronze: Collignon 1897, Vol. II, 677ff.; Amelung 1903, Vol. II, p. 347; Stuart Jones 1912, 277-78, Nr. 4, Pl. 64, 4.

[234] Toynbee 1934, xxv-xxvi.

[235] Cf. Tomei 1999, 170-77.

1843 and Faustino Corsi in 1845 described the brownish and greenish varieties, respectively, as "basalte bronzina".[236] Yet even this comparison finds only sporadic traction[237] among art historians until Furtwangler; before his 1895 *Meisterwerke*, even the lapis basanites of the Uffizi torso of the Doryphoros is not attributed a similarity to bronze.[238] The origins of the comparison between dark-colored stones and bronze lie in the mid-19th century, but it was *Meisterforschung* and *Kopienkritik* that canonized the idea that the stones were employed in order to imitate the appearance and precision of carving possible in bronze.

The example of the Capitoline Centaurs proves that this idea can no longer be applied wholesale to every sculpture in a dark-colored stone, but establishing the certainty of this conclusion required delving beneath centuries of scholarship and layers of misleading modern restorations. For the majority of the numerous other extant sculptures in black stone, sufficient evidence to deconstruct restorations and reconstruct original appearances is simply not available. The black limestone half-herms from the Palatine are a prime example. In their modern restoration, they are extraordinarily shiny and it seems likely that a veneer similar to that of the Capitoline Centaurs was applied to them. Was there a similar ancient patina that could be applied to protect the surfaces of these works from oxidation and greying? There is no literary evidence that anything like the ganosis used to protect white marble was ever applied to sculpture in dark-colored stones, nor is there any archaeological evidence of its presence, although no scientific examinations have been carried out. Or perhaps the use of the "levigato fino" finish on these centaurs is evidence of the opposite, bearing witness to the ancient consciousness of the greyed surfaces of sculptures in black marble or limestone, and, in particular of pairing that grey with red marble.

[236] Belli 1842, p. 9, nr. 48-50; Corsi 1845; annontated ed. Napoleone 2001. On lapis basanites having the color and hardness of iron, cf. Pliny the Elder (*NH* 36.58) and, for the sources who follow him in this description up to the 1840s, cf. Belli Pasqua 1995, 17-24.

[237] When Pietro Rosa excavated the greywacke Ephebe (cf. Tomei 2014a, 186-7, cat. 20 (L.A.)) on the Palatine in 1869, he wrote that the artist seemed to aim at achieving all the technical finesse of the bronze original, implying an imitation of bronze with lapis basanites (Tomei 1999, 177, in a letter dated 19 Febrary 1869, f. 303).

[238] Furtwängler 1895, 224: the torso "…is executed in green basalt, and produces the effect of a bronze covered with an exquisite patina."

5.3.c The other centaurs

The Capitoline centaurs are not the only replicas of the type whose exploitation of stone has been said to involve an imitation of bronze. The white marble versions, especially the Borghese and Vatican replicas already mentioned, have been considered the closest replicas of the archetypes.[239] Their imitation of bronze is thus similar to that attributed to all white marble sculptures considered to derive from bronze originals. The carving imitates the style and reach of bronze technique, while struts allow the marble to overcome its lower tensile strength.[240] Six other replicas in white marble also partake of this form of imitation which, as argued in Chapter 4, should be reevaluated in an attempt to distinguish the material fossils of a bronze archetype from the intentional imitation of bronze materiality. For the moment, however, this investigation is more concerned with the three composite sculptures that belong to the series.[241]

As briefly mentioned above, a pair of the Young and Old Centaurs were excavated from the so-called Villa of Pompey in Albano, on the property of the Doria Pamphilj family.[242] One of the earliest reports of the find suggest that four sculptures – two young and two old – were recovered[243], but soon after only two – one of each age – are described.[244] The statues were very fragmentary upon their recovery and

[239] Morawietz 2000, 2005.

[240] *Ibid*. On this kind of emulation of bronze with white marble, cf. Hollinshead 2002.

[241] Two other colored stone statues have been associated with the series but are excluded here. The first is the full-size, rosso antico centaur now in the Getty Villa in Malibu (inv. 82.AL.78.a; Gregarek 1999, 238, cat. D168), which has been generally agreed to be modern but may include re-carved fragments of an ancient torso (Thoresen 2009). The second is a small-scale pedestal in grey marble from Göktepe (Ostia storerooms, inv. 55117) with the remains of hooves and a central trunk strut considered a centaur by Attanasio et al. (2009a, 334-5, tab. 3, no. 17). It may be, but it differs from the type in that neither front hoof is raised and, moreover, its scale as well as the position of the hooves and trunk are comparable to numerous other statues of horses or including others at the museum in Ostia.

[242] Lugli 1920 (1922), 40, Pl. III; Morawietz 2005, cat. J3, p. 52-53.

[243] Henzen (1850 (June), 175) writes this after noting only the Young Centaur's discovery in his March note in the same journal (Henzen 1850 (March), 167). In the same year, Braun (1850) is aware only of one Young Centaur and that fragments of one older centaur were coming to light.

[244] From Brunn 1853-59, Vol. I, 414ff..

it seems likely that the excitement of the find led to an early misinterpretation of the remains as four instead of two sculptures. The Old Centaur from these excavations seems never to have been restored and has not been documented in any drawings or photographs.[245] Since the early reports mention its marble head and torso and black horse's body, which are paralleled in the Young Centaur from the same site (fig. 5.5), it can be considered a confirmation that the Old Centaur type also existed in this composite version. The Young Centaur from the Villa Doria Pamphilj was sent to Rome to be restored as the centerpiece for the room of ancient sculpture housed in the family's palazzo on the Corso, where it is still on display.[246] Based on sculptural style, the Young and, by extension, the Old Doria Pamphilj centaurs have been dated to the Hadrianic period.[247] The third example of a composite replica of the series preserves only the torso of the sculpture (fig. 5.29), but it conforms precisely to the composition of the Young Centaur, bending and twisting slightly to the left and displaying the characteristic line of hair beneath the belly button.[248] The archaeological provenance of this torso, now in the Metropolitan Museum of Art in New York, is unknown and there is no information about what material represented the horse portions of the figure.[249] The bottom of the torso was prepared for insertion into the body, however, and its juncture precisely parallels that of the Doria Pamphilj statue. The body of the horse was likely sculpted in a different stone, perhaps a dark-colored one like the other composite examples. On the basis of style, this torso has been dated to the late first century AD, making it the earliest centaur that might partake of this red and black tradition. In scholarship, these bi-chrome sculptures have played a rather minor role, but some scholars have claimed that their choice of stone is inspired by a desire to imitate the diverse coloristic abilities of bronze.[250]

[245] Morawietz 2000, 104-6; 2005, cat J 3, 52-3.

[246] The complicated restoration history of this statue will be discussed further below.

[247] Morawietz 2000, 104-6; 2005, cat J 3, 52-3.

[248] Metropolitan Museum of Art inv. 09.211.6. Morawietz 2000, 108f.; 2005, 53-4, cat. J5.

[249] The torso was purchased in Rome (Vente Joachim Ferroni, Rome 14-22 April 1909 (1909) 41, Nr. 383) for the Metropolitan with the Rogers Fund.

[250] Morawietz 2005, 55.

Bronze may have been one possible point of reference for engagement with the materials of the red and black composite centaurs. Both ancient literary texts and modern archaeometric analyses have revealed the numerous colors that could be achieved by altering the alloy of the metal or by adding a superficial patina.[251] The ruddy red of the stone might reflect an iron rich alloy, while the dark horse-hair could have been created with a thick application of bitumen or a sulfur patina. However, the identification of the visual similarity between such a (hypothetical) bronze surface and the colored stone has relied, as in the case of the Capitoline Centaurs, upon the stone being highly polished to a reflective shine. The current appearance of the Young Doria Pamphilj centaur would seem to support such an interpretation, while the markedly more textured surface of the Metropolitan torso would seem to stand closer to the levigato fino finish that Rockwell has established for the Capitoline Centaurs. The Metropolitan torso, even without provenance, provides the more reliable testimony, since, although it has been little discussed, the Doria Pamphilj Young Centaur is the product of at least two extensive projects of re-composition and restoration.

The reports from the excavation indicate that the statue was very fragmentary upon its recovery, perhaps so much so that it was the cause of the confusion regarding the number of sculptures found. The statue was immediately restored to become the centerpiece for the renovation of the Salone Aldobrandini in the Palazzo Doria Pamphilj on the Corso. The architect in charge of the project, Andrea Busiri Vici (1818-1911), designed a special marble base for the centaur; his water-color projection of the base and statue is the only document relating to the statue's restoration that is to be found in the family's archives.[252] The drawing shows the measurements of the base of the ancient statue as well as a drawing of the Young Centaur, with a red torso and black horse's body.[253] The latter is, however, entirely unreliable as evidence for the restoration or condition of the Doria Pamphilj sculpture since it must have been drawn by reference

[251] Formigli 2013b; Descamps-Lequime 2015. See Appendix D.

[252] Archivio Doria Pamphilj, Cartella 5, interno 70, antica segnatura 97. I am grateful to the Doria Pamphilj family for allowing me to search the archive and study these documents and also to Dr.ssa Alessandra Mercantini for her help in navigating the collections.

[253] No personal photography of documents in the archive was allowed, but a photograph of the drawing can be commissioned directly from the archive.

to the Capitoline Young Centaur. The nebris over the figure's left arm appears only in the Capitoline statue, which must have been used to inform the restoration of the fragmentary Doria Pamphilj statue.[254] Numerous missing fragments were integrated into the composite statue, using stones that matched the colors as closely as possible, and scholars have consistently noted that it is difficult to distinguish between the ancient and the modern portions.

Moreover, in the 1950s, the elaborate wood ceiling that Busiri Vici constructed over the Salone Aldobrandini in 1852 fell victim to an unusual, massive snowfall and collapsed onto the gallery of ancient sculpture.[255] There is very little awareness of this event in scholarship and, according to the family's archivist, there is not a single piece of documentation relating to this second recomposition and restoration of the sculpture. The museum's 2014 audioguide, narrated by Prince Jonathan Doria Pamphilj, claims that, after the collapse, the centaur was restored from more than 200 fragments. Like the Capitoline centaurs, the entire surface seems to have a sheen – probably the result of an applied veneer – that covers over and slightly obscures the lines of fracture and join and has preserved the black color of the marble, preventing its oxidation toward grey. The numerous recompositions, the veneer, and the lack of a detailed study like Rockwell's – or even any observations from the conservators about their findings or decisions[256] – mean that any conclusions about the ancient surface of this statue must remain hypothetical.

The Metropolitan torso, which has never been restored with additional fragments of stone, perhaps presents a more reliable impression of the ancient surface of one of these composite statues. Although it was probably cleaned in the modern period, in preparation for its 1909 auction, for example, some encrustation remains and it is clear that the surface has not been polished and does not bear any superficial patina. Instead, the surface of the red marble is more matte, displaying in some areas the pitting of damage and weathering, but it also seems to indicate that the ancient surface might have been treated with the fine

[254] In the excavation notices, there is no discussion of fragments of a nebris: Henzen 1850 (June), 175 and 1850 (March), 167; Braun 1850.

[255] Carandente 1975, 294; Lepri 2005, 118. The ceiling was replaced with the present concrete one in 1957.

[256] I am grateful to Dr.ssa Mercantini and her colleagues in the museum for searching for relevant records.

abrasive finish now called a levigato fino. As Rockwell has described, this finish was intended to display the color of the stone with a matte appearance rather than a high sheen or polish.[257] It is possible, perhaps even likely, that the Doria Pamphilj centaurs were treated in this same manner. If this is correct, then neither of these groups of composite centaurs can be thought to have been aiming at the imitation of the color and sheen of the bronze of their archetype. Nor did they even find a direct visual parallel with the new or patinated bronzes that could be seen around the city of Rome, even if their colors might have drawn a suggestive allusion to the polychromy of bronze-work that helped to define their materiality. Instead, their materials aimed at showcasing stone and, in particular, the juxtaposition of richly hued red and dark-grey stones (since these only appear black when polished and veneered).

Viewed in this light, the materials of the composite centaurs are commentaries upon the theme of contrast that is inherent to the statuary group.[258] Traditionally, each centaur represents one side of the comparison: young and old, delighted by love and tortured by it, liberated and bound, and, even, simply twisting left and twisting right. By sculpting each figure in two stones, however, the artist enriches the duality that is inherent within the nature of the centaur, a contrast that Philostratus, writing in the third century AD, would highlight in his ekphrastic description of a painting of a centaur.[259] Juxtaposition occurs internally as well as externally. In bronze, white marble, and even in black stone, a centaur is still dual-natured and dual-bodied, but the composite statues put an insistent emphasis on this aspect of the works that is not present to the same degree in the other iterations. In this case, the two different natures of the centaur – man and horse – are materially equated with the two distinct stones. The juxtaposition physically manifests the lack of unity between the natures of the creature. In this sense, the use of red and black stones here parallels that of the Danaids. Although in that case the red and black were utilized for separate figures,

[257] Rockwell 2003.

[258] For a full treatment of the subject, with preceding bibliography: Morawietz 2000, 2005.

[259] Philostratus, *Imagines* 3,3. Cf. Gregarek 1999, 146.

the materials established one aspect of their identity – their relationship to Egypt – while their form connected them to Greece. Both uses of the pairing of red and black speak to an internal conflict of identity.

5.3.d The centaurs' and the faun's remediation of the color pairing

The Capitoline Centaurs make a slightly different juxtaposition of red and black stones by pairing two fully dark grey centaurs with the red marble faun. While there is some doubt about whether the Red Faun was displayed with the centaurs, there is good reason to think it was set up as a pendant to them, thematically united in a group. As mentioned above, the Red Faun was not found in the same location as the centaurs, since it was discovered in the area of the so-called Mimizia just to the south of the Accademia.[260] One of the principal points of comparison among the statues is their relationship to the Aphrodisian sculptural school[261], suggesting that they could have been carved by the same workshop. However, the faun has been even more extensively restored than the centaurs and it is difficult to tell which parts are clearly ancient for a close comparison.[262] E. Bartman is currently preparing an article on the restoration history of the faun, after which point it will hopefully be more possible to discuss the intricacies of its ancient manufacture and surface. For example, it remains controversial whether the base of the statue is ancient or modern (the inscription is obviously added in the modern period).[263] If it is ancient, the size and shape of its mouldings are identical to those of the Old Centaur, but this base may be a restoration by comparison with that ancient one. A replication of the profile of the mouldings had already been completed to replace the especially fragmentary base of the Young Centaur, with the ancient inscription pieced in.[264]

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[260] Capitoline Museums, inv. 657: Raeder 1983, 65f, Nr. I 48; Gregarek 1999, 220-1, cat. D65;. On the findspot: Haskell and Penny 1981, 213-15, no. 39; Salza Prina Ricotti 2001, 289-91.

[261] The centaurs, obviously, thanks to their inscriptions. On the faun: Squarciapino 1943, 33f.

[262] E. Bartman is currently preparing an article on the restoration history of the centaur, after which point it will hopefully be more possible to discuss the intricacies of its ancient manufacture and surface.

[263] Bartman suggests that much of the base may be ancient (Bartman, personal communication). Contra: Gregarek 1999, 220-1, cat. D65.

[264] Löwy 1885, 259 Nr. 369.

The restorer of the Red Faun is unfortunately unknown, but if it was sent to Napolioni like the centaurs, then the similarity of the base mouldings may well be modern.[265]

In any case, there are clear formal similarities between the centaurs, especially the Young Centaur, and the faun. The postures of these two, from the waist upward, are clearly visually related in their upraised right arm and thrown back head, although they gaze in opposing directions. In the left hand, each figure holds a *pedum* that curves over the same shoulder. Another particularly Dionysiac element, moreover, a *nebris* (fawn-skin) hangs over the left arm of the Young Centaur as it does in the Red Faun. This element does not appear on the other replicas of the Young type, but it is characteristic of the Red Faun.[266] The formal similarities between the two types might be coincidental, but the addition of the nebris as an attribute to the Young Centaur suggests that this connection was intentionally emphasized in this iteration of the types which, in turn, suggests that these sculptures were intended to be understood in relation to one another. There are few such visual connections between the Old Centaur and the Red Faun. Instead, the two are linked via each figure's relationship to the Young Centaur, who functions as a fulcrum between them. Though there are thus three in a linked group, their relationships still function on a series of dualities.

The two dark grey centaurs are united by their subject, their mirrored horse bodies, and the directionality of the twist in each torso. They evoke all of the contrasts thematized by the traditional sculptural group. However, by their display context and material, the two centaurs are also juxtaposed against the Red Faun. As in the Danaids and in the other composite centaurs, red and black are used here to signal two different natures. The red marble of the faun signals his relationship to Dionysus, metonymically referring to the wine he imbibes and the god delivers. This meaning may have dominated the interpretation of the identical Red Faun, now in the Vatican, that was found on the opposite side of the

[265] Furietti seems never to have owned the Red Faun, but as it was excavated at Hadrian's Villa shortly after the centaurs under the direction of Furietti (Haskell and Penny 1981, 214-5), Napolioni may have been the logical choice for its recomposition.

[266] It also appears in the Vatican Red Faun: Museo Pio-Clementino, inv. 801: Raeder 1983, 106-7, no. 31; Gregarek 1999, 221, cat. D66.

villa.[267] The Capitoline faun, by contrast, partakes of the material tradition of contrasting the red with the dark grey stone of the centaurs. The latter, although connected to the realm of Dionysus by their nature and, visually, by the nebris, are more clearly 'about' the realm of Aphrodite, either liberated or enslaved by lust and love. The cupids that highlighted this meaning by riding on the backs of the centaurs may have added a white marble element to the group, materially highlighting this particular meaning. It should not be forgotten that the Danaids, too, bore elements sculpted in another material[268]; if their water-vessels were made of white stone, this would provide an additional link between these two red, black, and 'perhaps white' groups.[269] There are, moreover, references in the notices about the discovery of the composite Doria Pamphilj centaurs that indicate they were also surmounted by white marble cupids.[270] Perhaps, then, this material pattern in Rome should really be considered to juxtapose red and black (and after the first remediation aged, dark grey) stones and complement them with white marble. In any case, by linking the two Centaurs and the Red Faun in a single group display, the Dionysian and Aphrodisian realms are both represented as related and involved with one another, perhaps as symbolic of a specific kind of *otium*.

The material juxtaposition of the Aphrodisian and Dionysian spheres is, furthermore, enhanced by a clever positioning of the inscriptions on the bases of the two centaurs. Currently, the bases of the Young and Old Centaur exhibit two different arrangements of the inscription. The base of the Young Centaur was

[267] Some scholars have suggested that the Red Faun was intended as a pair with the Vatican faun of the identical composition (Vatican, Museo Pio-Clementino, inv. 801: Raeder 1983, 106-7, no. 31; Gregarek 1999, 221, cat. D66), but the two were found at opposite ends of the villa. Three different locations – all at the northern end of the villa – have been associated with the discovery of the Vatican replica: in a niche of the Maritime Theater (Piranesi and Sebastiani 1828, 265); north of the so-called Greek and Latin libraries along a wall of niches (Penna *Viaggio* III, Plate 77); or near the Casino Fede (Lanciani 1906, 28). Moreover, the Red Faun would not be the only repeated sculptural type within the villa (cf. Slavazzi 2000, 2002), nor even the only type that is attested once within a sculptural group and once on its own, in an unrelated context. The Chiaramonti Niobid type appears both in the composite black and white stone Niobid group that was likely displayed in the Stadium and in a white marble replica that is now in the Vatican (Supra, Chapter 2, p. 63-68). Most scholars have assumed that there was a second white marble Niobid group, but not a single fragment has been found and it is possible that this type was extracted from the group for display as a single statue.

[268] Supra, p. 292-95.

[269] The Portico of the Danaids was destroyed in 64AD, so the similarity was not one that could be seen in the Hadrianic period, but the combination might have been passed on through other monuments or inherited tradition.

[270] Henzen 1850 (June), 175;1850 (March), 167.

fragmentary upon its excavation and the restorer, Carlo Napolioni, integrated lost portions of the ancient text on the proper left side of the pedestal (fig. 5.23).[271] The base of the Old Centaur was preserved mostly intact, and it exhibits the original disposition of its inscriptions (fig. 5.22). The names of the artists, "Aristeas and Papias", are inscribed in the center of the proper right side of the base, while the toponymic "of Aphrodisias" is centered on the front of the base, below the centaur's front hooves. The separation of the artists and their city is unusual; artist's inscriptions are rarely interrupted and dispersed in this manner.[272] Traditionally, the artists and their home belong together, as a single text meant to be engaged with in a single moment. In the inscription of the Old Centaur, however, the artists' names and the toponymic are read separately, upon viewing different aspects of the sculpture.

A traditional left to right transcription has always been favored in the modern literature, and scholars have treated the inscription as if the toponymic was to be read last and as contiguous with the artists. However, the fragments of the inscription on the base of the Young Centaur seem to imply that it was the "of Aphrodisias" that was intended to be read first, in both inscriptions. The fragments of the Young Centaur's inscription all have a flat face, suggesting that this statue's entire text was located on the proper left side of the base as they are currently reconstructed. However, there is a clear, circular interpunct inscribed after "Aphrodeiseis", indicating that it was not the last word of the inscription, as it is currently restored. Instead, it seems likely to have been the first, followed by the two artists' names. By extension, it may be presumed that the sculptors anticipated, based on the context of display, that the "of Aphrodisias" inscribed on the front of the Old Centaur's podium would be read first, before the viewer moved to see the lateral inscriptions of both statues.[273] From this angle, it is the statues – all three of them – that are identified as Aphrodisian, and they are, in several senses. The sculptors were Aphrodisian in origin and, thus, so too are the sculptures since the fame of sculptors and sculptures from their city reached its height in precisely

[271] Löwy 1885, 259 Nr. 369.

[272] E.g. the signature on the herm of the Doryphoros from the Villa dei Papiri: Zanker 1974, 7-11; Hartswick 1995; Mattusch 2005, 276-82.

[273] If the base of the faun is ancient, it did not apparently bear an ancient inscription.

this period, reflected in the numerous imperial commissions awarded to Aphrodisians throughout Hadrian's Villa.[274] Moreover, the centaurs are specifically related to Aphrodisias in two additional ways. First, just as the city of Aphrodisias is the city of Aphrodite, the centaurs who are tormented by love belong to and are at the mercy of Aphrodite. Second, their material was quarried near the city of Aphrodisias and was often used by sculptors associated with the city.

The dark grey marble was quarried at Göktepe and became the most frequently used dark-colored marble for sculptural works of differing subjects in the early second century AD in Rome and, especially, in Hadrian's Villa.[275] Interestingly, although its provenance must have been known, the stone is mobilized for a variety of purposes and does not typically display such a specific association with Aphrodisias and Aphrodite – although further research might reveal additional connections. In this sculptural group, however, the confluence of subject, sculptor, and material must have been especially eloquent and the sculptors seem to have expected it to be so for the viewers who might come across it. The unusual positioning of the one word of the Old Centaur's inscription clearly indicates that they sought to draw attention to the varied levels of connection with Aphrodite and Aphrodisias, the city historically affiliated with the goddess. The past interpretations that have suggested that these sculptors chose the dark stone in order to imitate the bronze of the sculptural archetype effectively erased the layered complexity of the sculptors' engagement with their subject and material. The exploitation of the dark stone for these sculptures was aimed at showcasing the stone, its provenance, and the connection with the sculptors from the same area. Aristeas and Papias have not only produced skilled replicas of a prototype – they have used a familiar composition to express particularly unique concerns of their moment. Both subject and material are remediations of several earlier traditions. With this reinterpretation, these two centaurs act as a monument to the heights that the sculptors and marbles of Asia Minor reached in the massive contracts for works to decorate Hadrian's Villa. At the same time, they are a part of the sculptural decoration of an

[274] Squarciapino 1943; Erim 1967; Squarciapino 1991.

[275] Attanasio et al. 2009a; Attanasio et al. 2010.

imperial palace and this message was not their explicit goal. Pairing their dark grey stone with the red of the faun and integrating the three into a unified group tempered the statues' reference to Aphrodisias by juxtaposing and connecting the realms of Aphrodite and Dionysus and making the statues an appropriately general reflection on otium.

5.4 Egyptian origins and Roman remediations

The first case study examined in this chapter argued that the use of red and black stones together was specifically chosen to make a visual connection with Egypt while the interpretation of the second case study made no connection between the color pairing and Egypt. Red and black limestones and marbles were still used in the Hadrianic period for Egyptianizing works, even elsewhere in Hadrian's Villa. A statue of Antinous in red stone is attired in the guise of Osiris, with the nemes headdress[276] and the group of reduced scale Egyptianizing figures that may have been related either to the so-called Serapeum or to the so-called Antinoeon were carved in the black marble from Göktepe.[277] In addition, numerous imported Egyptian antiquities in pink granite and hard, dark-colored stones decorated a variety of areas throughout the villa.[278] However, while red marble and dark grey to black stones were associated with Egyptian sculptures, there is little indication that the two were consistently paired or formally juxtaposed in order to evoke that provenance in this period. Even Z. Mari's reconstruction of the Antinoeon pairs several different groups of black stone sculptures with pink granite – rather than red marble – to connect the site with Egypt.[279] The

[276] Now in the Glyptotek in Munich, inv. Gl. W.A.F. 24: Roullet 1972, cat. 98.

[277] Interpreted as affiliated with the Canopus/Serapeum: Grenier 1989. Connected with the Antinoeon: Mari 2006, esp. 42-3; 2008; Mari and Sgalambro 2007.

[278] Roullet 1972, 45-52; Raeder 1983; Adembri 2006; Swetnam-Burland 2015b. See Chapter 6.

[279] Mari 2006, esp. 42-3; Mari and Sgalambro 2007;. Perhaps the one exception is in the opus sectile floor of the interior portico of the palestra, whose perspectival cubes are represented by slabs of palombino (white), ardesia (black) and rosso antico (Mari 2008); numerous other marbles are used for opus sectile floors in the palestra, however, and even if this one was intended to refer to Egypt, its use for pavement rather than any sculptural pairings still reflects a shift from the Augustan period.

only evidence that red marble was used with this black stone group in this area of the villa is a single fragment of a head wearing a headdress with a uraeus.[280] The four red marble busts of Isiac priests associated with the so-called Palestra – which were likely composite works wearing white 'linen' garments – shared their space with a white marble sphinx.[281]

The two colors and stones are still associated with Egypt but the pairing of the two has evolved. The materiality group of the Capitoline Centaurs and the Red Faun stands at a significant temporal distance from the remediation of the Egyptian tradition effected by the Danaids. The dark grey marble was clearly exploited to connect these statues to Aphrodisias and they are paired with a red marble (likely also from Asia Minor[282]) to elaborate the various meanings and resonances of subject, meaning, sculptor, and style. And, yet, the use of these materials for Egyptian subjects throughout the very same villa must have been tangible and somehow relevant for this group's reception. The same stones, used for widely divergent subjects and forms presented Greece, Egypt, and Asia Minor integrated in a Roman villa; in order to better contextualize the centaurs and the faun, Chapter 6 investigates the many ways that sculpture at Hadrian's Villa responds to Egyptian media practices.

In the case of the Palatine half-herms, the combination of the two stones with the subject of water-carriers and their excavation context strongly suggests that these statues were intended to refer to the traditional contrast of red and black in Egyptian art, architecture, and the cosmos. Used for an archaizing Greek style, the material resonance contrasted with the stylistic one in a way that enriched the conflicted nature of the subjects. As this particular method of integrating an Egyptian material tradition with Greek style and subject is not repeated, perhaps it can be judged as unsuccessful. Even if these statues made their portico famous and provided a handy nickname, the herms and their colors are not repeated either in imagery of the Danaids or in statuary groups related to Egypt. Rather, the Palatine herms seem to have

[280] Mari 2003, 295, fig. 39 (marmo rosso). The stone has been identified as deriving from the quarry at Iasos: Attanasio et al. 2013. On the quarry: Andreoli et al. 2002 and Lazzarini et al. 2005; 2007, 87ff.

[281] Mari 2008, 131.

[282] Attanasio et al. 2013.

spawned two different types of remediation. First, the association of red marble and black limestones and marbles with Egypt lives on for centuries – these were some of the earliest statues that might have engendered this connection on the Italian peninsula. Second, and equally lasting, was the Palatine herms' use of red and black to express internal conflict and represent harmonized dissonance. Taken up for the composite centaurs and for the triad of centaurs and faun in Hadrian's Villa, the complementary duality of the two colors – a characteristic that is drawn directly from Egyptian tradition – becomes a particularly Roman tradition. Destroyed by 64AD, however, the Danaids were not even visible to the artists who would make use of the pairing for the centaurs and faun of Hadrian's Villa. It is not currently possible to more precisely trace the sculptures that intervened between the Danaids and the Hadrianic groups (both the composite centaurs and the Capitoline centaurs and faun). The late first century AD red marble torso of the Young Centaur in the Metropolitan Museum, prepared for insertion in a horse body of unknown material, suggests that there may be a series of remediations that are now lost.

The transformation of this color pairing and its use for these figures of the Dionysiac realm was only possible because of the way that sculptural materiality is defined by co-existing and multiple material and relationships. Red marble was widely used in Rome both for sculptures related to Egypt and for figures associated with the realm of Dionysus. The first drew on Egyptian material and color traditions while the second exploited a metonymic connection between the color and wine. The subject and style of the sculpture cooperated with the material to specify which connection was most relevant for the viewer. The intersection of these traditions has been little examined, but the red marble statuettes of canephorae that are now in the Museo Barracco (fig. 5.6) index the overlap between them.[283] The statuettes' context of excavation, within a sanctuary dedicated to Jupiter Liber, clearly articulates that they were seen, in antiquity, as directly connected to the realm of Dionysus. The nebris that hangs over each figure's right shoulder further specifies

[283] Museo Barracco inv. 115 and 116: Helbig and Barracco 1893, 38f., pl. 42; Lippold 1950, 133, n. 4; Rumpf 1950; Pietrangeli 1963, 67, nr. 115 and 116; Helbig[4] II, 628, no. 1868 (H. von Steuben); Zanker 1983, 37 n. 29; Nota Santi and Cimino 1991, 90; Gregarek 1999, 235, cat. D147-8; *I marmi colorati*, 354-5, no. 59-60 (M. Nota). Discussion supra, p. 291-92.

that they belong to his retinue and that their red marble was probably understood as a metonymic reference to the god's affiliation with wine. However, from a formal point of view, the statuettes partake of precisely the same iconographic tradition as the Palatine half-herms. Both share a common formal archetype even if they modify it in quite different ways. The statuettes post-date the Palatine herms and the sanctuary at which they were dedicated is quite close to Rome, in ancient Sabina (modern Poggio Mirteto). The Palatine half-herms constitute a material precedent for the statuettes, but the latter group's relationship to the herms need not be interpreted as a direct imitation. The lack of paired black statuettes implies that the connection to Egypt was not intended and the nebris clearly relates them to the realm of Dionysus. The statuettes remediate the tradition of red marble canephorae for a different context, illustrating the way that the Palatine herms' integration of Egyptian material tradition with Greek style provided a material model for future pairings of the color scheme with Greek compositions.

5.5 Change and continuity in the material context

Treating each sculpture as an intervention into the material tradition adds a temporality to investigations of materials and their relationships. The Palatine half-herms predate the Accademia group by more than a century and each exploits a shared tradition to different ends. Of course, the Palatine herms and their portico were destroyed more than fifty years before construction on Hadrian's Villa was begun. They could not have served as the direct material model. Still, the consistent use of red and black to establish conflicting natures (Greek and Egyptian; man and horse; centaurs ruled by Aphrodite and fauns ruled by Dionysus) suggests a continuity of this material tradition, perhaps filtered through unknown intermediaries.

The intentional remediation of earlier tradition may, moreover, be reflected in the choice of the levigato fino finish of the sculptures in the Capitoline. The surface of the Danaids seems to have displayed a high polish, although the extensive restorations of the 19th century make this uncertain. Their current, dark, shiny appearance suggests that their oxidation patina was removed, the statues repolished, and, perhaps, the surface coated with a veneer that prevents the oxidation from recurring. In antiquity, the surface

of the half-herms, which were probably polished – to judge by Augustan trends – would have acquired this oxidation patina in the several decades before their demise. By the 60s AD, their appearance may have resembled a pairing of red and grey, a combination which still finds parallel with Egyptian sanctuaries but might also account for the interest in the grey, unpolished surfaces of black stones. By the time the composite centaurs and the Capitoline centaurs were envisioned, any older works in red and black limestones and marbles must have displayed this red and grey appearance. Since the superficial treatment of colored stones is as yet largely unstudied, this suggestion must remain a hypothesis, but the point remains important. As aging transforms sculptures, it impacts how future remediations make use of them as material models; just as maintenance patinas invite remediation with black stones, so the oxidation patina of a black stone might suggest remediation in a black stone with a levigato fino finish that creates a more grey and textured surface. Material relationships change over time, even within a single sculpture and, as they change, they provide new inspiration for critique and refashioning.

Still, even the most transformative remediations do not necessarily overwrite and erase the relevance of the original material tradition that they remake. Instead, the new works reflect back on the earlier tradition, redefining it and maintaining its relevance for the contemporary community. For example, the Palatine half-herms constitute a dramatic remediation of an Egyptian tradition, foreshadowed and perhaps modelled on the Rhodian remediation of the same tradition, but that establishes a Roman usage of the Egyptian color pairing. Updated and transformed by new materials, subjects, and formal styles, the Roman remediation appeals to a knowledge of the original tradition that was present for the local audience in imported antiquities. Moreover, these ancient, imported works, their materials, and material relationships continued to be important points of reference for the Roman audience and not only in contexts that were strictly tied to Egypt or Egyptian cult.

For example, the Hadrianic Pantheon (c. 120 AD) deploys a more traditional – in regard to material, at least – remediation of the Egyptian pairing of red and black hard stones in architecture. It utilized all grey

granite columns on the exterior porch, paired with pink Aswan granite columns in the interior.[284] Both types of stone are used for the same building element, but their placement within the building maintains a conscious distinction between the two. The choice to use both, but separate them, could have been inspired by many factors – other decorative choices or the practicalities of commissioning from different quarries, for instance – but it might also be the result of the architect's observation or knowledge of Egyptian temples and their pairing of red and black stones in complementary roles. However, even if this is a remediation of Egyptian temples, it contains a significant transformation that negates or disregards its traditional meaning. In Egyptian architecture, red stones were commonly used in the liminal spaces of temples, often framing doors or as the boundary between black stones and their terrestrial symbolism and the white upper zones associated with the sun.[285] The use of Aswan granite blocks for a threshold or lintel of the Temple of Apollo Palatinus continues this tradition in a Roman setting.[286] However, in the Hadrianic Pantheon, the color scheme is reversed, grey granite on the portico and red on the interior, suggesting that, even if the origin and meaning of the color pairing was known, its specific religious meaning was either not known or was disregarded. Morever, the grey granite of the Pantheon's columns was quarried at Mons Claudianus, a site newly opened under Claudius.[287] If the Pantheon's accumulation of stones constitutes a particularly Roman material universe, it is one that remakes and remediates existing traditions, including Egyptian ones.

Even given the massive size and monolithic nature of the granite columns, they do not constitute an emphasis on Egypt, nor do they necessarily make the Pantheon "Egyptianizing." Likewise, the use of Aswan granite for the door sill or lintel of the Temple of Apollo Palatinus is not precisely an imitation. Rather these examples deploy the grammar of a respected architectural tradition, incorporated into a completely different architectural environment, in order to further the aims of the structure. Compared to

[284] Zink 2014, 247.

[285] Spence 1999, 116.

[286] Supra, p. 318-19; Zink 2014, 246, n. 32 and fig. 10.

[287] Pensabene 2013, 231-40, esp. 237.

the Palatine herms' remediation of the tradition, these architectural remediations are more conservative. They bear witness to the continued appreciation of the original Egyptian material pairing even after the intervention of the Palatine half-herms and other remediations of the tradition. Egyptian antiquities in grey, black and pink stones were displayed in Hadrian's Villa at Tivoli, so too were new Egyptianizing commissions in numerous Egyptian stones, red marble, white marble, black marble and more. Material remediations do not erase or devalue the original tradition, but coexist by creating complex and layered relationships to it. As interventions available for further remediations, sculptures like the Palatine herms create branches from the original traditions that then evolve separately (as in the case of the centaurs) or may reconnect with the original tradition. Given the Roman retrospective mindset that valued antiquities, these branches coexisted with the more conservative remediations of the original tradition – ranging from the deployment of the traditional materials in new sculptures to the recharacterization of antiquities by insertion into new Roman contexts or the addition of materials or inscriptions.[288] In this way, remediation makes innovation intelligible and reifies tradition. It provokes change while embracing continuity.

Studying material remediations, rather than material imitation, offers the opportunity to observe a broader spectrum of relationships than have been previously recognized. The connection between the materials of the Palatine herms and the Egyptian tradition of pairing red and black was never suggested because even though the subject was related to Egypt, its style was Greek. This blind spot is the result, first, of the fact that the visual connection between the Roman and the Egyptian stones does not display a close enough resemblance to the modern eye, which expects ancient sculptors to use their materials to mimetic goals. Leaving aside our assumptions about fidelity to an archetype – and to the material of the archetype – opens up our view to include material relationships that were evidently meaningful to a Roman but do not coincide with our modern materiality, which is itself partially a product of our centuries long reception (and often misleading restorations) of Roman materials and the problematic assumptions it has created. The scholarly blind spot was, moreover, the result of the assumption that the material of a sculpture is inherently

[288] The latter is discussed at length in Swetnam-Burland 2015b.

tied to its style. Thus because the herms were archaizing, their color scheme was interpreted as 'primitivist'. Likewise, scholars assumed that the black marble of the Capitoline centaurs referred to the material of the form's likely bronze archetype. The previous chapters have established that, in most cases, sculptors did not look to the specific archetype as their material model but found their inspiration in the surrounding physical environment. This chapter reveals that those material models need not even belong to the same formal and historical tradition as the formal model. The Palatine herms mark the point when the Roman remediation of the Egyptian pairing of red and black separated material tradition from the stylistic and formal ones. Roman sculpture treated histories of material exploitation in divergent ways: a form or style might be strongly connected with a material and vice versa, but it need not be. In many cases, formal replication could be enriched by the exploitation of novel materials, in the way that the Capitoline Centaurs use their dark stone for a familiar form in order to create resonances between material, sculptor, and subject. Further investigations should study precisely where the Roman reception of formal traditions converged with and diverged from their reception of material traditions. The next chapter begins one such investigation, investigating the Egyptian and Egyptianizing sculpture of Hadrian's Villa from the point of view of its materials.

Chapter 6

Beyond replica series: the reception and remediation of Egyptian media practices at Hadrian's Villa

The last chapter traced the evolution of a relatively infrequent material tradition in Rome, the juxtaposition of red and black stones. It argued that the first use of the combination in Rome, for the fifty half-herm Danaids of the portico of the Palatine Temple of Apollo, was the result of a transformative reception of an Egyptian tradition of pairing the two colors materially and cosmologically as opposing forces. This Augustan remediation of the color pairing, moreover, connected it to Archaizing Greek sculptural forms whose mythological tale turned on oppositions. Furthermore, the chapter argued that this sculptural installation inspired further remediations that adopted certain aspects of the color pairing while shedding others. Some sculptures, like the votive red marble canephorae from a sanctuary of Jupiter Liber, pick up other elements of the tradition – namely, the pairing of the red stone with a closely related canephora figure-type. Meanwhile, the sculptural group of the centaurs and the red faun at Hadrian's Villa, as well as other composite centaurs, make use of the color pairing for its ability to easily signify contrasting natures. There is no obvious reason for the centaurs and faun to make an implicit or explicit reference to Egypt, which suggests two possible conclusions. Either, the resonance of the color pairing had shifted from the Augustan to the Hadrianic period, a theory which would be at least partially dependent upon the absence of pairings of richly hued red and black stones as a primary means of referring to Egypt within Hadrian's Villa; or, the possible references of the color pairing had broadened enough that it could be used for two different, contradictory spheres of symbolism within the large and varied environments of Hadrian's Villa. Either outcome provides critical information about how the Roman reception of material traditions evolved over time.

The present chapter aims to investigate whether and how the material means by which Egypt was evoked were different from the Augustan Palatine to the suburban villa of Hadrian. On the one hand, this examination will enrich the analysis of Chapter 5 and confirm its conclusions regarding the development

of the material tradition. On the other hand, this investigation will illustrate how the methodology established in this dissertation can be expanded to study groups of sculptures that are not related by replica series but by an archaeological context and/or a broader similarity of style or material. Furthermore, this chapter will provide a more concrete analysis of the Roman reception of Egyptian material traditions, a subject which is relevant to both Chapter 4 and 5. Since the sculptures associated with Egypt at Hadrian's Villa range from genuine, imported antiques, perhaps even ones restored in the Roman period, to dramatic refashionings in stones that only became popular in the second century AD, it allows for a study of the kind and intensity of the attention paid to the materialities represented among the antiques. Raising questions about workshops specialized by lithotype and the use of antiques as direct models rather than cast collections, this chapter will allow the conclusion to consider the similarities and differences between the Roman reception of Egyptian and Greek material traditions.

Obviously, it should not be forgotten that the social contexts and intentions of the spaces are different, and that these may affect the kind of remediations that are possible in each space. The Augustan impetus for the temple, as noted in Chapter 5, was a vow in 36BC after a lightning strike and associated portent; its was not strictly that of a victory temple and it was perceived as such thanks in part to alterations that augmented its connection to Egypt.[1] The use of Archaizing Greek forms may have made the Danaid cycle – materially and ideologically related to the conquest – more appropriate for such a space, while the installation of antiquities might have been less appropriate given the original dedication. Hadrian's Villa, on the other hand, abounds in spaces and sculptures that are somehow related to Egypt.[2] The more relaxed atmosphere of the villa could permit the installation of antiquities as well as a number of new commissions that used stones from all over the empire. There may even have been true cult spaces dedicated to Egyptian gods within the complex, although considerable debate remains about the identification of these spaces.[3]

[1] Cf. Chapter 5, p. 296-97.

[2] Cf. the survey provided in the catalog by Adembri 2006.

[3] E.g. a Serapeum in the structure at the south end of the Canopus (Grenier 1989) and/or an Iseum in the so-called Palestra (Mari and Sgalambro 2006) as well as an Egyptianizing temple space at the so-called Antinoeion (Mari 2008).

Still, it is clear that Egypt was a primary point of reference within the villa, especially via the numerous Egyptian and Egyptianizing sculptures in both Egyptian stones as well as in marbles from around the Mediterranean. Among these, moreover, are numerous Hadrianic sculptures in dark marble and a few in red marble. The question that preoccupies this chapter is whether these enact the same kind of remediation as the Danaids and, if not, then how, precisely, they differ. Secondarily, the investigation will consider whether and how these sculptures and their stones related to the pairing of red and black in the centaurs and faun group.

First, it is necessary to dedicate a few words to how this material was circumscribed. In the preceeding chapters, this project's inquiries have focused on sculptural series extant in multiple materials; yet while several of these from Hadrian's Villa – the dark grey and white composite Niobids, the Centaurs, and the Red Faun from Hadrian's Villa – might be relevant here, this section intentionally expands its perspective to include all free-standing, large-scale sculptures that are indicated to have been found at Hadrian's Villa and are connected with Egypt by virtue of their style, subject, or material.[4] This is a rather large group, whose contours may not precisely reflect the ancient display. Many of these sculptures were excavated in a period when their provenance from the within the villa was not precisely recorded; others may have been associated with the villa as a marker of prestige for added market value, even though they may not have actually been found there. The survey collected here is intentionally inclusive, taking a broad swath of all the sculptures that may have been displayed in or near the villa. It aims at a survey of trends in a specific period and, as much as possible, within a given architectural context. Since only a few of these can, at the moment, be associated with a specific display or even within a particular building[5], a macroscopic view examining categories of works offers the best possible mode of examination. While further research

[4] Other materials like alabaster canopic jars (Roullet 1972, 141, no. 315).are known from the villa and should be considered among future examinations. This dissertation's focus on large-scale, free-standing sculptures circumscribes the parameters of the group of sculptures examined here.

[5] Even the sculptures excavated in the so-called Antinoeion and Palestra (cf. Mari 2008, 2010), are likely to have been found in a secondary deposition context (E. Calandra, personal communication). Further analysis of their relationship to these spaces awaits the full publication of these excavations.

might eventually remove some of these sculptures from a direct affiliation with the villa, such endeavors should affect only the relative proportion of sculptures in each group considered below rather than the accuracy of the conclusions.

As a group, these sculptures can provide a cross-section of the various modes in which Hadrianic sculpture engaged with Egyptian predecessors. Scholars have frequently examined how the subjects and formal styles of these works imitated or transformed their foreign models.[6] The present study, by contrast, approaches these works from the perspective of their materials. In particular, it seeks to identify patterns of the Roman reception of Egyptian sculptural materials, as it is indexed by the Hadrianic sculptures' imitation or reconceptualization of the traditional connections between material, style, and subject that were exhibited in, especially, imported Egyptian sculpture. The eighty-six sculptures range from genuine Egyptian antiquities to basalt kraters in Neo-Attic forms with figures with Egyptianizing postures and attributes, and from figures in Egyptianizing styles carved in Asiatic marbles to, possibly, Hellenistic figures carved in Egyptian stones, like the greywacke female figure in a chiton.[7] Often dismissed as oddities or studied as a group – antiquities and new creations together – reflecting fascination with the exotic[8], these sculptures effect a range of varied and nuanced remediations of both Egyptian and Greek materialities. They can be assigned to four categories: imported Egyptian antiquities carved in Egyptian stones (17); Roman-era sculptures of Egyptian subjects or styles carved in Egyptian stones (18); Roman-era sculptures of Egyptian subjects or styles NOT carved in Egyptian stones (45); and Roman-era classicizing works carved in Egyptian stones (2); as well as a small group of sculptures that are now lost whose material is not recorded (4).

[6] Roullet 1972; Grenier 1989; Grenier 2008; Adembri 2006.

[7] This survey employs the catalogs of Roullet (1972) and Raeder (1983), augmented by the addition of sculptures that have been excavated in the years since (Mari 2002 and 2003), as well as those that have come back into public holdings like the naophoros in the Metropolitan (infra, n. 13).

[8] Roullet (1972) does not separate antiquities from Egyptianizing creations in her catalog, viewing the Roman sculptures as poor imitations that sought to fulfill the same desire for works of Egyptian flavor as the actual antiquities did. Swetnam-Burland (2007, 2015b) similarly suggests that the taste for new commissions served a desire for Egyptianness that did not turn on authenticity to Egyptian tradition.

The discussion of each category offered in this chapter can be expanded in a variety of ways, but some distinct patterns of use emerge from even a first, brief survey.[9] First, it adds additional confirmation to the findings of Sander Müskens' 2017 dissertation, which illustrates that the Egyptian sculptures imported to Rome belie a distinct preference for colored stones (rather than limestone or marble).[10] Moreover, as expected based on comparison with all the sculptures imported to Rome from Egypt, most date to the Late Period or Ptolemaic era.[11] Restorations – at least parts of which may be Roman in origin – to three of these imported works show a desire to recreate a complete appearance using a stone that is consistent with the material of the original, even if the restored portions are inaccurate in style and identity. Second, and more concretely, there is a tendency to devote Egyptian stones to sculptures that draw closely on Late-Period Egyptian and Ptolemaic sculptural forms and subjects – that is, the new works in Egyptian stones seem to be created with close reference to works of the same period as most of the Egyptian antiquities imported to Rome and with attention to the material traditions represented among the antiquities. On the other hand, the massive numbers of white and colored marble sculptures create consciously hybrid depictions whose forms and materials draw distinct connections with manifold statues of Greek styles and traditions that were also present at the villa. Finally, the use of Egyptian stones for sculpture in classical styles is extremely rare, marking a distinct shift from frequent imperial use of, for example, greywacke for replicas of classical subjects.[12]

These patterns reflect upon and could be expanded to discuss numerous issues, from questions of workshop production to those of material imitation, to which this analysis will return at the end of the

[9] Further research on this large and complicated corpus of sculptures would require extensive research on the materials of the sculptures, their relationship to Egyptian formal prototypes, their provenance and possible ancient sites of display and many other aspects. This chapter marks a first assessment, not a definitive analysis of the innumberable intricacies that await dedicated study of these sculptures.

[10] Müskens 2017, esp. 322-3.

[11] See further discussion below, section 6.1.

[12] On the corpus of classicizing works in lapis basanites: Belli Pasqua 1995; and generally, on the use of Egyptian stones for ideal sculpture: Gregarek 1999, 36-8, 115, 142-3, and 147-8.

chapter. In addition, this survey allows a more full discussion of the different modes of the Roman reception of media practices. Finally, all of these works are evidence of a rich engagement with Egyptian art and its materials, one that seems to draw upon the example of Egyptian sculpture in a very different way than did the pairing of red and black stones in the Augustan portico of the Temple of Apollo Palatinus. The Hadrianic sculptures illustrate an interest in exploiting historic traditions that, at the same time, allows for the appreciation of marble sculptures that seem to exult in hybrid re-fashionings bred from selective extractions from both Greek and Egyptian traditions.

6.1 Egyptian works in Egyptian stones

At present count, there are eighteen sculptures found at Hadrian's Villa that are likely imported Egyptian sculptures (cf. Table 6.1).[13] Sixteen are confidently attributed to the Egyptian period; two may be Roman Egyptianizing creations. As is characteristic of the Egyptian sculpture imported to Italy under the empire, the majority of these works date to either to the Late Period, that is, from the establishment of the 26th Saitic Dynasty in 664BC to the end of the era of Achaemenid power in 332BC, or to the subsequent rule of the Ptolemaic dynasty.[14] Some outliers that date to, for example, the 19th and 12th Dynasties, are known from Rome and, after recent excavations, from Hadrian's Villa.[15] All pertain to religious dedications, somehow removed from their original context – which seems often to have been within a temple – although

[13] Sixteen are collected in Roullet 1972: Egyptian, cat. no. 104, 123a, 127, 132, 166, 167a, 171, 196, 197, 198, 214, 232, 261, 301a, and 302; possibly Roman: cat. no 123b and 170. To these, add the Egyptian block statue of a Saitic governor, now in the Metropolitan Museum of Art, accession number 1982.318 (Perdu 2006, doc. 6, pl. 22; Jansen-Winkeln 2014, 38), and the fragmentary statue of Ramesses II excavated at the so-called Antinoeion (cf. Mari 2002, 161).

[14] Roullet 1972, 13-18; see also the catalog of Lollio Barberi et al. 1995.

[15] These are statues of pharaohs, easily datable with the ruler's name preserved in hieroglyphics. From Rome: Roullet 1972, 104, no. 158 (19th Dynasty, Ramesses II) and 102, no. 154b (12th Dynasty, Ammenemes III). Recent excavations at the so-called Antinoeion on Hadrian's Villa recovered a fragmentary statue with hieroglyphic inscriptions identifying the royal figure as Ramesses II, of the 19th Dynasty (Mari 2002, 161).

there is little information on how they came to be in Italy.[16] After Actium, many sculptures may have been claimed as spoils of war, but by the Hadrianic period, other methods of acquisition likely prevailed; reactions to imperial requisitions of statues in Greece during the first century AD show increasing resistance to this kind of exploitation in other parts of the Mediterranean.[17] Moreover, there are other possible explanations, like the relatively recent sack of Heliopolis by the Persians, a city to which many of the imports can be traced.[18] In addition, there is evidence that some Egyptian temples were experiencing an overcrowding of sculptures, since ritual depositions of large numbers of artworks removed from temples are known, for example, in the Late Period.[19] It is conceivable that some sculptures intended to be ceremonially buried may have somehow found their way to the Roman art market.

Unfortunately, only one of these sculptures can be affiliated with a particular building or area within Hadrian's Villa[20]; the sculptures were mostly recovered in earlier periods, when notations of provenance of a specific building within the villa were rare. Presently, they are dispersed in museum collections, where they are usually located in the Egyptian displays, making it difficult to conceptualize their Roman re-contextualization. There are nineteen subjects and materials counted in this analysis, since one of the statues was restored from two Egyptian sculptures in two different stones. Their subjects include the deities Apis (1) and Isis (3), images of pharaohs (5), private individuals (5), priests (1 statue; 1 head possibly affixed in antiquity to one of the statues of Isis), a falcon (1), and sphinxes (2). These statues all make use of Egyptian hard stones, primarily dark or black granite (7), but also greywacke/amphibolite/chlorite (3), green basalt (3), grey granite (2), black basalt (1), diorite (1), an unidentified black stone (1) and red granite (1). It should

[16] There is scarce evidence for how all Aegyptiaca, from tiny scarabs to antique statues, arrived in Rome (Swetnam-Burland 2007, 124-5, n. 24-6; 2015b. The exception is the transport of obelisks of large ships, described by Pliny *NH* 36.69-70 (on the obelisk's transport) and 16.201-2 (on the wood used for the ship).

[17] Cf. Harris 2015; Pollitt 1978.

[18] Stanwick 2002, 19; for a discussion cf. Müskens 2017, 328ff.

[19] Russman (2010) mentions especially the cache of buried statues recovered at Karnak.

[20] The fragmentary statue of Ramesses II excavated at the so-called Antinoeion (cf. Mari 2002, 161), which might have been recovered in a secondary, deposition context (E. Calandra, personal communication). Further analysis awaits the full publication of the excavations.

be noted that, throughout, this survey mostly relies on published identifications of materials that are imprecise descriptors derived from macroscopic analysis; whenever possible, the results of scientific studies of provenance and lithotype are specified, but many sculptures have not been studied in this manner and their visual identification must suffice for the moment.[21] Only one red granite statue is attested and not a single statue of the richly red quartzite, which perhaps provided the original inspiration behind the use of red marbles for Roman Egyptianizing works.[22] While additional research may never provide more information about the contexts of display within Hadrian's Villa, a few sculptures may offer testimony of a different aspect of reception. They bear evidence of restoration or alteration, at least parts of which may have originated in or endured through their Hadrianic lives. While some of the restorations may date to the modern period or may have been further modified in the modern period, these statues offer some hints about a few key elements of second century AD expectations of Egyptian antiquities. At least three of the eighteen statues show evidence of restoration that may be Roman in date: a red granite statue of a pharaoh (or male figure) with a Roman period head; a black granite statue of the pharaoh Nectanebo I with several restorations possibly including remnants of a Roman period head[23]; and a black granite statue of Isis to which a late Ptolemaic head of a male priest was added.

The standing male figure in red granite may represent a pharaoh, although the lack of inscriptions and the head make it impossible to identify the figure more precisely (fig. 6.1).[24] The torso is Ptolemaic, of the first century BC, and so are the two separately carved pieces of lower legs and feet that are stacked beneath it. They are carved from exactly the same material as the torso and may relate to a repair after damage in transport, before it was set up in its original location.[25] The head, however, is carved from a

[21] The quarries have been extensively studied and the results collated, especially, in Klemm and Klemm (2008), which should make the identification of specific sculptures a more efficient process.

[22] On quartzite: Klemm and Klemm 2008, 215-31.

[23] Perez Die 1985, 103-4. Roullet (1972, 105, no. 167a) identifies the figure as Nectanebo II.

[24] Munich, Museum of Egyptian Art, inv. Gl. WAF 27: Roullet 1972, 106, no. 170, fig. 198; Wildung 1995, fig. 83.

[25] Wildung 1995, 74.

slightly different red granite, with a less dense appearance of grey flecks, and some have identified it as Roman in date.[26] The man is represented bald, in the manner of a priest, and wearing a fillet around his head. This may be a baroque restoration, but there are some distinct parallels between the treatment of this head and the bald, Egyptianizing male figures in the Vatican (see below, fig. 6.13). The flat face with a wide, round cranium and the nearly archaizing rounded connection between the bridge of the nose and the eyebrow are quite similar to the Vatican males. There is, moreover, weathering and breakage of the base of the neck, where the head attaches to the torso, which suggests damage in a deposition context. A roughened, circular area on the chin was clearly prepared for the attachment of a now lost royal beard. The creation of this "lost beard" would be inconsistent with baroque restoration practices, which tended to aim at completeness except in the case that the head was meant to pass as an antique.[27] Additional study might clarify this issue, but, for now, there is good reason to consider – if with caution – that this head represents a Roman restoration that was intended to return the sculpture to completeness. If that is the case, the sculptor's restoration characterized the head as specifically Egyptian and its material was clearly selected to visually resemble that of the rest of the sculpture, even though it differs slightly.

A proposed Roman restoration of the kneeling statue of Nectanebo I may have taken a similar approach, although the specifics are difficult to distinguish since the sculpture was massively restored in the modern period (fig. 6.2).[28] The 30th Dynasty core of the sculpture, which includes the torso, altar, legs, and part of the base, was carved in black granite. There are portions of the head, carved in an unidentified black stone, that have been dated to the Roman period.[29] The modern restoration seems to have made use of small pieces of various other black stones and a light brownish stone, into which fragments of the Roman

[26] *Ibid*. Both of these pinkish granites were quarried in the area south of Aswan, where the pigmentation of the stone and other characteristics can vary (Klemm and Klemm 2008, 233-67, esp. 250-2.)

[27] Cf. Weil 1967.

[28] Madrid, Museo del Prado, no. 41, (on display in the Museo Nacional de Arqueologia): Roullet 1972, 105-6, no. 167a-b; Perez Die 1985, 103-4. On the sculptures collection history: Cacciotti 1994, 156-60; Cacciotti 1996, 220.

[29] Described as black "basalt" by Roullet (1972, 106, no. 167b).

black stone face were integrated. Without further direct study of the sculpture, it is difficult to gauge much more about which pieces are Roman and which modern. Moreover, whether these possibly Roman fragments belonged to a separate statue and were integrated with this one during the restoration is not, at present, clear. If they reflect a Roman restoration to the Egyptian statue, then they further suggest that Roman-era sculptors sought to complete a fragmentary Egyptian antiquity with a similarly colored stone.

The sculpture of Isis with a male head presents a slightly different and more complex picture. The figure of Isis has been identified as either a Ptolemaic or Roman black granite standing figure (fig. 6.3).[30] When recovered at Hadrian's Villa, a Late Ptolemaic head of a male priest carved in diorite was attached to her draped body (fig. 6.4).[31] The two fragments were separated from one another in the early 20th century, and are today displayed in entirely different rooms of the Munich Museum of Egyptian Art.[32] The pairing of the two statues created inconsistencies of gender, period, and style that were 'rectified' by this separation. However, the intricacies of their consolidated life, during which they served a Hadrianic audience, are significant even if it is not clear when or by whom they were fused together. The male head is the older of the two statues and was certainly an antiquity imported to Rome, but, without a body or at least a bust, it likely would not have been displayed for a Roman audience. The possible Roman date of the statue of Isis could indicate that the body was created for this head, to complete it for display. This seems unlikely, however, given that the pattern observed so far has been to create heads for existing bodies. It seems more probable that the two were created separately and that both were fragmentary when they were spliced together and, eventually, displayed at Hadrian's Villa. Both were carved from hard black stones, although the diorite lacks the light flecks of the Isis' granite. Moreover it is not clear how much of the stone would have been visible to the Roman audience. Significant amounts of the skin may or may not have been painted

[30] Munich Glyptothek, inv. Gl. WAF 26a: Roullet 1972, 92-3, no. 123, fig. 141-2.

[31] Munich Glypothtek, inv. Gl. WAF 26b: Roullet 1972, 92-3, no. 123, fig. 140, 142. It is possible that these were connected in the modern period, but further research into their excavation is required. Wildung (1995) argues that they were connected in the Roman period. Lollio Barberi et al. (1995, 125) are skeptical of the Hadrian's Villa provenance, but without strong foundation for these doubts.

[32] Wildung 1995.

in the original Egyptian context[33], but whether these sculptures were painted and whether it remained visible or was restored in the modern period remains unknown. As there have been few studies of the polychromy applied to Egyptian hard-stone sculpture, many open questions remain.

The male gender of the priest seems not to have been a concern; it is wholly possible that the head was understood as female by the Romans and even by the sculptor who attached it to the Isis. It is perhaps anachronistic to think that a Hadrianic viewer should have been familiar enough with the norms of fourth century BC portraiture of Egyptian priests to recognize the gender of a body-less head, but a similarly inconsistent piecing of a Greek male head with a female body would have been much more noticeable. This is to say that the Roman familiarity with Egyptian period styles was likely not as extensive as their knowledge of Greek art and styles. In this case, by comparison with the two other sculptures mentioned here, a primary factor in their consolidation seems to have been that they plausibly completed one another for display and exhibited a certain consistency in color of material.

If each of these restorations is, in fact, Roman in date, then red granite sculptures were completed with red granite, albeit of a visibly different patterning, and black stone sculptures were completed with black stones, whether carved from scratch or reemploying other partially-preserved antiquities. Crucially, there is no nostalgic desire for fragmentary sculptures, even if some of these works may have been purchased in Egypt or arrived in Italy in such a state. As mentioned for the Isis and the priests' head, it is unclear whether any of these statues still retained their original superficial adornment into the Roman period. Assessing the superficial condition of these statues will, eventually be a crucial component to understanding the Roman reception of their materiality and that of the other Egyptian antiques distributed throughout the villa. From a material perspective, it is possible to suggest, with caution, that these sculptures are indicative of a particular Roman attention to the materials of antiques. A complete statue in a stone or stones of homogenous appearance was important; stones for restoration were selected based on their color

[33] Morgan 2011, esp. 6; Ziegler 1997, cat. no. 35-36. Supra, Chapter 4, p. 243-44 for a more complete discussion of Egyptian hard stone polychromy.

or visual parity. This would not be a surprising mode of restoration, especially if the antiquities were damaged in transport to Italy. In fact, it has much in common with the way that Neoclassical sculptors restored Roman white marble sculptures in a creative manner: using the fragmentary work and their working repertoire of 'antique' attributes and attitudes, they (re-)created a statue that plausibly represented the ancient appearance of the sculpture.[34] It reflects a sense of Egyptianness, whose authenticity is less important than its general symbolism.[35] Parallels can be drawn with the approach to creating new sculptures intended to complement or pair with Egyptian antiquities, discussed in the next section.

6.2 'Egyptianizing' works in Egyptian stones

There are a nearly equivalent number – nineteen – of Roman-period sculptures that are carved in hard Egyptian stones (cf. Table 6.2). These works have all traditionally been given a Hadrianic date on account of their association with the emperor's villa at Tivoli, but it is possible that some are reused from earlier contexts. Without archaeological information, the dating of most hard stone sculpture has been conducted by comparison to the dominant characteristics of white marble sculpture. There are some sculptures which seem to indicate that it is possible to date sculptures reliably in this manner, like the portraits of emperors in greywacke that adhere strongly to portrait types[36], but this practice presumes a certain rapport between sculptors of white marble and hard stones that is at odds with the expectations that hard-stone sculptors may have been trained especially to deal with these difficult materials. For example, R. Belli Pasqua assumes that the sculptors of greywacke (especially in the Augustan period) must be Egyptian or, at least, must have been trained there[37], but she examines and dates replicas of classical Greek

[34] On creative restorations that employ similar stones, cf. Rockwell's analysis of the Capitoline Centaurs (Rockwell 2003) and general discussions of Neoclassical restoration techniques (e.g. Weil 1967; Grossman et al. 2003; Fejfer 2003).

[35] The articulation of an Egyptian character without strict concern for accuracy is described for other Egyptianizing environments: Swetnam-Burland 2007, 2015b.

[36] Belli Pasqua 1995, 65-78.

[37] *Ibid.*, 32-44.

artworks by comparing their handling and finish with that known from white marble sculptures produced in Italy in the same period. Given the number of excellent quality Roman replicas of Greek sculptures in Egyptian hard stones and the Ptolemaic sculptures that marry these materials with Greek portraiture forms[38], it seems clear that, regardless of the sculptors' ethnic identity and the location of their training, their approach to producing replicas for the Roman art market was informed by contemporary trends. Where and how this familiarity arose is an issue that has not yet been thoroughly treated. While it is possible, then, that trends in white marble sculpting – like textured or polished finishes – would be reflected in the hard-stone sculptures, it need not be the case. Future projects on the production of Roman hard stone sculpture should take a more critical approach to consider whether trends in colored stone production parallel or diverge from those of white marble sculpture.

At the very least, these nineteen sculptures in hard stones can likely be associated with a display in Hadrian's Villa and some works, like the 'telamones of Antinous', were clearly created for a specific context within the villa. Like most of the classical or classicizing statues, many of these Egyptianizing statues were probably also commissioned specifically for the villa and should be attributed to the Hadrianic period.[39] In addition to the colossal telamones that perhaps represent Antinous (2), the subjects of these sculptures include the deities Isis (4) and Osiris (2), sphinxes (6), animals (3), a queen (1), and a male offering figure (1).[40] With the exception of Antinous, whose representation draws on traditional dress and images of Osiris and the pharaohs, the subjects of these Egyptianizing sculptures are largely in keeping with those of the imported antiquities: deities, sphinxes, royal males and females, devotional figures, and animals. In regard to their materials, too, there is a kind of consistency with the Egyptian imports. A few of the Roman sculptures make use of red granite (3, including the 2 telamones), but most make use of dark

[38] *Ibid.*, 32-4.

[39] Since long before Raeder, it has been understood that most of the sculpture of the villa was produced specifically for it (Raeder 1983, 205, with bibliography). For a recent treatment, cf. Pensabene 2011, 26-9. Duthoy (2012, 52-76) identifies at least two separate workshops creating the white marble, ideal sculpture for the villa.

[40] Roullet 1972: nos. 101, 102, 124, 130, 131, 133, 146, 147, 184, 204, 252, 262, 300, 301b, 305, 306, 307, 308.

stones: black "basalt" (6); black granite (3); grey "basalt" (2); green "basalt"/greywacke (2); grey granite (2) and grey diorite (1). This group of sculptures demonstrates that, in the second century AD, there was a genuine interest in creating sculptures whose subjects and material were consistent with the available models of Egyptian antiquities, most of which dated to the 26th -30th Dynasties or the Ptolemaic period. Some of the Roman creations, moreover, show clear derivation from Ptolemaic or other sculptural types, indicating a kind of reproductive attention to Egyptian sculptural forms whose parity to that of Greek forms warrants further investigation.

Perhaps the most famous of the sculptures among this group are the two so-called telamones of Antinous (fig. 6.5) carved in red granite and today installed in the portal architecture of the Sala a Croce Greca in the Vatican Museums.[41] The sculptures are identical except for their slightly different type of red granite[42] and their mirrored poses, with one advancing the right foot and one the left. Both were intended as columnar architectural elements, probably symmetrically paired ones, but their location within the ancient villa is unknown; most recently, they have been associated with the entrance to the proposed tomb within the so-called Antinoeion.[43] Wherever they were located, this form of representation draws strongly on at least two different Egyptian sculptural traditions. The use of a male figure as a column is related to the Osirid pillars that framed entrances or halls of mortuary temples, representing the deceased pharaoh in the guise of Osiris.[44] Additional adaptations of these pillars seem to be reflected in the Ariccia relief, a late first or early second century depiction of an Egyptian ritual whose representation of cultic space may (or

[41] Roullet 1972, nos. 101 and 102.

[42] One displays a more richly red color; both types were quarried in the area south of Aswan (Klemm and Klemm 2008, 233-67, esp. 250-2.)

[43] Mari and Sgalambro 2007; Mari 2012. The latter provides earlier bibliography and discusses previous proposals for the location of the tomb within Hadrian's Villa. For a thorough critique of the tomb's location within the 'Antinoeion' and an evaluation of the Egyptian locations for his burial and the erection of the associated obelisk, see the appendix in Renberg (2010; see also Grenier 2008, 347-46). However, even if Renberg is correct that Antinous' body was buried in Egypt, it remains possible that the Egyptianizing space excavated in front of the Cento Camerelle contained some kind of memorial to Antinous or, even, a cenotaph. Its location on the entrance road, outside of the main part of the villa, would be a suitable locale for a funerary memorial.

[44] These pillars are attested, for example, on the façade and along the hall of the temple of Ramses III at Karnak and on the façade of a temple in Luxor.

may not) relate to the Iseum Campense.[45] Osiris may have been a particularly desirable point of reference, since Antinous and Osiris were sometimes assimilated according to the Egyptian tradition of attributing honors to those who drowned in the sacred waters of the Nile and on the general association of the deceased with Osiris.[46]

The male figure here, however, is represented without any specific attributes of Osiris, although his representation in Egyptian dress may partially signify this connection.[47] Instead, he is more strongly characterized as a pharaoh – via the conventions of Ptolemaic royal portraiture[48] – by his pose, short skirt (*shendyt*), and *nemes* headdress with the uraeus (the rearing cobra that symbolizes Lower Egypt).[49] In particular, these two sculptures are closely related to the third century BC sculpture of Ptolemy II Philadelphos in red granite (fig. 6.6a). This statue had been brought to Rome along with a statue of Ptolemy II's sister-wife Arsinoë and another of Queen Tuye (fig. 6.6b and 6.6c).[50] Someone, perhaps Caligula, installed them in a group display in the Horti Sallustiani along with a replica of the statue of Arsinoë in slightly different shade of the same Aswan pink granite.[51] The replica has been interpreted as a dedication in honor of that emperor's own, deceased sister-wife Drusilla (fig. 6.6b).[52] The statue of Ptolemy was thus

[45] Rome, Museo Nazionale Romano, inv. 77255: Roullet 1972, 27, fig. 2; Lembke 1994b. See also discussion in: Swetnam-Burland 2015a, 313, fig. 3.7.3.

[46] The temple of Antinous at Antinopolis was dedicated to Osirantinous. On the cult of Antinous: Galli 2007; Renberg 2010 and, with recent bibliography, Renberg 2017, 513ff. On the association between Osiris and deceased individuals in general cf. Smith 2006, 2008.

[47] Cf. Grenier 2008, esp. 59-65.

[48] Stanwick 2002. Compare the statue of Ptolemy Philadelphos in the Vatican, Museo Gregoriano Egizio, inv. 22682.

[49] Mari (2012) and, particularly, Grenier (2008) have revived the idea that Antinous is here characterized as Osiris-Antinous. For Mari, this is in keeping with her interpretation of the so-called Antinoeion as a tomb or cenotaph and temple. However, in these pillars he has none of the attributes of the Osiris pillars but is represented in a similar manner to the other Egyptianizing images of Antinous throughout the villa.

[50] Statue of Ptolemy II, Vatican Museums, inv. 22682. It was set up with a statue of his wife, Arsinoë II (Vatican Museums, 22681), a statue of the 18th or 19th dynasty Queen Touya (Vatican Museums, inv. 22682). Cf. Hartswick 2004, 130-8 with bibliography.

[51] Although of a slightly different shade, both granites are to be associated with the Aswan quarries. Cf. Klemm and Klemm 2008, 233-67, esp. 250-2.

[52] Grenier 1989, 22-24.

locally available to serve as a model for the telamones, especially since reproductive attention to this group is already documented in the example of Arsinoeë-Drusilla. The reversal of the advanced foot in one of the telamones would be, to the Roman copyist and audience at least, a relatively insignificant alteration that was likely intended to suit a symmetrical architectural installation.

These statues may, as has often been suggested, have been intended as representations of or allusions to Antinous, his death, and his honorific Osirantinous. Drusilla's thoroughly Egyptian statue offers a crucial parallel. In neither case are the satues specifically characterized as the person to whom they may (or may not refer). By contrast, in the Egyptianizing sculptures identified as Antinous carved in marble, to be discussed further in the next section (cf. fig. 6.18a-b), his posture and the treatment of the body more distinctly diverge from Egyptian models and draw parallels with more classicizing portraits of Antinous, suggesting a more intentional representation.[53] However they should be identified, the telamones figures are a blend of two distinct Egyptian traditions, making use of an Egyptian stone that was often employed for monolithic elements. If these statues stood in the so-called Antinoeion and if the squared foundation between the two temples of the Antinoeion did support the obelisk now on the Pincian hill in Rome, this space featured red granite in multiple colossal forms. It is thus utilized in a manner established in multiple locations in Rome, as in the columns of the interior of the Hadrianic Pantheon.[54] The telamones bear multiple references both to Egyptian sculptural and material traditions and to the Roman reception of those traditions, integrating and refashioning both in a new creation. If Mari's reconstruction of the so-called Antinoeion is correct, these telamones were accompanied by the fifteen reduced scale Egyptianizing sculptures in Göktepe dark grey, white veined marble.[55] These statues, to be discussed in the next section,

[53] Concisely described by Swetnam-Burland (2015a, 318). On these sculptures and Antinous characterized as pharaoh: Meyer 1991; Grenier 2008; Cadario 2012; Mari 2012, esp. 87.

[54] Zink 2014.

[55] Cf. Mari and Sgalambro 2007. There are many uncertainities regarding the reconstruction and attribution of these statues to the space. Mari (2003, 281-2, 2010, 130) draws attention to a forgotten note that the six statues discovered in the seventeenth century were discovered "incontro alle Cento Celle" (now known as the Cento Camerelle) and should thus be associated with the Antinoeion, which faces those rooms. His theory is given credence by the fact that a head and other fragments of the same style and material were found during the excavations at the Antinoeion. He disregards the findspot of the other nine Egyptian statues, on the terrace above the Canopus, noting that this was an

make use of a marble from Asia Minor and creatively refashion Egyptian styles. Compared with the rigid formality of the red granite figures of Antinous, the black stone group shows softer, more plastic forms. The two would represent two different types of engagement with Egyptian sculptural tradition: the Antinous figures meld two different Egyptian traditions of representation and utilizes characteristically Egyptian materials, while the black marble group is loosely adapted from or inspired by Egyptian sculpture and its materials.

All four of the statues of Isis that belong in this category, moreover, are very clearly related to late-Egyptian sculptural types. One statue in black basalt (fig. 6.7a) clearly derives from images of Ptolemaic queens, whose representations continued many of the traditions of pharaonic queens but introduced this spiraled wig and were often assimilated to Isis, in part with the addition of the cornucopia (cf. fig. 6.7b).[56] The statue imitates specific elements of the Ptolemaic forebearer, while changing the arrangement of hair and drapery. The face and the bent left knee integrate classical elements into a composition that, however, maintains a solid block form. This sculpture is a hybrid of the two traditions and it is the most classicizing of the group. Two others more closely derive from another first century BC Egyptian type, repeated once in black "basalt" and once in "dark granite" (fig. 6.8).[57] Of the dark granite statue, only the lower legs and feet are extant, but it conforms very closely to the basalt statue which is fully preserved. Both are markedly similar to the Ptolemaic (possibly Roman) headless statue of Isis that was restored with the head of a male priest discussed above (fig. 6.3). Thus, this Egyptian statuary type might have been present as many as three times throughout the villa. In each case, the pose of the body, the drapery, and the wig (in at least one case) conform to a Ptolemaic model. Finally, the fourth sculpture in this category is a grey granite, Roman

erroneous attribution (Mari 2003, 286) or, if correct, the statues were certainly removed from their original context (Mari 2010, 130). On the basis of the findspot near the Canopus, Grenier has restored all the statues to an Egyptian sanctuary in the Canopus/Serapeum (1989, 2008, 112-17).

[56] Roullet 1972, 94, no. 131, fig. 151; On the Ptolemaic type, cf. von Bothmer et al. 1960, no. 113 and 123. On Ptolemaic queen portraiture: Ashton 2001, 2004.

[57] Roullet 1972, 94, no. 130, fig. 150 and no. 133. Cf. Botti and Romanelli 1951, 99, nr. 148, pl. LXIX; Gregarek 1999, 194, no. C8.

sculpture depicting a seated Isis feeding the child Horus, thus conforming to the well-known representations of Isis Lactans (fig. 6.9).[58] None of these sculptures of Isis can be identified as exact replicas or even close adaptations of a specific sculpture following the practices of *Kopienkritik,* but they each draw on clearly established traditions of late-period sculpture.

In each of these four sculptures, the representation of Isis takes on a particularly charged Egyptian character from the combination of the composition and material. Despite the Egyptian origins of the goddess, Roman sculptures of Isis often presented her in a more synchronistic way as in, for example, the sculpture of Isis-Fortuna that employs Hellenistic styles of dress and sculpting.[59] These four sculptures from Hadrian's Villa, by contrast, pair late-period or Ptolemaic forms with traditionally Egyptian dark, hard stones, emphasizing a connection to the sculptural traditions of Egypt. Even if Ptolemaic sculpture is already Greco-Egyptian, mixing in elements of Greek sculptural style, the dark materials and these particular sculptural forms link these four sculptures to the imported antique sculptures of Isis that were also present in the villa. In a similar manner, the presence of two sculptures of Osiris Canopus at the villa[60] speaks to a Roman reception of Hellenistic Egyptian sculptural and material traditions; both make use of grey "basalt" and adhere to the forms established in Egypt.[61]

Perhaps most clearly illustrating the desire to emulate – in material, subject, and form – is the Roman era sphinx that was carved in dark basalt (fig. 6.10a).[62] It has often been suggested that it was carved as a complement to one of the Egyptian, imported sphinxes (fig. 6.10b).[63] The Egyptian sphinx is carved in

[58] Botti and Romanelli 1951, 102, nr. 153, pl. LXIX; Roullet 1972, 93, no. 124, fig. 143; Gregarek 1999, 199, no. C31. For comparisons, cf. Tran 1973, 8ff. fig. 7-11.

[59] These compositions are also carved in black or grey stones, as at Palestrina and Ostia (cf. Gregarek 1999, 198-99, no. C29 and C30, respectively, with bibliography), but in marbles rather than Egyptian hard-stones.

[60] Roullet 1972, 146 (Rome, Mus. Greg. Egizio, no. 39, inv. 22852 and 147 (Location unknown, formerly in the Museo Borgiano in 1814).

[61] The examples and sources are discussed in Dunand 1998

[62] Roullet 1972, 138, no. 301b.

[63] *Ibid.*, 138, no. 301a.

amphibolite, a dark stone with a slightly greyish-green cast that is a slight geological variant of the greywacke quarried within the Wadi Hammamat quarry in the Eastern Desert.[64] Both statues are highly polished; the basalt appears slightly more reflective. Both are missing their head, but the Roman sphinx has been restored with a modern head and forelegs. Still, even a quick appraisal can identify that the Roman is not an exact replica of the Egyptian sphinx, although there are many stylistic similarities. Most visible are the differences in the representation of the ribs, low and subtly plastic on the Egyptian sculpture while higher and more harshly incised on the Roman. Still, the compositions are markedly similar, from the elegant swirl of the tail around the back hip to the small, crisply pointed 'lapel' on the breast-plate. Lacking precise archaeological information, it is not clear whether the two sculptures were carved for pendant display in a single context; there are other Roman era sphinxes that also bear these formal elements, like the white marble one recently excavated in the so-called Palestra.[65] However, the two seem to have been discovered together and remained as a pair when brought to Munich, where they are today, and the practice of carving Roman near replicas of Egyptian sphinxes in similarly dark, Egyptian stones to display together is a practice that is documented in Rome.

For example, among the sculptures excavated in the Iseum Campense is a Roman-period sphinx carved in green porphyry as a copy of an Egyptian, black diorite sphinx of the 18th Dynasty.[66] Displayed together, the replica was likely intended as a pendant to the imported Egyptian antique, although both were probably part of a large display of several sphinxes.[67] In both the Iseum Campense and the Hadrian's Villa

[64] Klemm and Klemm (2008, 297-311, esp. 310-11) demonstrate that the siltstones and greywacke quarried within the relatively small area of the ancient Wadi Hammamat quarry present a quite wide range of chemical compositions. The formation of the rock basement was formed from layers of sediment with clusters of higher clay or quartz content which, after only slight metamorphism, resulted in a localized chemical signatures. However, Klemm and Klemm stress that this does not present a problem of identification, since all the variants of these two stone types were available to the Egyptians (and Romans) exclusively from this quarry site.

[65] Mari 2008, 130.

[66] Egyptian sphinx: Roullet 1972, 133, no. 278 (as black granite), fig. 290; Lembke 1994a, 225, cat. E15; Swetnam-Burland 2007; Müskens 2017, 210-11, no. 99 (as granodiorite, with additional bibliography). Roman sculpture: Roullet 1972, 132-3, no. 277, fig. 289; not included in Müskens 2017. See Chapter 2, section 2.1.a.xiii, p. 72-73 for additional discussion.

[67] Roullet 1972, 132-3, no. 277, fig. 289. Swetnam-Burland (2007, 122) points out that the area of the Iseum Campense to which Roullet attributes the sphinx pair cannot be reconstructed with certainty (on the area, cf. Versluys 1997).

examples, the Roman sphinx is carved in a material slightly different than that of the Egyptian work it complemented. Was the divergence in material intentional or a matter of availability? One further pair of sphinxes attested from Hadrian's Villa suggests that it may have been intentional. In this case, the sphinxes are both carved in the Roman period, but one is carved in "grey basalt" and the other in "grey granite".[68] These were designed as mirror images; so too was the Hadrianic basalt sculpture carved, with its tail over its left flank, to be juxtaposed with the Egyptian amphibolite sphinx with a tail laid on the right flank. Their materials too, it seems, were selected to be complementary rather than identical. Whether designed to supplement an Egyptian antique or whether both were carved in the Roman period as a pair, there is a tendency to carve sphinxes in similar but not identical dark, Egyptian stones. These duplicated sphinxes articulate a desire for consistency with – albeit not necessarily exact replication of – Egyptian models that is likewise exhibited by the Antinous pillars and the statues of Isis in Ptolemaic forms. This adds support to the argument of the previous suggestion, that Roman period restorations sought near matches of material to carve restorations for damaged sculptures for display within the villa. The question of whether the new Roman sculptures in Egyptian stones were intended as simulations – or, even, as fake antiquities – or simply to appear as faithful works in the Egyptian style must, for now, remain open. In either case, this category of sculptures attests to a genuine interest, in the Hadrianic period, in creating some sculptures that exhibit fidelity to the available Egyptian sculptural models in material, subject, and style. In the context of a broader analysis, several other types of works might be added to this category, like the alabaster canopic jars from Hadrian's Villa[69] and the obelisk dedicated to Antinous that now stands on the Pincian hill in Rome. This last displays a curiously falsified fidelity to Egyptian models: it adheres to the tradition of carving monolithic obelisks in Aswan granite in a superficial manner, by affixing slabs of granite veneer to a central

Still, the two seem likely to have been intended as a pair, although they may have been one pair among a larger group of four or more similar sphinxes.

[68] Roullet 1972, 139, no. 305 (Rome, Villa Albani-Torlonia no. 550) and 308 (Rome, Villa Albani-Torlonia, no. 563).

[69] Roullet 1972, 141, no. 315.

core of another material.[70] This kind of remediation is of a markedly different sort than that of the sculptures of Isis and the sphinxes, which more closely follow Egyptian material practices. The sculptures follow late-period and Ptolemaic models closely enough that it should be considered that they might have been produced as reproductions of specific, now-lost, three-dimensional models. This is not to suggest that these models were viewed as masterpiece archetypes, but rather to reflect upon workshop practice. Since Roman sculptures in Egyptian stones tend to imitate Egyptian sculptures of the late periods and sculptures of this period were those most frequently imported to Rome, it is highly likely that the Hadrianic sculptors were utilizing imported sculptures as their models.

6.3 'Egyptianizing works in non-Egyptian stones

There are far more Egyptianizing sculptures that were carved in the Hadrianic period that do not utilize Egyptian stones (cf. Table 6.3). In total, there are forty-five sculptures that fit these criteria, but several have met uncertain fates in modern collections and there may have been even more.[71] Their subjects include: Antinous (7); Isis (6); Pharaohs (4); Isiac priests (3); offering statues (1); Min (1); Ptah (1); Nefertem (1) and Nile River god (1); as well as unidentified male (4) and female figures (1); sphinxes (3); crocodiles (2); and the ten (10) now lost statues excavated in the 17th century that depict standing male and female figures. By far, the most prevalent material of this group is black or dark grey marble (26), followed by white marble or limestone (13), red marble (5); and cipollino (1).

By way of a quick summary, further discussed and annotated below, the group of dark-grey to black marble sculptures are among the most famous and iconic Roman Egyptianizing sculptures, but only a small fraction of them survive and they have subjected to numerous campaigns of restoration in the modern period. Eight of them have been lost since the Napoleonic period. Many of them may have belonged to a

[70] Mari 2010, 133.

[71] Roullet 1972, nos. 96-100, 119, 122, 125, 126, 128a-b, 129, 139, 149, 168, 169, 205, 213, 234, 358, 259, 303, and 304. To these add: the statue with a nemes headdress excavated in 2003-4 (Mari 2003, fig. 23).

single installation or decorative ensemble within the villa, while others of different size and material seem intended as pairs or individual statues. One of the red marble sculptures seems to be related to this group of black stone works, as it is similar in size and subject matter, but its incredibly fragmentary state and the lack of other similar works makes it difficult to specify what that relationship was. One colossal red marble sculpture of Antinous with the attributes of a pharaoh and three red marble sculptures of Isiac priests make up the rest of that group. The white marble sculptures include a variety of subjects from Antinous to Isis and sphinxes. While a few of these sculptures, like the sphinxes, are clearly derived from the forms of Egyptian sculptures, this group as a whole demonstrates a greater divergence in style and subject matter from the Egyptian antiquities than did the Roman sculptures carved in Egyptian stones. This is even true of the statues of Antinous that belong to this group compared with those of those carved in granite. Other sculptures take an even less traditional approach, like the crocodile carved in cipollino marble; the wavy green veining of the stone combines with plastic modelling to simulate the rough, irregular skin of the reptile.[72] This group of Egyptianizing sculptures in non-Egyptian stones represent more transformative remediations than the previous group in Egyptian stones.

The most numerous but the most complicated to precisely account for are a group of Egyptianizing sculptures in the black to dark-grey marbles that were excavated near the so-called Antinoeion, although six may relate to the Canopus.[73] Z. Mari's extensive research on the modern history of these statues has convincingly shown that there are at least fifteen individual sculptures, possibly more.[74] Two separate discoveries with indications of findspots that have since become controversial and complicated modern histories make it difficult to precisely track each of these statues' histories. The first discovery took place in the middle of the 17th century, on property owned by the Jesuits.[75] Written sources describe the discovery

[72] Gregarek 1999, 271, cat. H49.

[73] Attanasio et al. 2009b; Attanasio et al. 2013.

[74] Mari 2003, 279-303.

[75] Mari 2003, 279-86.

of ten very fragmentary statues[76] that were sold to and restored by Carlo Camilli Massimo, although published drawings represent only nine restored standing statues.[77] His collection eventually included six other Egyptian sculptures, two other standing statues, two kneeling, and two baboons.[78] Upon Massimo's death in 1677, the entire group was sold to Haro y Guzman, who took them to Spain in 1682. Twelve of these – ten standing statues, one kneeling, and one baboon – entered the collections of Philip V by the beginning of the 18th century.[79] Eight of the Egyptianizing sculptures were installed in the Royal Palace at Aranjuez, while four remained at San Idelfonso. The former group of eight somehow disappeared during the Napoleonic occupation. Today known only from drawings of their restored versions, these sculptures are difficult to assess individually or as a group.[80] The drawings of the original group of Massimo's collection illustrate six female and three male figures, perhaps identifiable as priests/priestesses or divinities (fig. 6.11). Their stone is described, more than once, as '*pietra paragone*', which Mari claims should be taken to indicate the "bigio morato" (Göktepe marble) that would thus connect them with the sculptures recently excavated in the so-called Antinoeion (fig. 6.12) as well as with the group of six Egyptianizing figures discovered in the middle of the 18th century that are now in the Vatican (fig. 6.13).[81]

Piranesi's plan of the villa, published in 1781, located the 18th century sculptural discoveries on the artificial terraces that flanked the valley of the Canopus. Five are fragmentary full figures, two of Isis or a priestess and three of male figures that have been identified as an offering figure, Ptah and Nefertem, while the sixth is two-faced bust of Isis-Apis.[82] With the provenance of the Canopus, they have traditionally

[76] Bartoli 1790, p. CCLXII, n. 139.

[77] Cacciotti 1994, 156-60; 1996, 220.

[78] Cacciotti 1994, 156-60

[79] *Ibid.*, 157.

[80] Even if the group has a certain consistency, as Mari (2003, 279-86) argues, it is difficult to say how much those features are due to restorations.

[81] As pietra paragone: Bartoli 1790, p. CCLXII, n. 139; cf. Cacciotti 1994; Mari 2003, 283.

[82] Roullet 1972, respectively, nos. 128, 129, 205, 149, 213 and 126.

been considered to augment that area's association with Egypt[83], but Mari argues that the location of their discovery must have been misidentified.[84] He reasons that since their style and material is so similar to that of the pieces discovered in the Antinoeion, they should be associated with the same space and, moreover, that their discovery occurred long before the drawings for the Piranesi plan were executed, which would make it possible that they actually came from the Antinoeion. The location of their discovery, he suggests, might have been noted as along the side of the Canopus valley (whose termination at the end of the pool was not then known) even if they were discovered in the Antinoeion, since it flanks the extension of the same valley. Mari's theory is possible, but it is not necessary. At Hadrian's Villa, there are numerous repetitions of related forms (and even replicas) in the same material, displayed in different parts of the villa.[85] It is entirely conceivable that there were two groups of similarly sized Egyptianizing figures intended for different parts of the villa.

Moreover, there is some reason to doubt whether all fifteen of these figures truly belonged to the same group and the same installation. While Mari asserts that the pietra paragone of the 17th century discoveries means bigio morato[86], there is no such strict correlation between the two terms and there is little indication that these antiquarian terms were applied with the consistency with which we can now distinguish various marbles and stones.[87] Writing around the same period, Winckelmann specifies that "The hardest and finest type of black marble is that popularly called 'pietra di paragone'; and of this there are some entire figures preserved, that is, an Apollo in the gallery of the Palazzo Farnese, the so-called god of the Aventine in the Capitoline Museums, both greater than life-size (A), the two aforementioned centaurs, smaller than

[83] Cf. esp. Grenier 1989. N. Hannestad (Hannestad 1982, 1999) conducted excavations searching for the tomb of Antinous around the Canopus.

[84] Mari 2003, 286.

[85] Slavazzi 2000, 2002. E.g. the Faun in red marble, one of which was found near the Mimizia, at the southern reaches of the villa, while the other was found near the northern edge, in the area around the so-called libraries (supra, Chapter 5, p. 341, n. 267.

[86] "in "pietra paragone", cioè di bigio morato come i numerosi pezzi di noi recuperati nel 2002-2003", Mari 2003, 283.

[87] Cf. the discussion in Appendix A.

natural size … (B)."[88] Winckelmann notes at (A) that both the Apollo and the Dio Aventino are of "basalte verde" a term that commonly describes stones now recognized as greywacke (as both of these have been) and at (B) that the centaurs are of bigio morato. He further clarifies under footnote (A) that a statue of a nude hero with a winged figure wrapped in a mantle in the Villa Negroni on the Esquiline is "di paragone". These footnotes thus indicate that the examples he gives "of this" means examples of black stones generally, while pietra paragone is a specific type of these that is *not* to be associated with that bigio morato used for the Centaurs. The centaurs' stone, the marble from Göktepe, is, moreover, precisely the same stone of the Antinoeion and Vatican Egyptianizing figures.[89] In fact it is likely that the black shade of greywacke is the one described by Winckelman as pietra paragone, in a blending of the meaning of paragone: on the one hand, the stone's hardness made it able to 'test' the purity of metals (it is described as a touchstone in medieval literary sources[90]), and, on the other, the stone was the highest quality and hardest of the black stones, a qualitative paradigm against which the others were measured along the lines of Winckelmann's interpretation above. It is far from clear that pietra paragone should be understood to mean that these Egyptianizing sculptures were carved from the so-called bigio morato quarried at Göktepe that has been identified as the stone of the Vatican sculptures. The terminology referring to dark colored stones from the Renaissance to the modern period is fraught with misinterpretations, misnomers, and complications of restored versus ancient surfaces, as this dissertation has repeatedly shown[91]; one should exercise caution in identifying stone types solely via antiquarian nomenclature.

Mari's counting of this group of fifteen, moreover, does not include the fragmentary statues in black marble from Hadrian's Villa that are now in the Prado in Madrid (fig. 6.14a-b).[92] These are extremely

[88] Winckelmann 1784, vol. II, 15.

[89] Attanasio et al. 2009b; Lapuente et al. 2012; Attanasio et al. 2013.

[90] Belli Pasqua 1995, 17-24.

[91] Cf. Appendix B.

[92] Madrid, Museo del Prado, inv. 414E and 415E: Roullet 1972, 117-8, no. 211 and 212.

fragmentary and much restored. Two statues were created from of fragments of at least three ancient figures. Mari discounts these statues as having ever been a part of the first group excavated at Hadrian's Villa in the 17th century; he considers them to be the two standing statues of the group of six sculptures purchased by Massimo at a later date. However, the principal criterion by which he differentiates this group from the bigio morato one is their material, which he erroneously describes as "basalto nero" [93]; both of these standing statues are recomposed from various black and grey marbles, as are the Roman era restorations to the Egyptian black granite kneeling statue that also formed a part of Massimo's second Egyptianizing purchase.[94] On the basis of material alone, it cannot be established that the Prado statues were not among those discovered at Hadrian's Villa in the 17th century. Nor do calculations of the shifting numbers of the statue groups clarify the situation. Massimo's first group of statues from Hadrian's Villa counted only nine standing figures. His second purchase added two more. Ten of these eleven standing statues, along with one kneeling statue and one baboon, eventually entered the collections of Philip V. Thus, at least one, if not two, of the standing statues in the Prado must be one of the secondary additions to Massimo's collection. Eight of those ten standing statues were later dispatched to the Palace at Aranjuez. Two remained at San Idelfonso and it is these that can now be seen in the Prado since all those at Aranjuez were lost during the Napoleonic occupation. If, as Mari believes, the two Prado statues were both later acquisitions by Massimo and did not belong to the group discovered at in the Hadrian's Villa 17th century, then Philip V acquired that group without one of the nine that had originally belonged to Massimo. That this was the case is perhaps suggested by the fact that the Prado statues do not seem to be similar enough to be identified with any of the drawings of the group of nine (fig. 6.11). Indeed, the lack of parity between the Prado statues and those represented in the drawings – despite multiple and transformative restorations – is the strongest evidence

[93] Mari 2003, 283 says that these six sculptures were all of "basalto nero".

[94] The kneeling statue is that described in section 6.2.a above, which was restored with multiple stones in both antiquity and the modern period. The stone of these statues has not, to my knowledge been archaeometrically provenance but the museum identifies it as marble.

that the Prado statues were both secondary additions to Massimo's Egyptian collections and that Philip V acquired both of them, along with only eight of the group discovered in the 17th century.

The Prado sculptures clearly provide evidence of two Egyptianizing male statues, carved in a highly polishable, homogenously black marble; the stone might be from Göktepe like that of the Vatican statues, as larger areas without veining are known, but it might also have been procured from a different quarry. The black limestone of Ain El-Ksir, in modern Tunisia, for example, might be another candidate.[95] It is possible, though far from certain, that these two torsos represent a second set of Egyptianizing statues in a more consistently black stone that is visually a closer parallel to the Egyptian basalt or black greywacke. Meanwhile, the lower part of a third statue (restored as the lowest extremity for one of the torsos, fig. 6.14a) is carved in a more grey stone with strong white veining. Its surface today appears more grey than the Vatican examples, but this could be remains of an oxidation patina if the sculpture was not heavily polished or veneered in the modern period.[96] This statue could belong to the 'bigio morato' series proposed by Mari (or not).

To this count of bigio morato Egyptianizing sculptures from the villa must be added the two pharaohs in Munich (fig. 6.15).[97] These statues are of approximately the same size as the other Egyptianizing statues, but they seem to be more rigidly frontal, although restorations may account for this differing impression. However, these two are sculpted as mirror images of one another, one with the left foot advanced and one with the right foot.[98] They should thus be considered an intentional pair, whereas

[95] Cf. Appendix B for a survey of the quarries and their ancient exploitation. Cf. Brilli et al. 2010 on black limestones. Cf. Lapuente et al. 2012 and Attanasio et al. 2013 on the black stones at Hadrian's Villa. A fragment of a marble ship from the villa has been attributed a provenance from Vitina, in the Peloponnese, although the authors note that it is controversial whether ancient quarrying occurred at the site and suggest that these value may represent an error in process (Attanasio et al. 2013, Table 1, VA 24, 4365-66).

[96] On the different appearances of Göktepe marble depending on polish and oxidation, cf. Chapter 5, section 5.3.a. The organic material of the stone oxidizes to a greyish color over time (Lazzarini 2013, 142-3). To my knowledge, the stones have not been archaeometrically provenanced.

[97] Roullet 1972, nos. 168 and 169; Mari 2003, 301ff.

[98] Perhaps because they repeat the same posture and have a vaguely classicizing face, Mari (Mari 2003, 301ff. and Mari 2012, 87) has interpreted these as representations of Antinous like the white and red marble colossal statues

the statues of the bigio morato group show no evidence that they were juxtaposed in a spectral manner. Instead, these bear some similarities to the pillars of Antinous or the sphinxes, discussed above.

To summarize, there were nine (possibly ten before restoration) sculptures of unknown dark stone excavated in the 17th century that are now lost. Six more were excavated in the 18th century; these are carved in Göktepe marble and are now in the Vatican. These fifteen or sixteen possibly constitute a single sculptural group, but may represent two different groupings of similarly styled figures. The lower half of another sculpture in a grey marble with white veins is in the Prado, restored as the lower half of non-pertinent torso. The two Munich pharaohs are likewise carved in a dark marble with white veins that resembles that of Göktepe. Fragments of statues in bigio morato have been discovered in recent excavations of the Antinoeion, including one nearly intact head; even if most of the fragments might belong to lost portions of the already recovered statues, the head suggests that at least one additional figure should likely be counted. Moreover, the two torsos in the Prado are carved in a dark, homogenously black marble, as is the sculpture of Min now in Munich, a statue of Isis now in Berlin, and two statues in private collections in England.[99] Their stone is as yet unidentified. In total, there are at least twenty-five Egyptianizing sculptures in grey to black marbles that are associated with Hadrian's Villa – slightly more than half of all the Egyptianizing works in non-Egyptian stones. Their material has often been assumed to imitate the dark colors of Egyptian works[100], while their style and posture have been recognized as Roman adaptations that maintain only certain elements of the Egyptian canon, like the advanced left foot.[101]

Against this massive group of black and dark grey stones, there are only five sculptures in red marble. One of these, a fragment of a head wearing a nemes headdress with the very degraded remains of

(infra, p. 381-83). However, there is considerably less individualization of the classicizing face in these grey statues and the connection with the images of Antinous should remain only a suggested resonance, not identifying evidence.

[99] Roullet 1972, no. 139, 122, 233 and 234, respectively.

[100] Attanasio et al. 2009a, 339-40, n. 111; Belli Pasqua 1995, 56-58.

[101] Cf. the quite sensitive discussion by Mari 2003, 297.

a uraeus, was found in the excavations of the so-called Antinoeion (fig. 6.16).[102] The red stone is not technically rosso antico, which is the name for the red marble from the Peloponnese, but Mamor Iassense, quarried in Iasos in Asia Minor.[103] This is the only red marble fragment of the same scale and, it seems, the same style as the Vatican Egyptianizing sculptures. It is particularly difficult to understand, since it would be odd to pair a single red marble sculpture with all of the black ones, yet the lack of other fragments in this material, combined with the wealth of black stone fragments, makes it unlikely that each black statue was complemented with a red one. For the moment, it remains an anomaly.

Three of the other known red marble sculptures from the villa are Isiac priests (fig. 6.17), of which there is reportedly a fourth in a private collection.[104] Three of these were found far from the Canopus or the so-called Antinoeion, in the so-called Palestra. Its name originates in the discovery of these statues, since Pirro Ligorio thought that their shaved heads and olive-leaf crowns marked them out as athletes.[105] The three priests are preserved in what appear to be bust format, but they likely 'wore' white marble that was meant to evoke the linen of their garments. No pieces of the white marble portions have yet been identified. The red stone has traditionally been identified as rosso antico from the Peloponnese, but it has not been archaeometrically provenanced and may be from Greece or, like the royal figure above, from Asia Minor. The priests appear to have been part of a group associated with the 'Palestra', which Mari has controversially identified as an Isiac sanctuary.[106] In any case, their naturalistic form and their composite white and red marble representations mark them out as Roman creations that, moreover, treat a

[102] Mari 2003, 295, fig. 39 (marmo rosso).

[103] Attanasio et al. 2013, Table 1, sample , with discussion p. 4366-7. On the Iasos quarry cf. Andreoli et al. 2002; Lazzarini et al. 2005; Lazzarini 2007, 87ff.

[104] The sculptures are now dispersed: Rome, Capitoline Museums, no. MC 1214; Venice Archaeological Museum, inv. 117; and Paris, Louvre, 1358. The fourth, in a private collection is noted by Mari (2008, 131).

[105] Mari 2008, 130-1; Mari and Sgalambro 2006, 55. Cf. Ensoli 2002, with preceding bibliography.

[106] Mari 2006, 55-6.

contemporary subject. They are distinguished from the dark stone Egyptianizing works by both their form and material, as well as by their findspot.

The last of the red marble statues is a colossal figure of Antinous in pharaonic regalia of a nemes headdress with uraeus and the short *shendyt* skirt (fig. 6.18a).[107] He stands in a characteristically Egyptian pose, with the left foot forward while the hips remain even, arms down at his sides, face staring directly outward. However, his body clearly recalls that of classical athletes, with modelled idealistic musculature and a thick torso and waist. The statue is repeated in a second red statue, of unknown archaeological provenance, that was carved in red quartzite and is now in Dresden.[108] It is also repeated in two white marble sculptures, mirror images of one another, in the Vatican collections (fig. 6.18b), a head from the Pantanello, a bust in the Vatican, and another lost head.[109] These sculptures all inventively blend Greek and Egyptian stylistic trends, while their materials speak more distinctly to one material tradition or the other. The white marble sculptures must have been at least partially painted; their polychrome appearance would be in keeping with Greek and Roman tradition, but the Egyptian dress and its colors would also link them to the extended use of painted limestone in Egyptian sculpture. While limestone sculptures were only sparingly imported to Rome[110] and these statues make use of the highest quality white marble, Parian, their appearance is at least not contrary to Egyptian tradition.

The red stone statues more distinctly evoke the Egyptian tradition of sculpture in various shades of red, ranging from the pinkish or darker red granites to the deep, sometimes yellow-brownish or purplish,

[107] Munich, Glyptothek, inv. Gl. WAF 24. Roullet 1972, 98.

[108] Mari (2008, 123) identifies the stone as quartzite without clarification or citation.

[109] Cf. Mari 2012, 87. Red marble: Dresden, Skulpturensammlung, cat. no. 5. Formerly of the Chigi collection. White marble: the first (in Parian marble) is Vatican, Museo Gregoriano Egizio, inv. no. 99 (also inv. 22795); the second is the headless Antinoo Barberini, Vatican Museo Gregoriano Egizio, inv. no. 36464. The bust in the Vatican differs from the others in its use of inset eyes (cf. Mari 2003, fig. 45).

[110] Müskens 2017, 322-3.

color of red quartzite.[111] The red marble of the Munich Antinous, whose quarry is not yet identified[112], is closer in hue to the homogenous color of red quartzite than to the lighter pinkish granite. As described in Chapter 5, the first Roman sculptural installation to use a rich red stone as a reference to Egypt seems to evolve in a transformative reception of the tradition of Egyptian pairing of red and black. That tradition may have initiated the use of the red stone on its own as a marker of Egyptianness, as it seems to have done for the Isiac priests. However, for these pharaonic statues of Antinous, there is the possibility that there was a more direct Egyptian inspiration.

On his journey up the Nile, shortly after the death of Antinous and the founding of Antinoopolis, Hadrian stopped at Thebes.[113] There he and his traveling entourage took the opportunity to visit the so-called Colossi of Memnon, which were famed for sometimes 'speaking' or 'singing' at dawn.[114] The temple had been destroyed in an earthquake and these colossi were the only standing remains; the cracks they incurred combined with atmospheric dampness or precipitation and caused them to creak when warmed by the rising rays of the sun. Hadrian's and Sabina's visits are recorded in inscriptions; the statues creaked in the presence of Sabina, but not when Hadrian visited.[115] The two statues, colossal representations of the pharaoh Amenhotep III, are carved in red quartzite.[116] Of course, these statues were much degraded by the time Hadrian saw them and it is never clear how much input the emperor had on the selection of materials for specific artworks. However, it seems significant that while red marble does not seem to have been

[111] On quartzite see Klemm and Klemm 2008, 215-31.

[112] The stone is slightly lighter and has more of a yellowish brown cast than the rich purplish red marbles typical of the Peloponnese and Iasos. Marmor Taenarium, modern Cape Matapan: Lazzarini 1990; Gorgoni et al. 2002; Lazzarini 2004; 2007, 71-96. Marmor Iassense: also called *cipollino rosso*, Andreoli et al. 2002; Pensabene 2013, 397-98.

[113] Birley 2013, esp. 245-51.

[114] Bowersock 1984 on tourism at the site; Pausanias (1.41.3) describes its singing.

[115] Bernand 1960, no. 28-31; Brennan 1998. Four poems by Julia Balbilla, in the court of Sabina commemorate the presence of the empress and indicate that Hadrian also left an inscription, but none is extant. Birley 2013, 251.

[116] Klemm and Klemm 2008, 227-8; Heizer et al. 1973. They continued to be a subject of attention through the early third century, when Septimius Severus undertook a restoration project (Bowman et al. 1984). Recent excavations have shown that these stood at the first pylon of the temple, while two additional collapsed colossi of red quartzite stood at the second, and alabaster colossi at the third (Sourouzian 2014).

generally used as a paired complement to black marble in the Egyptianizing decoration of the villa, there are two rich red stone, over life-size sculptures of Antinous in Egyptian dress. The quartzite statue in Dresden may not be from Hadrian's Villa, but the coincidence of the two statue is telling of a particular association between the image and red stones. Whether or not the colossi of Memnon had any impact on Hadrian and had any relevance to these depictions of Antinous, the red stone draws on a clearly established Egyptian tradition. This representation of a classicizing Antinous in Egyptian garb, repeated in white stone and red stone seems to intentionally blend opposing figurative and material traditions. This aspect strongly differentiates them from the telamones of Antinous, which much more strongly adhere to Egyptian models and materials, even while representing Antinous. Moreover, it seems significant that there are no colossal black stone sculptures of Antinous that might compare with these two. The smaller scale, spectral pharaohs in Munich have been identified with Antinous as well, but they display more generically classicizing faces.

Only a few Roman period, Egyptianizing sculptures in non-Egyptian materials are clearly related to Egyptian prototypes. The white marble sphinx recently excavated in the so-called Palestra (fig. 6.19), for example, very closely follows the model of the Egyptian amphibolite sphinx in Munich (fig. 6.10b), perhaps even more so than that of the Hadrianic basalt sphinx discussed above (fig. 6.10a). However, the vast majority of the marble sculptures take a more creative approach. The black stone group of fifteen statues, including those now in the Vatican, is a good example. Although all of these figures were substantially restored in the modern period, their forms are distinctly freer with the Egyptian models than the sculptures carved in the hard, Egyptian stones. Although they use a back plinth and their legs are not separated from the stone, their arms are free and, if the Vatican restorations can be trusted, project without the aid of struts. The bust format of the Isis/Apis double-herm moreover, is unknown in Egypt. Their faces and bodies are rendered in a more classicizing manner. Their engagement with Egyptian tradition does not seem to rely on Egyptian antiques as models for reproduction; rather they extract and adopt certain elements of Egyptian style. The redeployment and combination of these with characteristics features of Greek sculpture is a creative process. It should be evaluated along the lines of the Roman sculptors' approach to Archaizing

works described by Christopher Hallett.[117] These Egyptianizing works have been viewed as poorly – or worse – by modern viewers as archaizing works have been. Whether or not they suit modern taste, however, is not the issue. These marble sculptures exhibit a different approach to the Egyptian models than did the Hadrianic works in Egyptian stones. The former create new hybrid styles with materials popularized in the Roman period. The latter exhibit a much stricter attention to Egyptian figural precedent and continue their affiliations with Egyptian materials.

While the black and dark grey marbles have often been discussed as a substitute for the Egyptian hard stones, this is not precisely accurate. The marbles were not utilized for attentive reproductions of Egyptian models, as the Egyptian dark stones were; there are no sphinxes in Göktepe marble, for example. Instead, the marbles are utilized for creative refashionings of tradition. Moreover, there does not seem to be a tendency to pair these dark marbles with red stones as there was in the Portico of the Danaids. Red stones held a resonance with Egyptian sculptural tradition, but it was not tied to a juxtaposition against black.

6.4 Classicizing works in Egyptian stones

That there was a conscious decision to prioritize Egyptian stones for sculptures that more closely followed Egyptian models is further illustrated by the near lack at Hadrian's Villa of Roman sculpture in Egyptian hard stones that follow Greek formal prototypes. The use of, especially, greywacke for such sculptures was common in imperial projects even through the Antonine period.[118] Colossal greywacke gods filled niches of the Aula Regia in the Palatine Domus Flavia and a greywacke replica of the Ephesos Scraper

[117] Hallett 2012. For further discussion of this model, cf. Chapter 4, section 4.4.

[118] Cf. the catalog of Roman sculpture in "basalt" compiled by R. Belli Pasqua (1995) and the corpus of Roman ideal sculpture in colored stones by H. Gregarek (1999). Compare with the catalog of Egyptian and Egyptianizing sculpture in A. Roullet 1972).

was excavated on the grounds of Domitian's villa at Castelgandolfo.[119] Remarkably, perhaps, there is only a single example of a Hadrianic sculpture in an Egyptian stone that follows a classical or classicizing model in all of the sculpture from Hadrian's Villa (cf. Table 6.4).

The fragmentary sculpture represents a draped female figure that has been identified in published scientific analyses as a greywacke (lapis basanites) fragment of a standing figure belonging to the Niobid Group (fig. 6.20a, c).[120] The material would be an anomaly, since the rest of the Niobid group were composite sculptures, with their garments carved dark grey marble and their skin portions carved in white marble.[121] The garments of the group of two female figures lying on the ground (fig. 6.21a) have been archaeometrically tested and the Chiaramonti Niobid (fig. 6.21b) is attributable to the same provenance on macroscopic grounds. If this statue is indeed one of the Niobid sculptures, its stone would have been visibly differentiable from the dark greyish, white-veined marble of the rest of the series, even to the casual Roman observer. The greywacke statue was not even composite, since one fragment preserves a part of the left foot, rendered in the same dark stone. Working from published photographs of the fragment, moreover, the position of the foot and the drapery fall cannot be identified with any of the Niobid types preserved in the Uffizi. This alone would not preclude it from being a part of the group, since the two sisters lying on the ground are unattested in any other Niobid group. However, the connection between these fragments and the Niobid group arises only in the petrographic literature. R. Belli Pasqua does not identify these fragments as such, discussing them instead as fragments of a chiton-draped female.[122] She suggests that they may pertain to an 1880 discovery near the Library Courtyards documented in the Notizie degli Scavi.[123] It seems

[119] Hercules in Parma from the Aula Regia: Belli Pasqua 1995, 98-99, cat. 55, pl. LVII-LVIII, LIX-LX; Gregarek 1999, 247, cat. E20, fig. 88. Ephesos Scraper: Castelgandolfo Antiquarium, inv. 36405: Previously identified as a copy of the Doryphoros, but corrected by Belli Pasqua (1995, p. 78, cat. 18, pl. XXI-XXII).

[120] Lapuente et al. 2012, fig. 1, sample VA 39. Accepting the identification of the stone on macroscopic grounds: Attanasio et al. 2013, p. 4366.

[121] Supra, Chapter 2, p. 63-68.

[122] Belli Pasqua (1995, 116, cat. 94) lists five fragments of a drapery and a single fragment of a nude leg. The fragment tested by the scientist is recomposed from two fragments, whose attachment Belli Pasqua suggests is not certain.

[123] Cf. Raeder 1983, 138, II, 24 = *NSc* 1880, p. 479.

most likely that the Niobid identification is a mistake of association made in the storerooms and conveyed to the materials science researchers. Rather than a single greywacke Niobid among the Göktepe group, these fragments pertain to a draped female carved entirely in greywacke and, perhaps, excavated near the library courtyards. It is possible (but uncertain) that this figure was accompanied by a second figure, since there is also a fragment of a nude leg which may or may not pertain to this figure.[124]

Perhaps the only other work relevant to this group is not, actually a sculpture, but a krater carved in basalt and decorated with an Egyptianizing scene (fig. 6.22).[125] The bell-shaped form of the vase and the sculpting of stone kraters with decorative relief scenes are clearly derived from the Neo-Attic tradition.[126] The white marble versions of similar kraters, a vessel used for mixing water and wine, are usually decorated with Dionysiac imagery, including dancing maenads and satyrs. The basalt krater from Hadrian's Villa, on the other hand, is adorned with Egyptianizing scenes. Each side of the krater is subdivided by a central obelisk, creating four total scenes featuring seated figures with Egyptian attire and attributes. Stone pine trees, with their characteristically umbrella-shaped canopies, occupy the space above the figures, perhaps locating the scene in Italy rather than Egypt. Some scholars have suggested that the krater's four scenes are a visual interpretation of the four sides of the obelisk dedicated to Antinous that now stands on the Pincian hill in Rome, while noting that the interpretation is speculative.[127] The krater is Egyptian in its material and figures, while Greco-Roman in its form and scenery. Stylistically, it has been attributed a production outside of Egypt. The krater is emphatically and intentionally hybrid in nature.

If these are truly the only two Roman sculptures of Greek form and Egyptian stone, then this group is interesting precisely because of its small number. The Roman exploitation of Egyptian greywacke begins

[124] Belli Pasqua 1995, 116, cat. 94, fragment D. Lacking published photographs and proper identification of the figure type it is not clear if this leg could be a part of a partially draped female figure.

[125] Ensoli Vittozzi 1990, 47-50, no. 9, fig. 27-30; Charles-Gaffiot and Lavagne 1999, 238-9, no. 79; Ensoli 2002, 109, n. 17, 111 n. 50. Cf. the discussion in Renberg (2010, 184, n. 97).

[126] Compare the Neo-Attic kraters in the Capitoline Museums, the Vatican, and the Metropolitan Museum (cf. Gusman 1908; Richter 1925). On Neo-Attic kraters in general, cf. Fullerton 1990.

[127] Ensoli 2002, 109, n. 17, 111 n. 50.

in the Augustan period and saw remarkable heights in the Flavian period, but it continued well into the Antonine.[128] While there does seem to have been a decline in major imperial commissions and imperial portraiture after Domitian, smaller scale sculptures were continuously produced. At least one portrait of Hadrian is preserved in the archaeological record and two more may be attested by a literary source, if the "Egyptian stone" Pausanias mentions for the Hadrianic portraits in the Athenian Agora is understood to refer to *lapis basanites*.[129] Egyptian black stones like basalt and granodiorite were likewise exploited for Roman classicizing sculptures in the first two centuries AD, but other hard stones, like red and dark grey granite, were less commonly utilized for Greco-Roman forms. The absence of classicizing sculptures in Egyptian stones at Hadrian's Villa is additionally remarkable because of the prevalence of these materials elsewhere in the villa. The materials were available, they were just directed to other ends. Costly to quarry and carve, since their hardness slowed work and ruined tools, the Egyptian stones at Hadrian's Villa were selectively deployed – with the exception of the single chiton-draped female – specifically for sculptures that were Egyptian in subject.

6.5 Reflections on Egyptian(izing) media practices at Hadrian's Villa

There is much more research to be done for a further analysis of this material, particularly in the identification of stones and in the relationship to Egyptian prototypes. However, the analysis of these four categories has made clear a few distinct points. First, it adds additional confirmation to the findings of Sander Müskens' recent dissertation that illustrates that Romans preferred to import sculptures in colored stones (rather than limestone or marble)[130] and, as expected, most imports date to the Late Period or Ptolemaic era. Restorations to three of these imported works – if Roman in date – show a desire to recreate

[128] Belli Pasqua (1995) dates numerous Roman greywacke sculptures (of life-size or under) to the Antonine period. For more on the archaeological evidence of the quarry exploitation cf. Appendix B.

[129] Paus., *Per.* I, 18, 6; Belli Pasqua 1995, 18-19, 26 and cat. 13, p. 74-75, pl. XVI.

[130] Müskens 2017, 322-3.

a complete appearance using a stone that is consistent with the material of the original, even if the restored portions might be inaccurate in style and identity. Moreover, the Hadrianic commissions in stones imported from Egypt often display close material and formal relationships with Egyptian, especially Late-Period and Ptolemaic, statuary. They suggest that there was a kind of reproductive attention to Egyptian sculptural forms whose similarity and difference to that practiced for Greek forms deserves sustained attention. This interest can also be documented in specific cases in earlier periods, as in the replica of Arsinoë II dedicated to Drusilla or the red granite sphinx with portrait features of Domitian that was carved as a close copy of pharaonic examples and displayed in the Iseum Campense.[131] The sculpture at Hadrian's Villa illustrates this attention did not only pertain to imperial representations but was also relevant for sculptures intended for more decorative purposes. Moreover, this discussion offers new insights into production of these sculptures. The connection between the new sculptures and the antiques suggests that Roman period sculptors might have relied heavily on the example of imported sculptures rather than, for example, plaster casts as was the practice for Greek sculptures. It may also suggest that these hard-stone workshops were organized separately from those carving the marble sculptures. Such a proposition is perhaps not surprising given that Aphrodisian sculptors seem to have been principally responsible for the working of Aphrodisian marbles throughout the villa.[132] Sculpting the hard stones would have required extensive specialization. Finally, the lack of classicizing sculptures in Egyptian stones further reinforces the idea that, at Hadrian's Villa, Egyptian stones were prioritized for sculptures with Egyptian formal traits.

By contrast, Roman-era sculptures in white and colored marbles from elsewhere in the Mediterranean tend to more freely refashion Egyptian styles and attributes in the creation of hybrid sculptures. The dark marbles have often been described as substitutes for the hard, dark Egyptian stones, but this is not exactly their role. If they were utilized as substitutes, they would be deployed for the replicas

[131] Lembke 1994a; Hartswick 2004, 130-8.

[132] On the stones and their sculptors, cf. Attanasio et al. 2009a; Attanasio et al. 2013. On the connections between sculptors and marble suppliers: Russell 2013, ch. 5, especially 339-45.

of sphinxes and statues that reproduce Ptolemaic or Late Period forms. These utilize a new stone for a novel kind of representation that intentionally bridges traditions. Their marble, from Göktepe near Aphrodisias, was used throughout Hadrian's Villa for sculptures that followed Greek models, like the Centaurs and the Niobids. The Göktepe Egyptianizing figures materially connect with the black stones of Egypt and the black stones of Greek replicas while their forms are likewise some new combination of the two traditions. These statues indicate a transformative act of reception that is attentive to multiple points of reference, not a substitution with a cheaper and easier to carve material. There is much more to research, but what is especially clear from the above analysis is that Hadrianic engagement with Egyptian material traditions was interested both in faithful recreations of Egyptian material traditions – especially those that they could observe in imported sculptures – as well as in creative refashionings that redefined the relevance of those traditions in the modern material environment. In what follows, this discussion will address a few issues that are particularly relevant to establishing the contours of the Hadrianic reception of Egyptian media practices.

First, why did Hadrian's Villa so distinctly prioritize the use of Egyptian stones for sculptures that closely follow late-period and Ptolemaic prototypes? One perspective that must be considered is that of economics. Hadrian's Villa was monumentally massive project produced nearly from scratch on an accelerated timeline.[133] Egyptian stones were costly and time-consuming to quarry and carve. Red granite could be obtained from Aswan and floated down the nearby Nile, but procuring new blocks of greywacke required an imperially funded expedition into the Eastern Desert. The hardness of these stones dulled tools rapidly and entailed more man-hours than sculpting the softer marbles and limestones quarried around the Mediterranean Basin.[134] Procuring antiques might have been a more economical method, particularly if they were damaged in a way that could be easily restored. Generally speaking, the randomness in the selection of sculptures and artworks imported from Egypt to Rome, as well as the fact that most of these

[133] Salza Prina Ricotti 2001; *Adriano. Architettura e Progetto* 2000; Bloch 1968.

[134] Supra, Chapter 4, p. 235-36. On working hard stones: Cotterell 2010, 129-30; Stocks 2001, 1999.

works can be traced to the Nile Delta, favors the view that ease of transport was a critical criterion in the selection of artworks.[135] Along this line of reasoning, it would make sense that the hard stones that were acquired were dedicated to sculptures distinctly related to Egypt. The use of black and red marbles for the numerous other Egyptian sculptures could then be understood as a kind of substitution for the Egyptian materials to which they relate. However, even if the schedule of construction for the villa was aggressive, there is no apparent need to be economical. Egyptian materials, especially porphyry, were used throughout the villa's opus sectile ornamentations and architectural elements in granite were common.[136]

Instead, there seems to be a genuine preference for this combination of style and stone that is also attested in the selection of works that were imported from Egypt throughout the empire. Sander Müskens' recent PhD thesis has shown that there was a preference for "conceptual" styles carved in Egyptian colored stones.[137] In particular, it is crucial to consider the lack of Egyptian limestone and sandstone sculptures imported to Italy. Whereas limestone might have been burned for the production of lime and largely lost from the archaeological record, there is not a single limestone or sandstone sculpture among the imports to the city of Rome. Studies of other city and sanctuary contexts reveal a similar pattern. While limestone and sandstone were quarried in massively greater quantities than hardstones in Egypt, only a very few of the imported sculptures are associated with these materials. There was a conscious attention to the material of the sculptures that seems likewise to be reflected in the possible Roman period restorations and Hadrianic commissions of sculptures in colored hard stones. An unusual exception would be the restored head of the red granite Ptolemaic figure, whose face bears several similarities to the Egyptianizing figures carved in Göktepe marble now in the Vatican. His head, if Roman, might reflect a cross-over point of sorts, where Aphrodisian style was employed to carved an Egyptian material to restore an antique. Otherwise, there seems to be a distinct differentiation from the perspective of workshop production and approach to the

[135] Roullet 1972, 14-16; Lembke 1994a, 35; Swetnam-Burland 2015b, 31.

[136] De Franceschini 1991; Adembri 2002.

[137] Müskens 2017, 322-3.

material and style of Egyptian models. Hard-stone specialists worked in the hard-stone tradition while marble sculptors invented more freely. How much was the greater flexibility of the marble medium the root of this inventive approach?

It has often been suggested that the black marble utilized for the Egyptianizing sculptures was conceived as a substitute for the more expensive, more difficult to carve Egyptian black stones.[138] Obviously, Roman sculptors were capable of carving hard Egyptian stones, particularly greywacke, into classical or classicizing forms. The lack of these sculptures at Hadrian's Villa, paired with the lack of dark marbles used to replicate late-period or Ptolemaic forms (like sphinxes), seems to indicate a more conscious choice. The pairs of sphinxes at Hadrian's Villa that juxtapose an Egyptian antique and a Roman emulation of it consciously utilize an Egyptian stone, as did similar groupings in the Iseum Campense. As Molly Swetnam-Burland has described it, these would read as "a cohesive set of symbols of foreign 'Egyptianity', not a collection of objects of varying degrees of authenticity."[139] While there is room to nuance this broad generalization regarding reception, her point that Romans would not have considered the Roman creation a "pale imitation" of the original should be maintained. The black and grey marbles are not used as a substitute for Egyptian stones, which could be procured when desired for a specifically Egyptian material effect.

Rather, this massive collection of black and dark grey marble sculptures from Hadrian's Villa speak to a different desire of the Roman audience. The stone utilized for the majority of these works is the dark greyish marble with strong white veining quarried at Göktepe, near Aphrodisias, as has been shown by petrographic analysis.[140] The stone is visibly distinct from the many homogenously black hard stones quarried in Egypt, even while the dark hue paired with an Egyptian subject and stylistic traits makes an appeal to that tradition. A particularly esoteric connection might exist between this stone and the mottled

[138] Roullet 1972; Gregarek 1999, 147.

[139] Swetnam-Burland 2007, 123.

[140] Attanasio et al. 2013; Attanasio et al. 2009a.

Khafre gneiss, but it is unlikely that many viewers would have any knowledge of Egyptian sculptures in this stone, whose fourth dynasty popularity well predates the sculptures imported to Rome.[141] Instead, stronger material connections existed between the Egyptianizing figures in Göktepe and the numerous sculptures and architectural elements of Greco-Roman tradition that were carved from this stone and sprinkled throughout Hadrian's villa.[142] Göktepe marble was used for the two Capitoline centaurs that stood in the Accademia, for the garments of Niobid group that adorned the southern end of the Stadium garden, and for a fragmentary ox as well as for Ionic capitals and architectural friezes like the one with centaurs that lined the Teatro Marittimo.[143]

Instead of seeing these sculptures as strongly Egyptianizing in character and contributing to the identification of "Egyptian" spaces within Hadrian's Villa, these sculptures should be seen as self-consciously hybrid. Both their style and their material mark them out from Egyptian antiques and index the transformative nature of the Roman innovative remediations of Egyptian material tradition. Even while statues in Egyptian hard stones adhered to a kind of consistency with tradition, others, like these, refashion stylistic and material traditions in the creation of something new. What is crucial to acknowledge, here, is that these two responses co-existed and even co-habitated within a single – albeit extraordinary – architectural endeavor. The black marble sculptures do not represent an imitation of Egyptian stones nor are they poor substitutes for Egyptian works. Rather, their material marks them out as contemporary responses to Egypt while linking them to Hadrianic remediations of other famous sculptural traditions, like the Niobids and the centaurs. These are Egyptian sculpture made modern for the Hadrianic period.

[141] Harrell and Brown 1994; Klemm and Klemm 2008, 323-6. To my knowledge, this stone is not attested in any of the examples of sculptures imported to Rome under the empire. For someone to make this connection, someone would have to had to see examples of it in Egypt and it is not clear whether these were still visible in the Roman period. The visual similarity between the two stones seems to be coincidental.

[142] Pensabene 1976; Attanasio et al. 2009a; Lapuente et al. 2012; Attanasio et al. 2013.

[143] Most recently, cf. Attanasio et al. 2013, Table 1.

The sculptures of Antinous in pharaonic guise, in both red and white marble, similarly bridge representational traditions.[144] Comparing their forms with Egyptian models reveals 'mistakes' of representation; the 'naturalistic' representation of the body throws the back into a pronounced, uncomfortable arc[145] and the broadness of his torso suits idealized classical models more than pharaonic ones. Yet the red granite telamones much more closely follow Egyptian forms of body and stance. Is this a question of which artists work which materials? Or is there a conscious decision to adopt different stylistic traits to different types of work, in different materials? The granite pillars are intentionally Egyptian in form and material, while the use of a non-Egyptian material is paired with an overall more classicizing approach to Antinous' representation. Often, this blend of classical and Egyptian in the figure of Antinous is treated as if it is a new development, but there are several forebears.

Consider, for example, the red and white marble statues of Antinous alongside the lapis basanites Roman copies of sculptures of Greek athlete figures discussed in Chapter 4 (cf. fig. 4.3, 4.5).[146] They make use of an Egyptian stone to effect a sophisticated remediation of a Greek formal tradition. Both reflect on the material and formal traditions of Greece and Egypt, in varying ways and with varying results. Or, consider the Palatine Danaids, who paired a transformative reception of Egyptian material tradition of red and black with Archaizing Greek forms.[147] The intermingling of Greek and Egyptian traditions in Roman art has a long tradition whose existence and intricacies have been obscured by the field's overly specific focus on the legacy of Greek formal, stylistic, and material traditions. By contrast, the method of research practiced in this dissertation intentionally is open to a plurality of material and other references, examining the cooperative determination of a sculpture's materiality that relieves it from ahistorical generic symbolism and allusion. The relevance of this approach for Roman sculpture cannot be overstated.

[144] Curto 1995.

[145] Swetnam-Burland 2015a, 317-8.

[146] See supra, Chapter 4, section 4.2.

[147] See supra, Chapter 5, section 5.2.

The Canopus at Hadrian's Villa provides an instructive example. The wide range of sculptures excavated there[148] have allowed varying interpretations of its theme, particularly, as a specifically Egyptian space (a Serapeum with active cultic practice) [149] and as a grotto with Homeric landscapes.[150] Neither has found wholesale acceptance, because it is too easy to point to material culture that does not quite fit either scheme. The pool is lined with copies of the Erectheion caryatids and classical statues of amazons and warriors, while sculptural crocodiles roam its banks. Perhaps the black marble Egyptianizing statues discovered in the 18th century also resided here. Flanking the pool are representations of both the Nile and the Tiber, while two sculptures of Scylla decimate Odysseus' crew at opposite ends of the canal. The architectural grotto at the end of the canal bears some formal relationship both to the Iseum/Serapeum of Rome and to other imperial sites of Scyllan massacre, Tiberius' seaside grotto in Sperlonga and Claudius' at Baiae. Scholarly interpretations have prized consistency and have selected singular interpretations: Egyptian Serapeum or Hellenic Odyssean Landscape, in line with the testimony of the Historia Augusta. By this logic, Hadrian recreated specific geographic locales of the empire in individual areas within his villa. If the archaeological material of this valley is taken as evidence, however, one structure contains all the geographies of the empire. Plurality reigns over specificity and the Canopus becomes the Mediterranean; incoherence of the whole perhaps indexes co-existent integration that turns on making multiple pasts relevant to the present.

[148] Cf. Pensabene 2009, 2011.

[149] Grenier 1989; the exotic interpretation of the space dates back to Ligorio (Salza Prina Ricotti 2001, 241-63).

[150] Andreae 1996.

Chapter 7

Conclusion: Roman remediations

Rome was an empire self-conscious of its material wealth. Power was centralized with control of natural resources and the exploitation of the hundreds of mines and quarries that circumscribed the Mediterranean basin constituted a physical representation of empire. Reality contrasted sharply with a nostalgic vision of their ancestors' rustic past and the writings of numerous authors attest to the suspicion with which the spoils of war – bullion, art, and raw materials – were greeted. Ancient historians catalogued the amount of precious metal and the numbers of statues, paintings, and other luxury items imported to the city.[1] The artworks arrived as venerable examples of the arts practiced elsewhere in the Mediterranean, casting into shadow the older sculptures that adorned the eternal city.[2] These imported populations gained a new lease on life in the city's sanctuaries and public spaces, re-contextualized as part of the empire's achievement. They spurred changes in attitudes toward art and inspired patrons' desires for ornamenta for their homes and villas as well as for their city's public monuments. The Roman reception of Greek art has long been told as part of a cultural transformation.[3] Recently, the artistic side of this revolution has been understood as one that turned on the Roman era's particular interpretation of the styles of periods and artists.[4] The Roman use of new and costly materials has often been told as a story of conspicuous consumption, with Roman audiences willing to pay vast sums of money for sculptures in exotic stones or fragile materials.[5] The adoption of Aegyptiaca has also been considered a desire for souvenirs of the exotic and strange land after its annexation under Augustus, although many studies have illustrated the presence

[1] Pollitt 1978; Bravi 2012; Harris 2015.

[2] The literature is extensive. See especially: Naas 1996; Gazda 2002; Bounia 2004; Marvin 2008.

[3] Wallace-Hadrill 2008.

[4] Particularly, Hölscher 2004; Perry 2005.

[5] This perspective has its roots as far back as Pliny the Elder's *Natural History* (Wallace-Hadrill 1990).

of Egyptian artworks in Italy long before conquest.[6] Each of these has its place as a part of the history of Rome's interaction with spoils of war and foreign art in general. However, as this dissertation has shown, there is enormous room to nuance one of the most important threads of this cultural transformation, that of how the Romans received and transformed the traditions of material use of the regions they conquered.

Since at least the middle of the 18th century, when scholars studying the marble sculptures excavated throughout the Italian peninsula began to consistently posit the existence of replica series that derived from the bronze sculptures of famous Greek masters described by Pliny, scholars have adopted a relatively consistent approach to Roman sculptural materials. The shift from the evaluation of marble antiques as masterworks to a notion that they were imitations – of varying quality – of bronze sculptures effected a slow but persistent shift toward the modern reception of ancient materiality. As the study of Roman ideal sculpture became the pursuit of Kopienkritik and Meisterforschung, the bronze material of lost originals gained a paradigmatic aura.[7] The marble sculptures (white and in other colors) are understood in competition with this material deemed superior and authentic; one of the highest complements art historians have given to sculpture in stone or terracotta is that it has a metallic quality. While the past fifty years of scholarship have often and thoroughly addressed the discontents of the methods of formal and historical investigation that are undertaken under the auspices of Kopienkritik and Meisterforschung, the impact these methodologies have had on our understanding of Roman materiality has endured with few significant challenges.[8] However, extensive and wide-ranging studies on ancient sculptural materials, as well as art history's current self-consciously historiographic turn, offer the contemporary scholarly

[6] Swetnam-Burland (2015b), critiquing the treatment of Egyptian and Egyptianizing works as a special class not typically studied alongside the Hellenic material. Cf. La Rocca (2008) on the Ceasarian dating of the Egyptianizing frescoes in the Roman villa beneath the Villa Farnesina.

[7] On the aura of bronze in the modern period: Stewart 2015.

[8] Much of the literature that tries to liberate marble replicas and ideal sculpture from this derivative position does so by valorizing a competition between marble and bronze sculpting, thereby failing to overcome ideas about the relationship between the archetype and copy that are central to these methdologies (cf. Hollinshead 2002). A. Anguissola (2013) marks a departure with her consideration of how struts were received among other sculptures within the contemporary environment, engaged in a network of similarity and difference.

community an unprecedented opportunity for dismantling our inherited preconceptions and conducting extensively contextualized investigations of ancient materialities – both sculptural and otherwise. Moreover, an awareness of how pervasively modern notions of Roman materials have colored our understanding of ancient opinions highlights how much the experience of materiality is culturally conditioned.

7.1 Roman remediations

This dissertation has taken the retrospective nature of Roman art and, especially, the tendency toward replication of and selective borrowing from pre-existing compositions as one primary context within which Roman materiality was constituted. It has thus sought to understand, on the one hand, how this 'ethos of emulation'[9] and all of its practices impacted the selection and manipulation of sculptural materials and, on the other, how the availability of new materials (and artistic responses to them using familiar ones) played a role in defining the character of that ethos. It thus balances retrospective attention to pre-existing traditions of material use with a focus on how those pasts were redefined and remediated for the present. Each case study contributes several key points that should transform how the field approaches the study of sculptural materials, both those that are part of a sculptural series and those that are not.

The examination of the Baia plaster casts reveals the impact that the methods of disseminating formal archetypes had on the materiality of the model and, by extension, of the replica produced from it. It can no longer be assumed that the material of the replica made intentional reference to that of the archetype unless there is clear evidence that the archetype itself – in whatever aged condition it might have appeared at the time – was available to the copyist for consultation. The fact that the archetype's form was transmitted via negative plaster casts had a rippling effect on Roman sculpture. First, since it did not preserve many features of the materiality of its archetype, it is at least partially responsible for the fact that the positive models cast from them were not colored in imitation of that materiality. Indeed, the monochromatic

[9] Cf. Perry 2005.

negatives and positives seem to have been valued for their ambiguous, in-between quality. These casts made formal models available without prescribing material selection; the proliferation of retrospective and replicative works in numerous materials shows that the Roman sculptor and patron fully embraced this opportunity for innovation.

Of course, many antique sculptures from Greece, Egypt, and Italy were available in the city of Rome and these could be consulted in the case that sculptors wished to directly engage with the material traditions of sculptures of a relevant period and subject or even, in some cases, with a famous archetype. The herm of the Doryphoros of the Villa dei Papiri is good example of a case in which both the form and the material seem to have been important in the production of the replica.[10] Yet Roman sculptures that engaged with the materials of their archetypes did so not via the plaster cast but by direct engagement with the archetype. Instead of material relationships directed backward, through the model and the cast, the field should turn its attention to those established laterally, between the replica and a specific archetype as preserved in the Roman period or, more commonly, between a replica (or any sculpture) and the class of objects present in the contemporary landscape with which it engages via subject, material, style, or even technique. Consider, for example, the colossal lapis basanites statue of the Herakles Albertini now in Parma that once stood among several others of the same size and material in the Aula Regia of the Domus Flavia on the Palatine.[11] The type is known in several other white marble replicas[12], but scholars have argued that the mid-fourth century BC archetype is perhaps to be found among the terracotta sculptures of Magna Grecia.[13] In selecting this type of Hercules, the composition and the style of the archetype were crucial, whereas the material of the archetype seems not to have been emphasized as a point of reference. In this

[10] Mattusch 2005, p. 276-82; Kreikenbom 1990, cat. III 42.

[11] Cf. Chapter 2, 57. Belli Pasqua 1995, 98-99, cat. 55, pl. LVII-LVIII, LIX-LX; Gregarek 1999, 247, cat. E20, fig. 88.

[12] For a complete list of the replicas: *LIMC* IV 1988, p. 745-6, nn. 288-99 (O. Palagia). On the eponymous sculpture, considered exemplary of the type, cf. Giuliano 1979ff, I/2, 351, cat. 51 (D. Candilio).

[13] *LIMC* IV (1988), 745-6, nos. 288-99; Todisco 1993, 152.

use of lapis basanites, the Egyptian origin of the stone and its partial visual resemblance to bronze might be more primary resonances for the stone.

The examination of the Palatine terracottas likewise provides an instructive example. While some of the terracottas replicate known types that might have been established in bronze, their materiality is less dependent on a connection to a specific bronze statue than it is to traditions of terracotta visible in the city, contemporary processes of replicative production of sculptural models, and a generational connection to the process of casting bronze sculptures. As in other case studies, the discussion of their historical and material context engaged with their facture as a critical element of their finished materiality, revealing that sculptors of the late first century AD and the Augustan period could skillfully employ techniques of many material traditions and also conduct sensitive reflections on technique that enriched the sculpture's quality and sophistication. These sculptors worked for an audience that, at the very least, appreciated the high quality of craftsmanship of these unusual works; some viewers, as Pliny's text often hints, may have possessed a more extensive knowledge of craft production that would have prepared them to appreciate the unique materiality of the Palatine terracottas.[14] In short, the special attention paid to techniques and stages of production thoroughout the case studies has served to illuminate the impact of the mode in which formal models were transmitted as well as to nuance the role of facture in artistic innovation and audience reception.

The lengthy study of the athlete sculptures extant in lapis basanites delineated a series of key points regarding the nature of material relationships that are based in visual resemblance. First, it showed how entangled our modern eyes are in our own period's materiality and, thus, how untrustworthy the evaluation of ancient materiality is when practiced without full consideration of the ancient appearance of the sculpture. The modern comparison between lapis basanites and bronze was founded on a resemblance perceived by scholars but not documented in antiquity and it gained popularity alongside a now-controversial interpretation of the replica's apirations to duplicate the archetype; Pliny's comparison to iron,

[14] See Cook *forthcoming*.

repeated until the middle of the 19th century, expresses a different visual assessment as well as an experiential comparison of hardness. Although the investigation of the ancient colors of aged bronze showed that some visual affinity likely existed between the stone and bronze in antiquity, the historiography presented in Chapter 4 should serve as a cautionary tale against trusting how materials now appear to us. Similarly, future assessments of white marble's relationship to bronze, and its attempts to 'imitate' the sculptural style of bronze, must carefully consider the ways that each material allows for contour, depth, and shadow to be conveyed and how surface adornment may have aided or altered the modelling. This examination has shown how much the technical studies that provide ever more information about these aspects of sculpture must be more intensively considered in art historical analyses of form and formal 'replication'.

The process of tracing and evaluating the strength of the multiple material relationships that characterized the materiality of the lapis basanite athletes, moreover, offered two complementary conclusions. First, it illustrated how naturally materials are able to bear a plurality of relationships, with lapis basanites being positioned between bronze, white marble, silver, iron, and earlier sculpture in lapis basanites. It clearly showed how each connection exists in cooperation or contradiction with the others, suspending the material in a web of references. It showed that resemblance relations, even if material imitation might be one of the aims of a work's facture, do not exist in a closed loop. Elements of the lapis basanites might be worked to enhance a visual similarity with bronze, but this 'imitation' does not subsume the work into a backward-looking illusion. Instead, this investigation has articulated two different kinds of material imitation that deserve careful distinction. The enhancement of specific properties of a material in production or adornment can be said to intentionally enhance visual similarity in a form of material imitation. On the other hand, the reproduction of specific elements of a period style that are preserved in the sculptural model, like the sharpness of carving in classical bronze, serves a formal purpose but does not necessarily entail an intentional creation of similarity between materials. Whereas previous analyses have conflated the two, this project shows that distinguishing between them allows for the investigation of the practices a sculptor used to create or sever connections between materials. Such a process allows for the

recognition of the partial nature of material imitation and the proper evaluation of contradictory relationships that pierce the illusion while enriching the artwork.

For example, the lapis basanites athletes make use of resemblance relations to bronze, but also to other materials in a process that multiplies layers of representation. The use of an Egyptian stone for a type of Greek bronze sculpture typically replicated in marble in Rome engages with the existence of antiques and replicas. These are not sculptures that seek to attain a specific depiction of the human body. They are, instead, statues about statues, that is, statues concerned with the history of representation. They are not alone. Rather, this heightened interest in issues of representation can be identified among many of the works discussed here and it should be considered a primary characteristic of Roman sculpture. Further research should link these colored stone critiques of bronze and other materials with the use of sculptural types as bodies for portrait heads and, even, the insertion of portrait heads into ancient works of art (as Claudius had the portrait of Augustus inserted in the paintings of Alexander in the Forum of Augustus, Pliny *NH* 35.94). The remediation of past artworks included both interventions to the artwork and critical commentaries on its media practices.

Examining the continued use of paired red and black stones demonstrated the transformative effect of remediations and revealed how remediations can alter taste in materials and the *decorum* that governs how they are used. The analysis of the Palatine Danaids showed that their red and black stones were inspired by an Egyptian juxtaposition of the two colors in architecture, Isiac religion, and cosmology. The Danaids document two different types of transformative remediation practiced by the Romans. First, they choose two stones whose colors align with the Egyptian color pairing but whose hue and provenance do not, creating a striking divergence from tradition. Second, they separate the material duo from its historic association with Egyptian subjects and styles, utilizing it for a sculpture carved in an archaizing style. While previous scholarship has often tended to focus on continuity when looking for precedents for the Roman uses of colored stones[15], it is essential to be able to recognize transformations that can index moments of

[15] E.g. Gregarek 1999 and 2002.

Roman reception. This chapter indicates that the field should be sensitive to the adoption of material traditions that occurs with or without associated subjects and styles.

Moreover, tracing a linked series of remediations over time helps to clarify the process by which changes in taste are effected. In particular, tracking change from tradition alongside continuity of material use can reveal which elements of the first sculptures were of interest at the time of the next remediations. In this case, the red and the black pairing maintains a theme of opposition and juxtaposition that is embedded in Egyptian tradition, is deployed by the conflicted identities of the Danaids, and is later (possibly in the first century AD but definitely by the second) picked up as a means of emphasizing the contrasting natures of centaurs and of juxtaposing the Capitoline centaurs and the red faun at Hadrian's Villa. The red and black pairing is first made intelligible via analogical transfer from its Egyptian tradition: exploiting the theme of juxtaposition and opposition, it refers to the geographic origin of pairing. Whether or not the Egyptian connection was significant for the Roman audience, the contrasting and oppositional nature of the Danaids maintained this theme and the juxtaposition of contrasting natures remains the analogical transfer in the second remediation although much else is changed. Remediations mark interventions that are understood by analogical transfers from pre-existing mediascapes; series of such remediations by analogical transfer integrate new materials by situating them within pre-existing mediascapes. The plurality of meanings and the multiplicity of relationships that cooperatively constitute materiality is precisely the feature of materials that allows for a selective engagement with past works that valorizes some connections and ignores others. As the survey in Chapter 6 clearly illustrated, the color pairing seems to have lost its connection with Egypt in its secondary remediations. Red and black are used for Egyptianizing sculpture at Hadrian's Villa, but they are not paired or juxtaposed in these works. Further examination of the exact nature of the connection between these Egyptianizing sculptures and the centaurs and faun group will help refine how remediations effect changes in material decorum.

The last chapter – surveying all the sculpture that is both associated with Hadrian's Villa and affiliated with Egypt by material, subject, or style – clearly illustrates how the methodology laid out in Chapter 2 can be productively extended to groups of sculptures that do not belong to replica series. In this

case, it has been applied to sculptures and materials that are entangled in the reception of foreign historical material traditions, but other examples have shown that it can be applied to the reception of a culture's own past media practices as well. The Palatine terracottas show sculptors remediating the city of Rome's long history of terracotta sculpture in response to an influx of new materials and sculptures. Moreover, Chapter 6 raises a series of questions about how workshop specialization might have played a role in the reception of media practices. If most of the sculptures in Egyptian hard stones adhere more closely to Egyptian prototypes than those in marbles, does this imply that a different workshops was working each material and practicing a different engagement with Egyptian antiques? Did the hard-stone workshop and its personnel select (or only offer to its customers?) sculptures that utilized Egyptian models? Did the marble-carvers intentionally choose a freer approach to Egyptian forms or was it commissioned? Would it even be possible to recognize the signature sculpting style of a single workshop that worked both hard-stones and marbles, or would the divergent materials prevent secure conclusions with such a connoisseurial approach? Considerable additional research will be required to address these and many other issues, but it is certain that this corpus of material offers many promising avenues for the future.

Moreover, this methodology would be further refined with studies of additional replica series from the numerous ones listed in Chapter 2. In particular, the sculptures of Venus that are known in dark stones and white marbles (and, probably, now lost bronze sculptures), but derive from the famously white marble Aphrodite of Knidos would provide a fitting complementary study to the athletes of Chapter 4, known in a similar range of materials but derived from famous bronze works. The centuries-long practice of sculpting composite representations of white-marble skinned women wearing dark marble garments might provide a counterpoint to the rather quick and transformative changes enacted by the remediations of paired black and red stones. There is certainly much more to be learned here, but, for now, a few more general preliminary conclusions are warranted.

7.2 The reception of media practices: foreign and familiar

Despite the widespread evidence that Roman sculptors selected materials for ideal sculpture that were different from the material of the archetype they reproduced or quoted, in scholarship there has always been a tendency to think that the Romans understood, valued, and desired to imitate the material traditions of Greek sculpture. There is, moreover, good reason for this opinion. The most convincing support is to be found in the 'art history' sections of Pliny the Elder's *Natural History*, in which the history of man's achievement in art is discussed explicitly as progress in working specific materials.[16] Pliny, of course, is re-organizing the discussions offered in art historical texts that Rome has inherited from artisan/writers of the Greek world.[17] His text artificially dissects the careers of artists according to the materials of their different works. This dissertation began with a Plinian passage which illustrates this segmentation of artist's careers; Pliny opens his discussion of the bronze works of Praxiteles with the comment that the sculptor was more skilled in marble.[18] Pliny's comparison of the bronze Aphrodite that had once stood in Rome with the white marble Knidian one is a further indication that his discussion of Praxiteles in this passage is incomplete. In addition to their connoisseurial quality, both of these lines act as cross-references within the *Natural History*. The materials are distinct but they are linked by their usage for sculptures of the same subject and by the same artist; art history transcends the chapter and material divisions of Pliny's treatment. Moreover both passages testify to a Roman consciousness of the Greek exploitation of materials, even down to the level of discussing which sculptors were most skilled in which materials. Books 33 to 37 testify to a wide availability of this kind of information, likely largely acquired through treatises on artists.

The Roman consciousness of specific Greek materialities is present both in Pliny's discussion of antiques and, more specifically, in the passages that provide evidence of reproduction and replication. According to Pliny, the art of bronze-casting had perished long before his era, but he makes one exception

[16] Wallace-Hadrill 1990; Isager 1991; Beagon 1992; Naas 1996.

[17] de Angelis 2015.

[18] *NH* 34.69-71.

regarding the skill of a contemporary sculptor. Zenodorus, the famed sculptor of the colossus of Nero (34-45-6). He writes that Zenodorus could claim skills equal to those of the ancients and that he made faithful replicas of two bronze cups. Not only do Pliny and his contemporaries know what the material of famous, ancient sculptural works was, they are sometimes interested in the production of quotations or duplicates that can claim to have executed them with the same level of skill and in the same material.[19] The *Natural History* provides an abundant amount of evidence regarding the fact that the Roman audience possessed a great deal of information about the connection between specific materials, sculptors, and even subjects. Moreover, the presence of antiques in Rome, sometimes on bases inscribed with the names of the artists, made these works and their aged materialities physically present for the Roman audience.

However, knowledge of pre-existing, esteemed material uses does not necessarily entail an intentional replication or even imitation of them. E. Perry's article on the re-construction of the Temple of Jupiter Optimus Maximus on the Capitoline Hill in Rome has clearly illustrated that reproduction did not preclude transformation.[20] Through fires and re-buildings, the temple remained 'the same' while size was increased, its materials made more lavish, and its dedications replaced. Generally, previous scholarship has assumed that because the Roman audience esteemed this body of sculpture and art so highly, they likely also esteemed the materials in which the works were made. By extension, because they imitated the formal qualities of these works, it has been assumed that they would also imitate their materialities. Part of this opinion is an expression of modern values, since the preserved literature describing abundant ancient Greek masterpieces has created a nostalgic desire to recover any fragment of their existence. Even Renaissance readers of Pliny felt this outsized sense of loss that abundant textual evidence and paucity of preserved sculptures created.[21] The scant number of bronze sculptures preserved from any period has given surviving

[19] See also Anguissola 2007 on the production of sacred copies.

[20] Perry 2012.

[21] The *Commentarii* of Lorenzo Ghiberti and the *De Pictura* of Leon Battista Alberti exemplify responses to this perceived loss of ancient works of art. On the texts and archaeological evidence available in this period: Krautheimer 1953, 277-9. On the reception of Pliny's text, see: Gilbert 1995; Barkan 1999, 65-105, especially 66-7.

statues an outsized privilege and has, moreover, only complicated our desire to find even one work by a famous sculptor.[22]

Roman sculptors and audiences knew the material traditions of Greece; the question that has preoccupied this dissertation is whether and how their reproduction of Greek sculptures engaged with those traditions. Thanks in part to its discussions of sculptures in stones that were quarried in Egypt and had long histories of exploitation there, this dissertation has also investigated what and how the Romans knew about Egyptian material traditions. This situation offers a novel opportunity to consider, based on the evidence so far available, how similar or different the Roman reception of these two quite distinct traditions of media practices might be and why.

The lapis basanites athletes represent critical commentaries on Greek material traditions and the Roman reception of those traditions. They exploit new materials in a remediation of known pairings of material, subject, and style: this is one principal transformative mode in which the Roman reception of Greek media practices functioned. It is not a new mode, for its antecedents are certainly to be found in the Hellenistic period's use of sulfur-based patinas to artificially blacken new bronzes. It also seems to be one primary mode which allowed for the integration of new materials via analogical transfers.[23] Thus the giallo antico from Numidia is affiliated with the color of gold or saffron and is used for 'gilded' garments of composite statues that remediate chryselephantine sculpture or for representations of Dionysus, the easterner who wore saffron-colored robes.[24] Likewise, the use of black marble for Egyptianizing figures at Hadrian's Villa indicates a similar kind of remediation at work in the Roman reception of Egyptian media practices. A second transformative mode of reception, by contrast, extracts a material tradition from its expected pairing with certain subjects, styles, or compositions. The use of the Egyptian pairing of red and black for the half-herm Danaids is one such example. A color pattern was adopted with only select parts of

[22] Stewart 2015.

[23] Cf. Chapter 2, section 2.2a, p. 94-95 on analogical transfers.

[24] Allen 2015, 161, offering literary evidence: Aristo. *Frogs*, 42-56; Ovid, *Met.* 4.393.

its original significance. Similarly, the Roman use of lapis basanites for ideal sculpture in Greek forms continues to exploit the rare prestige of the material, but mostly alters its meaning. Of course, there are also conservative modes of reception that continue established traditions, like replicas of bronze sculptures in bronze, or the use of Egyptian materials for sculptures of subjects and styles that are historically made in those same materials.

It is easy to think of examples that show that Roman sculptured employed both of these modes of reception of media practices for both Greek and Egyptian sculpture. On the other hand, it is clear that the Roman reception of these two traditions diverged in practice. Sculptures with some basis in Greek sculpture were produced for a wide variety of contexts and in a wide variety of materials. Egyptian sculptures were more limited to contexts affiliated with Egypt and their materials were more limited. This dissertation thus raises another question: if the Roman modes of reception of media practices were the same for Greek and Egyptian traditions, then what were the external factors that so starkly altered the results of those receptions?

Two factors seem to have principally influenced the divergence between the Roman receptions of Greek versus Egyptian media practices. The first is that the Roman audience viewed Egyptian sculpture as more foreign than Greek sculpture and, as the recent dissertation by Sander Müskens has shown[25], that this was a desirable characteristic. Müskens shows that while limestone and white marble were quarried and used for Egyptian sculpture in much larger quantites than the colored stones, the works that can be shown to have been imported to Rome reverse these proportions. Sculptures were selected for import to Rome specifically based on their colored stones and abstract forms. Whether the overall Egyptianizing sculptural production continues this trend or utilizes a greater quantity of white and other marble remains an open question. By contrast, there was a much more significant and long-running integration of Greco-Roman styles and materials in Italy that made Greek materials and styles very familiar in Rome by the beginning of the empire. There is no indication that works in exotic materials were prized for import and even the

[25] Müskens 2017.

preference that sculptural models show for bronze may be largely due to practical concerns that cast-taking would damage white marble works. Greek sculptures and styles were reproduced, deconstructed and recomposed, and inventively revised in traditional and novel materials. In particular, the Roman audience sought out additional, unusual, and highly colored stones that they then utilized for the reproduction of Greek sculpture in a way that was not a part of the Greek tradition. The Roman desire for colored stones sculpture thus played out in parallel but dramatically different ways regarding Greek and Egyptian statuary. Egyptian tradition offered colored stone antiques whose materials were apparently highly desirable in Rome and even inspired a desire for new sculptures, in Hellenic styles, carved in the same stones. The Roman reception of Egyptian media practices can thus be shown to have a direct impact on their reception and redeployment of Greek sculptural traditions.

The second factor is the existence of the Greek art historical tradition, which provided the Roman audience with a cataloged history of materials and artists that conditioned their reception of the works imported to Rome. There was no such comparable tradition with which to approach the Egyptian art and, moreover, in line with the first factor, the Roman audience did not find it easy to integrate the foreign subjects and styles into Roman contexts that were not especially related to Egypt. Given the interest in colored stones more generally, Egyptian materials were easier to repurpose for subjects and styles that were more in line with the expectations of Greco-Roman art. The evidence of Hadrian's Villa and Egyptian sanctuaries indicates that the conservative mode of reception, that honored and continued existing material traditions, was also practiced for Egyptian art. Without a written art historical tradition, however, the Roman reception of Egyptian sculptural materialities must have drawn principally on the objects and on knowledge provided by, for example, priests of the cults.

There are many more distinctions to uncover, but their full evaluation awaits more dedicated research. For example, it is not yet clear whether the sculptors of Egyptianizing art were relying upon disseminated casts or upon antiques visible to them in Rome. The pairs of sphinxes that include one

Egyptian and one Roman sculpture[26], as well as the group of Egyptian sculptures paired with one Roman replica[27] set up in the Gardens of Sallust suggest that the latter was common practice. How much did this difference in the transmission of forms, via present antiques versus plaster casts, impact the Roman receptions of Greek versus Egyptian materialities?

In any case, while Greek styles were integrated into all aspects of Roman life and Egyptian ones were allowed in circumscribed areas this dissertation has clearly shown that this situation did not sideline Egyptian media practices in the way that has traditionally been assumed. Instead, the media practices were often separated from their formal tradition and selectively re-deployed for Greco-Roman forms and subjects within wholly Roman contexts. Consider the lapis basanites portraits of the Julian-Claudian emperors. These continue pharaonic and Ptolemaic use of the material for ruler portraiture while shifting to the styles of Roman portraiture. The Roman reception of Egyptian media practices has been undervalued precisely because they have been selectively extracted and redeployed to Roman purposes. Reconnecting the links between Roman sculptures and their reception of Egyptian media practices promises a richer and more accurate understanding of the Roman uses of colored stones.

Other traditions ought to be considered here too, particularly the rich use of colored stones in the Hellenistic architecture of North Africa, which seems to have been directly responsible for one of the earliest monuments employing colored stone in the city of Rome. The so-called Bocchus reliefs excavated in the Area Sacra of Sant'Omobono form part of an honorary monument offered as a gift from a North African king to be set-up in Rome to commemorate joint military endeavors. Ann Kuttner's recent reevaluation suggests that the honored Scipio Aemilianus Africanus and Massinissa instead of Sulla and Bocchus, which would mean that a black Numidian stone was used in a major monument in Rome shortly after 146BC.[28] Though the stone's composition has yet to be identified with any known Mediterranean

[26] Supra p. 370-71.

[27] Supra, p. 366-67.

[28] Kuttner (2013, 248-67) counters the more common identification as a monument dedicated by the Mauretanian king Bocchus in 91BC in commemoration of their cooperation in ending the Jugurthine Wars (cf. bibliography in La Rocca

quarry, the closest parallel is Ain El Ksir, and a North African origin is most likely.[29] Whether set up in 146 or 91BC, the reliefs, which probably formed the quadrangular base for a bronze sculpture, remain a very early instance of the monumental exploitation of the geographic resonance of a colored stone.

In this context, some of the earliest attested uses of foreign stones in Rome might be reconsidered as at least partially inspired by Roman interest in North African material traditions. For example, although Pliny stringently criticizes M. Lepidus for being the first to employ Numidian giallo antico in his house because its use for a threshold seemed unduly luxurious (*NH* 36.49), an apologetic view might connect this architectural use of the stone to North African practices. Locally quarried colored stones adorned their mountain-top monuments from the mid-second century BC and appeared in urban contexts as columns, pillars, and slabs around the same time.[30] Their traditions of material use should be reconsidered as precursors and points of reference for a wide variety of monuments, from Republican employment of massive colored-stone columns in theatrical architecture to the so-called "Punic floors" that Festus (3.15) tells us Cato remarked upon.[31] Drawn together, these might testify to a broader pattern of Roman reception of North African materiality that has yet to be properly valued and investigated.

Of course, it is not only these dramatic transformations in taste and decorum that require more thoughtful and nuanced explanation. In a visual world whose styles and compositions are formulaic, consistency in material can index adherence to a norm and can secure an expected reaction from viewers.

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and Parisi Presicce 2010a, 285-7, cat. II.19 (R. Di Cesare)). I am grateful to Dan Diffendale for pointing me to Kuttner's recent reevaluation of this monument.

[29] While its archaeometric values are closest to Ain El Ksir, there are enough discrepancies between the values of the Sant'Omobono reliefs and samples from all known black limestone quarries that Brilli et al. (2011, 1383-4) have suggested that there at least one more source in Proconsular Africa that may still be unknown. Brilli et al. (2010) also ruled out Thala as the origin of the limestone, contra scholars' previous suggestions (Schäfer 1979; Hölscher 1980). Brilli et al. (2010) note that Thala may still have been an ancient quarry, though modern projects have erased any archaeological traces at the site.

[30] Cf. Kuttner (2013, 228-48) on North African sacral-political mountain peak monuments utilizing colored stones including the Numidian marble quarried at Simitthus, where one such monument was erected. Black limestone from a nearby quarry, and probably others in the vicinity, was used for columns, pillars, and slabs throughout the cities of the region, including Carthage, Thuburbo Maius, Uthina, and others (cf. Agus et. al 2006 and Lazzarini et al. 2006; the artifacts have not yet been archaeometrically tested to discern their stones' provenance).

[31] Cf. Cioffarelli (1989).

Although this dissertation's chapters have often focused on understanding how relatively new materials were integrated, the ability of materials to signify conformity should not be undervalued. The overwhelming use of white marble for ideal sculpture, regardless of its differentiation by some kind of polychromy, expresses the Roman view of its suitability for this genre. Likwise, the consistent use of marble for the honorary statues of women in the Large Herculaneum Woman Type uses the material as part of its visual formula.[32] In these cases, the material relationships – both infra- and inter-media – are equally as important as the ones that characterize the complex materiality of the greywacke athletes. As Jennifer Trimble has shown, female statues of this popular type display an economic use of stone, carving the entire figure in a block-like form whose lack of struts displays a restraint of gesture reflective of elite values.[33] A conservative use of white marble is established by reference to virtuoso ones, while the choice of marble is decorous by its situation between too simple materials and too luxurious ones. These trends should be further contextualized and their wide-ranging relationships and significance reconsidered in light of the evidence presented in this dissertation.

The study of Roman ideal sculpture has often assumed that, because the Romans were interested in and attentive to the forms of Greek sculptural prototypes, they must also have been interested in and attentive to the materials of those sculptures. The materials of Roman Egyptianizing sculptures have primarily been considered as simple continuations of tradition or cheaper, easier to carve substitutes. While there have been innumerable investigations that have nuanced the kind and intensity of Roman-era quotations and reuses of earlier forms, there have been few that have attempted to nuance the Roman reception of the materials of those sculpture. This situation is the direct result of the formalist art historical tradition and the generations of scholarship that sought to study Greek originals by effacing the reality of the Roman sculptures. More recently, the preoccupation with responding to this approach has likewise emphasized formalist revisions that have only rarely engaged with the myriad issues of materiality. Several

[32] Trimble 2011.

[33] Trimble 2011.

scholars have noted this imbalance and have tried to address the materials of Roman ideal sculptures within their own context, but, often, their analyses have applied the trends of formal research to the material realm. From a different perspective, individual investigations of unusual materials have explained them with linguistic metaphors like translation or have sought to identify semantic connotations. Studies of provenance have aided by providing geographical resonances that can be activated by connection with a particular subject.

These are all valid ways to consider how materials mattered to the Roman audience, but none can offer a coherent perspective. The materials of Roman ideal sculpture – and other genres of art – have suffered from scholars' desire for neat concepts and clear correspondences. This thesis has sought to illustrate how following material relationships through their multiple, layered, cooperating, competing, and contradictory existence offers an opportunity to evaluate a variety of aspects of Roman sculptural materiality that have so far escaped notice. Investigations that focus on how the form, style, and subject further enrich the resonances of the material can nuance the field's understanding of formal imitation and replication. Rather than searching for singular interpretations that advance programmatic understandings of display environments, this thesis encourages scholars to engage plurality and sit with the dissonance that characterizes materials and materiality. This approach offers one means of valuing and giving voice to the messy ambiguity and unstable polyvalence that characterizes human attempts to make things out of nature and to make sense of human engagement with the natural world.

Bibliography

Abbe, M. 2010. “Recent Researh on the Painting and Gilding of Roman Marble Statuary at Aphrodisias.” In *Circumlitio : the polychromy of antique and medieval sculpture*, edited by V. Brinkmann, O. Primavesi, and M. Hollein, 277–89. Frankfurt am Main: Schriftenreihe der Liebieghaus Skulpturensammlung.

———. 2011. “A Roman marble replica of the ‘South Slope Head’: Polychromy and Identification.” *Source: Notes in the History of Art* 30, 3: 18–24.

———. 2015. “Polychromy.” In *The Oxford Handbook of Roman Sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 173–88. Oxford: Oxford University Press.

Abrams, H. 1999. *Egyptian art in the age of the pyramids*. New York: Harry N. Abrams.

Adam, S. 1966. *The Technique of Greek Sculpture in the Archaic and Classical Periods*. London: Thames & Hudson.

Adembri, B. 2002. “I marmi colorati nella decorazione di Villa Adriana.” In *I marmi colorati*, 471-81.

———, ed. 2006. *Suggestioni egizie a Villa Adriana*. Milan: Electa.

Adriano: architettura e progetto. 2000. Milan: Electa.

Agus, M., S. Cara, L. Lazzarini, and M. Mola. 2006. “A laboratory characterization of black limestones (Neri Antichi) from Zeugitania (Tunisia).” *Marmora* 2: 71–82.

Ajootian, A. 1997. “The Only Happy Couple: Hermaphrodites and Gender.” In *Naked truths: women, sexuality, and gender in classical art and archaeology*, edited by A. Koloski-Ostrow and C.L. Lyons, 220–42. London; New York: Routledge.

Albertoni, M., ed. 2006. *The Capitoline Museums: guide*. Milan: Electa.

Albizzati, C. 1930. “Due sculture di una vecchia collezione lombarda.” *Historia* 4: 218ff.

Alexander, J.C. 1995. *Fin de siècle social theory : relativism, reduction, and the problem of reason*. London; New York: Verso.

Allen, M. 2015. “Technique and Message in Roman Art.” In *A companion to Roman art*, edited by Barbara Borg, 153–71. Chichester, West Sussex, UK: Wiley, Blackwell.

Amelung, W. 1897. *Führer durch die Antiken in Florenz*. Munich: F. Bruckmann.

———. 1903. *Die Skulpturen des Vaticanischen Museums*. Berlin: G. Reimer.

Anderson, B. 1983. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London: Verso.

André, J. 1949. *Étude sur les termes de couleur dans la langue latine*. Paris: Librairie C. Klincksieck.

Andreae, B. 1992. “Die römischen Kopien in Marmor nach griechischen Meisterwerk in Bronze als Ausdruck der römischen Kultur.” *StIt* 10: 21–30.

———. 1996. “I gruppi di polifemo e di scilla a villa adriana.” In *Ulisse: il mito e la memoria*, edited by B. Andreae and C. Parisi Presicce, 342–45. Rome: Progetti museali.

Andreae, B., and S. Bertolin. 1996. “Scilla: schede tecniche.” In *Ulisse: il mito e la memoria*, edited by B. Andreae and C. Parisi Presicce, 298–307. Rome: Progetti museali.

Andrén, A. 1939. *Architectural terracottas from etrusco-italic temples*. Leipzig: O. Harrassowitz.

Andreoli, A., F. Berti, L. Lazzarini, and R. Pierobon Benoit. 2002. “New contributions on Marmor Iassense.” In *ASMOSIA VI : Interdisciplinary studies on ancient stone : proceedings of the sixth international conference of the Association for the study of marble and other stones in antiquity : Venice, june 15-18 2000*, edited by L. Lazzarini, 13–18. Padua: Bottega d’Erasmo.

Andronikos, M. 1984. *Vergina : the royal tombs and the ancient city*. Athens: Ekdotike Athenon.

de Angelis, F. 2008. April 1. “Pliny the Elder and the Identity of Roman Art.” *RES: Anthropology and Aesthetics* 53/54 (April): 79–92.

———. 2015. “Greek and Roman Specialized Writing on Art and Architecture.” In *Oxford Handbook of Greek and Roman Art and Architecture*, edited by C. Marconi, 70–83. Oxford: Oxford Univerity Press.

Angoli, N. 2014. *Marsia. La superbia punita*. Rome: De Luca.

Anguissola, A. 2007. “Retaining the Function: Sacred Copies in Greek and Roman Art.” *RES: Anthropology and Aesthetics* 51: 98–107.

———. 2012. *“Difficillima imitatio”: immagine e lessico delle copie tra Grecia e Roma*. Rome: L’Erma di Bretschneider.

———. 2013. “Marks of Imitation or Signs of Originality? An Approach to Structural Supports in Roman Marble.” In *TRAC 2012 : proceedings of the twenty-second annual Theoretical Roman Archaeology Conference which took place at Goethe University in Frankfurt 29 March-1 April 2012*, edited by A. Bokern, 1–20. Oxford: Oxford University Press.

———. 2014. “The Prestige of Copies: Greek Originals and the Roman Art of Imitation.” In *Kulturelle Kohärenz durch Prestige*, edited by B. Backes and C. von Nicolai, 133–166. Munich: Utz Verlag.

———. 2015. “‘Idealplastik’ and the Relationship between Greek and Roman Sculpture.” In *The Oxford handbook of Roman sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 240–59. New York, NY: Oxford University Press.

Appadurai, A. 1996. *Modernity at large : cultural dimensions of globalization*. Minneapolis: University of Minnesota Press.

Arata, F.P. 1998. “Carlo Antonio Napolioni (1675-1742) ‘celebre ristauratore delle cose antiche’. Uno scultore romano al servizio del Museo Capitolino.” *BullCom* 99: 153–232.

Arce, J., S. Ensoli, and E. La Rocca, eds. 1997. *Hispania romana: da terra di conquista a provincia dell'impero*. Milan: Electa.

Arias, P.E. 1964. *Policleto*. Milan: Edizioni per il Club del Libro.

Ashton, S.-A. 2001. *Ptolemaic royal sculpture from Egypt: The interaction between Greek and Egyptian traditions*. BAR International Series 923. Oxford: Archaeopress.

———. 2004. "Ptolemaic royal images: a review of P.E. Stanwick, Portraits of the Ptolemies." *JRA* 17: 543–50.

Attanasio, D., M. Bruno, W. Prochaska, and A.B. Yavuz. 2013. "The Asiatic marbles of the Hadrian's Villa at Tivoli." *JAS* 40: 4358–68.

Attanasio, D., M. Bruno, and A.B. Yavuz. 2009a. "Quarries in the region of Aphrodisias: the black and white marbles of Göktepe (Muğla)." *JRA* 22 1: 312–48.

Attanasio, D., M. Bruno, and A.B. Yavuz. 2010. "Villa Adriana e l'uso dei marmi Afrodisiensi dalle cave di Göktepe." In *Villa Adriana. Una storia mai finita (Cataloga della mostra, Tivoli, 1 aprile-1 novembre 2010*, edited by M. Sapelli Ragni, 81–90. Milan: Electa.

———. 2011. "La realtà del marmo afrodisiense di Göktepe: replica a una recensione." *Marmora* 7: 119–22.

Attanasio, D., M. Bruno, A.B. Yavuz, and H. Elçi. 2009b. "Aphrodisias and the newly discovered quarries at Göktepe." In *Aphrodisias'tan Roma portreleri = Roman portraits from Aphrodisias*, edited by R. R. R. Smith and L. Lenaghan, 217–27. Istanbul: Yapı Kredi Yayınları.

Aufrère, S. 1991. *L'Univers minéral dans la pensée égyptienne*. Cairo: Institut français d'archéologie orientale.

———. 2001. "The Egyptian Temple, Substitute for the Mineral Universe." In *Colour and painting in ancient Egypt*, edited by W.V. Davies, 158–63. London: British Museum Press.

Avagliano, A. 2011. "L'Ares tipo Borghese: una rilettura." *ArchCl* 62: 41–76.

Ayerbe Vélez, R., T. Barrientos Vera, and F. Palma García. 2009. "Génesis y evolución del foro de Augusta Emerita." In *El foro de Augusta Emerita: génesis y evolución de sus recintos monumentales*, edited by R. Ayerbe Vélez, T. Barrientos Vera, and F. Palma García, 807–31. Anejos de Archivo Español de Arqueología 53. Mérida: Consejo Superior de Investigaciones Científicas ; Instituto de Arqueología de Mérida.

Ayres, J. 1985. *The artist's craft : a history of tools, techniques, and materials*. Oxford: Phaidon.

Bacchielli, L. 1977. "Un ritratto cirenaico in gesso nel Museo greco-romano di Alessandria." *QAL* 9: 97–110.

Baines, J. 2001. "Colour Use and the Distribution of Relief and Painting in the Temple of Sety I at Abydos." In *Colour and painting in ancient Egypt*, edited by W.V. Davies, 145–57. London: British Museum Press.

Balensiefen, L. 1995. “Überlegungen zu Aufbau und Lage der Danaidenhalle auf dem Palatin.” *RM* 102: 189–209.

———. 1998. “The Greek-Egyptian progeny of Io: Augustu’s mythological propaganda.” In *L’Egitto in Italia : dall’antichità al Medioevo : atti del 3. Congresso internazionale italo-egiziano, Roma, CNR-Pompei, 13- 19 novembre 1995*, edited by N. Bonacasa, 23–32. Rome: Consiglio nazionale delle ricerche.

———. 2009. “Apollo Palatinus. Eine Kultgru:ndung des jungen Caesar Divi Filius.” In *Mensch - Heros - Gott. Weltentwürfe und Lebensmodelle im Mythos der Vormoderne*, edited by Chr. Schmitz and A. Bettenworth. Stuttgart : Steiner.

Baratte, F. 2001. “Exotism et Décor a Aphrodisias: la statue de jeune noir de l’ancienne collection Gaudin.” MonPiot 80: 57–80.

Barbanera, M., ed. 2001. *Museo dell’arte classica, Gipsoteca.* Rome: Istituto poligrafico e Zecca dello Stato.

———. 2006. *Original und Kopie: Bedeutungs- und Wertewandel eines intellektuellen Begriffspaares seit dem 18. Jahrhundert in der Klassischen Archäologie*. Stendal: Winckelmann-Gesellschaft.

———. 2008. “Original und Kopie: Aufstieg und Niedergand eines intellektuellen Begriffspaares seit dem 18. Jahrhundert in der Klassischen Archäologie.” In *Original und Kopie: Formen und Konzepte der Nachahmungen in der antiken Kunst : Akten des Kolloquiums in Berlin, 17.-19. Februar 2005*, edited by K. Junker and A. Stähli, 35–61. Wiesbaden: Reichert.

Barck, K. 1994. “Materiality, Materialism, Performance.” In *Materialities of communication*, edited by H.U. Gumbrecht and K.L. Pfeiffer, 258–72. Stanford: Stanford University Press.

Barkan, L. 1999. *Unearthing the Past: archaeology and aesthetics in the making of Renaissance culture*. New Haven: Yale University Press.

Barone, G. 1980. “Gessi di Sabratha: anticipazioni e problemi.” *QAL* 11: 35–74.

———. 1994. *Gessi del Museo di Sabratha*. Rome: L’Erma di Bretschneider.

Barracco, G. 1910. *Catalogo del Museo di scultura antica*. Rome: Forzani e c., tipografi.

Barre, E. 1993. *Choix et role de la pierre dans la construction des temples égyptiens*. Paris: E. Barre.

Barr-Sharrar, B. 2016. “Response: Barr-Sharrar on Ridgway on Daehner and Lapatin, Power and Pathos: Bronze Sculpture of the Hellenistic World.” *BMCR* 2016.02.29.

Bartman, E. 1988. “Décor et Duplicatio: Pendants in Roman Sculptural Display.” *AJA* 92: 211–25.

———. 1991. “Sculptural Collecting and Display in the Private Realm.” In *Roman art in the private sphere : new perspectives on the architecture and decor of the domus, villa, and insula*, edited by E. Gazda, 71–88. Ann Arbor: University of Michigan Press.

———. 1992. *Ancient sculptural copies in miniature*. Leiden; New York: E.J. Brill.

———. 2002. “Eros’ Flame: Images of Sexy Boys in Roman Ideal Sculpture.” In *The ancient art of emulation: studies in artistic originality and tradition from the present to classical antiquity*, edited by E. Gazda, 249–71. *MAAR* 1. Ann Arbor: University of Michigan Press.

Bartoli. 1790. “Memorie di varie escavazioni fatte in Roma, e nei luoghi suburbani vivente Pietro Santi Bartolo.” In *Miscellanea filologica critica e antiquaria dell’avvocato Carlo Fea*, edited by Carlo Fea, I: Rome: Stamperia Pagliarini

Baxandall, M. 1972. *Painting and experience in fifteenth century Italy; a primer in the social history of pictorial style.* Oxford: Clarendon Press.

Beagon, M. 1992. *Roman nature: the thought of Pliny the Elder*. Oxford: Clarendon Press.

Becatti, G. 1935. “Timarchide e l’Apollo qui tenet citharam.” *BullCom* 63: 111–31.

———. 1951. *Problemi fidiaci*. Milan: Electa.

———. 1956. “Letture pliniane: le opere d’arte nei ‘Monumenta Asini Pollionis’ e negli ‘Horti Serviliani.’” In *Studi in onore di A. Calderini e R. Paribeni*, Vol. 3:199–210. Milan: Ceschina.

Beck, H., and P. Bol, eds. 1993. *Polyklet*. Berlin: Gebr. Mann.

Belli, F. 1842. *Catalogo della collezione di pietre usate dagli antichi per costruire ed adornare le loro fabbriche*. Rome.

Belli Pasqua, R. 1989. “Pavonazzetto.” In *Radiance in stone*, 92–94.

———. 1995. *Sculture di età romana in “basalto.”* Xenia Antiqua 2. Rome: L’Erma di Bretschneider.

Bennett, M. 2013. *Praxiteles : the Cleveland Apollo.* Cleveland: Cleveland Museum of Art.

Bennett, M., and C. Snyder. 2015. “An Original by Praxiteles? Medium and Meaning: Bronze and Marble.” In *Serial/portable classic*, 135–8.

Berger, E. 1974. “Der Basler Athenakopf aus der Sammlung Ludwig.” *AntK* 17: 131–36.

Bergmann, B. 1995. January 1. “Greek Masterpieces and Roman Recreative Fictions.” *HSCP* 97 (January): 79–120.

Bernand, A. 1960. *Les inscriptions grecques et latines du Colosse de Memnon*. Le Caire: Institut français d’archéologie orientale.

———. 1972. *De Koptos à Kosseir*. Leiden: Brill.

Bertoletti, M., M. Cima, and E. Talamo. 2006. *Centrale Montemartini : Musei capitolini*. Milan: Electa.

Beschi, L. 1986. “L’Idolino di Pesaro.” In *Urbino e Le Marche prima e dopo Raffaello*, edited by M.G. Ciarci Duprè dal Progretto, P. Dal Progetto, 398-403. Florence: Salani.

———. 2000. “L’Idolino di Pesaro e gli altri bronzi del suo contesto archeologico.” *Studia Oliveriana* n.s. 20: 9–26.

Bianchi, R.S. 1990. “Egyptian Metal Statuary of the Third Intermeidiate Period (Circa 1070-656 B.C.), from Its Egyptian Antecedents to Its Samian Examples.” In *Small bronze sculpture*, 61–84.

Bieber, M. 1961. *The sculpture of the Hellenistic Age*. New York: Columbia University Press.

———. 1977. *Ancient copies : contributions to the history of Greek and Roman art*. New York: New York University Press.

Bienkowski, P. 1896. “Per ‘Fauno colla macchia’ und der junge kentaur des Aristeas und Papias.” In *Serta Harteliana*, 193–96. Wien: F. Tempsky.

Birley, A. 2013. *Hadrian: The Restless Emperor*. New York: Routledge.

Blanc, N. 2007. “Le stuc dans l’art romain : origine et développement d’une technique décorative, 1er s. av. - IIe ap. J.-C.” . PhD thesis. Paris: Université de Paris IV-Sorbonne.

Bloch, H. 1968. *I bolli laterizi e la storia edilizia romana: contributi all’archeologia e alla storia romana*. Rome: L’Erma di Bretschneider.

Bloesch, H. 1940. *Formen attischer Schalen von Exekias bis zum Ende des strengen Stils*. Bern: Bümpliz, Benteli.

———. 1943. *Antike Kunst in der Schweiz*. Erlenbach-Zürich : Eugen Rentsch.

Blüme, C. 2012. “The role of the stone in the polychrome treatment of Hellenistic sculptures.” In Interdisciplinary studies on ancient stone : proceedings of the IX Association for the Study of Marbles and Other Stones in Antiquity (ASMOSIA) Conference (Tarragona 2009), edited by A. Gutiérrez Garcia-Moreno; P. Lapuente Mercadal; I. Rodà de Llanza, 754-62. Tarragona: Institut Català d’Arqueologia Clàssica.

———. 2014. “Bright Pink, Blue and Other Preferences.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 166–89. Odder, Denmark: Production, Narayana Press.

———. 2015. *Polychromie hellenistischer Skulptur: Ausführung, Instandhaltung und Botschaften*. 2 vols. Petersberg: Imhof.

Blümel, C. 1928. *Katalog der Sammlung antiker Skulpturen*. Berlin: N. Schoetz.

———. 1969. *Greek Sculptors at Work*. London.

Blümner, H. 1979. *Technologie und Terminologie der Gewerbe und Künste bei Griechen und Römern*. Hildesheim: G. Olms.

Boardman, J. 1987. “Silver is White.” *RA*: 279–295.

———. 1996. “Crafty Arts.” *CR* 46: 123–26.

———. 2001. *The history of Greek vases : potters, painters and pictures*. London: Thames & Hudson.

———. 2006. “Sources and Models.” In *Greek sculpture: function, materials, and techniques in the archaic and classical periods*, edited by O. Palagia, 1–31. New York: Cambridge University Press.

Bol, P. 1972. *Die Skulpturen des Schiffsfundes von Antikythera*. Berlin: Gebr. Mann.

———. 1982. *Forschungen zur Villa Albani. Katalog der antiken Bildwerke*. Vols. 1-5. Berlin: Mann.

———. 1985. *Antike Bronzetechnik : Kunst und Handwerk antiker Erzbildner*. Munich: Beck.

———. 1993. “Diskophoros.” In *Polyklet*, edited by H. Beck and P. Bol, 111–17. Berlin: Gebr. Mann.

Bolter, J.D. 2014. “Remediation.” In *The Johns Hopkins guide to digital media*, edited by M.-L. Ryan, 427–9. Baltimore: Johns Hopkins University Press.

Bolter, J.D., and R. Grusin, eds. 1999. *Remediation: understanding new media*. Cambridge, MA: MIT Press.

Bonfante, L. 1989. “Nudity as a Costume in Classical Art.” *AJA* 93 4: 543–570.

Bonner, C. 1902. “A Study of the Danaid Myth.” *HSCP* 8: 129–73.

Borda, M. 1953. *La scuola di Pasiteles*. Bari: Adriatica editrice.

Bordignon, F., P. Postorino, P. Dore, and G. Trojsi. 2007a. “Raman identification of green and blue pigments in Etruscan polychromes on architectural terracottas.” *Journal of Raman Spectroscopy* 38: 255–9.

Bordignon, F., P. Postorino, G.F. Guidi, P. Dore, G. Trojsi, and V. Bellelli. 2007b. “In search of Etruscan colours. A spectroscopic study of a painted terracotta slab from Ceri.” *Archaeometry* 49.1: 87–100.

Borghini, G., and R. Gnoli. 2004. *Marmi antichi*. Rome: De Luca.

von Bothmer, B., H. de Meulenaere, and H.W. Müller, eds. 1960. *Egyptian sculpture of the late period 700 B.C. to A.D. 100*. Brooklyn.

Botti, G., and P. Romanelli. 1951. *Le sculture del Museo gregoriano egizio*. Vatican: Tip. poliglotta vaticana.

Boube, J. 1986. “Modèles antiques en plâtre près de Sala (Maroc).” *RA* 2: 301–326.

Bounia, A. 2004. *The Nature of Classical Collecting: Collectors and Collections, 100 BCE - 100 CE*. Aldershot; Burlington: Ashgate.

Bourdieu, P. 1977. *Outline of a Theory of Practice*. Translated by R. Nice. New York: Cambridge University Press.

———. 1990. *The Logic of Practice*. Cambridge: Polity Press.

Bourgeois, B., ed. 2014. “Therapeia. Polychromie et restauration de la sculpture dans l’Antiquite.” Transformations. Classical Sculpture in Colour, edited by Jan Stubbe Østergaard and Anne Marie Nielsen, 190-207. Odder, Denmark: Production, Narayana Press.

Bourgeois, B., and P. Jockey. 2005. “La dorure des marbres grecques. Nouvelle enquête sur la sculpture hellénistique de Délos.” *JSav* : 253–315.

Bourgeois, B., P. Jockey, and A. Karydas. 2009. “New Researches on Polychrome Hellenistic Sculptures in Delos, III: The Gilding Processes; Observations and Meanings.” In *Leukos lithos: marbres et autres roches de la Méditerranée antique : études interdisciplinaires : actes du VIIIe colloque ASMOSIA, Aix-en-Provence 2006*, edited by Ph. Jockey, 645-61. Aix-en-Provence: Maison méditerranéenne des sciences de l’homme.

Bowersock, G.W. 1984. “The Miracle of Memnon.” *BASP* 21: 21–32.

Bowman, H., F.H. Stross, F. Asaro, R.L. Hay, and R.F. Heizer. 1984. “The northern colossus of Memnon: New slants.” *Archaeometry* 26 2: 218–29.

Bradley, M. 2006. “Color and marble in early imperial Rome.” *Cambridge Classical Journal* 52: 1–22.

———. 2009a. *Colour and meaning in Ancient Rome.* Cambridge: Cambridge University Press.

———. 2009b. “The importance of colour on ancient marble sculpture.” *Art History* 32 4: 427–457.

———. 2012. “Colors and Color Perception.” In *The Encyclopedia of Ancient History*, edited by R.S. Bagnall, K. Brodersen, C. B. Champion, A. Erskine & S. R. Huebner, 1674–6. Malden, MA: Wiley-Blackwell.

Brandl, M.S., and D. Amman. 1993. “Beyond Like and As in Images: Metonymy and Metaphor in Some Recent Art.” *Art Criticism* 8 2: 98–108.

Braun, E. 1850. “Scavi in Albano fatti da S.E. il sig. principe Doria.” *BdI* 22, 4: 72–74.

———. 1854. *Die Ruinen und Museen Roms. Für Reisende, Künstler und Alterthumsfreunde*. Braunschweig: F. Vieweg und Sohn.

Bravi, A. 2012. *Ornamenta urbis : opere d’arte greche negli spazi romani*. Bari: Edipuglia.

Brendel, O. 1979. *Prolegomena to the study of Roman art*. Yale University Press.

Brenk, F.E. 1999. “The Isis Campensis of Katja Lembke.” In *Imago Antiquitatis: religions et iconographie du monde romaine mélanges offerts á Robert Turcan*, edited by R. Turcan, N. Blanc, and A. Buisson, 134–43. Paris: De Boccard.

Brennan, T.C. 1998. “The Poets Julia Balbilla and Damo at the Colossus of Memnon.” *The Classical World* 91, 4: 215–234.

Brilli, M., F. Antonelli, F. Giustizi, L. Lazzarini, and P. Pensabene. 2010. “Black limestones used in antiquity: the petrographic, isotopic and EPR database for provenance determination.” *JAS* 37: 994–1005.

Brilli, M., L. Conti, F. Giustini, M. Occhiuzzi, P. Pensabene, and M. De Nuccio. 2011. “Determining the Provenance of Black Limestone Artifacts Using Petrography, Isotopes, and EPR Techniques: The Case of the Monument of Bocco.” *JAS* 38, 6: 1377–84.

Brilliant, R. 1963. *Gesture and rank in Roman art; the use of gestures to denote status in Roman sculpture and coinage*. New Haven: The Academy.

———. 1984. "Pendants and the Mind's Eye." In R. Brilliant, *Visual Narratives. Storytelling in Etruscan and Roman Art*, 124-65. Ithaca: Cornell University Press.

———. 2000. *My Laocoön : alternative claims in the interpretation of artworks*. Berkeley: University of California Press.

Brinkerhoff, D.M. 1971. "Figures of Venus, Creative and Derivative." In *Studies Presented to George M.A. Hanfmann*, edited by D.G. Mitten, J.G. Pedley, and J.A. Scott, 9–16. Mainz am Rhein: Phillip von Zabern.

———. 1978. *Hellenistic statues of Aphrodite : studies in the history of their stylistic development*. New York: Garland Pub.

Brinkmann, V. 2014a. "Research History." In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 22–47. Odder, Denmark: Production, Narayana Press.

———. 2014b. "The Polychromy of Archaic and Classical Greek Sculpture." In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 80–115. Odder, Denmark: Production, Narayana Press.

Brinkmann, V., O. Primavesi, and M. Hollein, eds. 2010. *Circumlitio : the polychromy of antique and medieval sculpture.* Frankfurt am Main: Schriftenreihe der Liebieghaus Skulpturensammlung.

Brinkmann, V., and R. Wünsche, eds. 2007. *Gods in color : painted sculpture of classical antiquity*. Munich: Stiftung Archäologie.

Brizzolara, A.M. 1986. *Le sculture del Museo Civico Archeologico di Bologna*. *La Collezione Marsili.* Bologna: Il Museo.

Brunn, H. 1853. *Geschichte der griechischen Künstler*. Braunschweig: C.A.Schwetschke & Sohn.

———. 1879. "Tipo statuario di atleta." *AdI* 51: 201–22.

———. 1888. *Denkmäler griechischer und römischer Sculptur*. Munich: Verlagsanstalt F. Bruckmann A.-G.

———. 1905. "Über die sog. Leukothea der Glyptothek." In H. Brunn, *Kleine Schriften II*., 328ff. Leipzig: Teubner.

Brunnsåker, S. 1971. *The Tyrant-Slayers of Kritios and Nesiotes; a critical study of the sources and restorations.* 2nd ed. Stockholm: Svenska Institutet i Athen.

Bruno, M., H. Elçi, A.B. Yavuz, and D. Attanasio. 2012. "Unknown ancient marble quarries of Western Asia Minor." In Interdisciplinary studies on ancient stone : proceedings of the IX Association for the Study of Marbles and Other Stones in Antiquity (ASMOSIA) Conference (Tarragona 2009), edited by A. Gutiérrez Garcia-Moreno; P. Lapuente Mercadal; I. Rodà de Llanza, 562-72. Tarragona: Institut Català d'Arqueologia Clàssica.

Bruno, M., and P. Pallante. 2002. “The ‘Lapis Taenarius’ quarries of Cape Tainaron (Mani Peninsula, S. Peloponnesus, Greece).” In *ASMOSIA VI : Interdisciplinary studies on ancient stone : proceedings of the sixth international conference of the Association for the study of marble and other stones in antiquity : Venice, June 15-18 2000*, edited by L. Lazzarini, 163–76. Padua: Bottega d’Erasmo.

Brusini, S. 2001. *La decorazione scultorea della villa romana di Monte Calvo*. Vol. s. III, 23, 2000. RIASA 55. Rome: Istituto nazionale d'archeologia e storia dell'arte.

von Bülow, G., and U. Wulf-Rheidt. 2009. *Felix Romuliana: der Palast des Kaisers Galerius und sein Umfeld ; eine serbisch-deutsche Kooperation = Felix Romuliana : palata imperatora Galerija i njena okolina ; srpsko-nemačka saradnja.* Berlin: DAI.

Burgos, F., F. Larché, and N. Grimal. 2006. *La chapelle rouge: le sanctuaire de barque d’Hatshepsout*. Paris: Ed. Recherche sur les civilisations.

Buschor, E. 1914. “Die Oxforder Niobe.” *MüJb* 9: 191–206.

Büsing, H. 1971. “Der schwanzhaschende Pan.” *MarbWPr*: 67-76.

Butcher, K. 2014. *The Metallurgy of Roman Silver Coinage : From the Reform of Nero to the Reform of Trajan*. Cambridge, UK: Cambridge University Press.

Bynum, C.W. 2011. *Christian materiality : an essay on religion in late medieval Europe*. New York: Zone Books.

Cacciotti, B. 1994. “La collezione del VII Marchese del Carpio tra Roma e Madrid.” *BdA* 86–87: 133–96.

———. 1996. “La dispersioni di alcune antichita’ della collezione Massimo in Spagna e in Inghilterra.” In *Camillo Massimo Collezionista Di Antichità. Fonti e Materiali*, edited by M. Buonocore, 213–38. Rome: L’Erma di Bretschneider.

Cadario, M. 2012. “Le molteplice e mutevoli immagini di Antinoo.” In *Antinoo: il fascino della bellezza*, edited by M. Sapelli Ragni, 65–77. Milan: Electa.

Candida, B. 1967. *I calchi rinascimentali della Collezione Mantova Benavides nel Museo del Liviano a Padova*. Padua: Cedam.

Candilio, D. 1989. “Nero antico.” In *Radiance in stone*, 85–90.

———. 1990. “Statua di pedagogo dagli Horti Sallustiani.” *BdA* 1–2: 206–11.

Capponi, A.G. “Pitture e Anticaglie dal 26 settembre 1717 al 15 ottobre 1746.” . Diario manoscritto. BAV, Cadice Capponi 293.

Carandente, G. 1975. *Il Palazzo Doria Pamphilj*. Milan: Electa.

Carandini, A., and D. Bruno. 2008. *La casa di Augusto : dai Lupercalia al Natale*. Rome: GLF editori Laterza.

Carettoni, G. 1966. “I problemi della zona Augustea del Palatino alla luce dei recenti scavi.” *RendPontAcc* 39: 55–75.

———. 1971. “Terrecotte ‘Campana’ dallo scavo del tempio di Apollo Palatino.” *RendPontAcc* 44: 123–99.

———. 1973. “Nuova serie di grandi lastre fittili ‘Campana.’” *BdA* (Ministeri per i Beni e le Attività Culturali) 58: 75–87.

———. 1978. “Roma - Le costruzioni di Augusto e il tempio di Apollo sul Palatino.” *Archeologia Lazio* 1: 72–4.

———. 1983. “La decorazione pittorica della Casa di Augusto.” *RM* 90: 373–419.

———. 1988. “Die ‘Campana’-Terrakotten vom Apollo-Palatinus-Tempel.” In *Kaiser Augustus und die verlorene Republik: eine Ausstellung im Martin-Gropius-Bau, Berlin, 7. Juni-14. August 1988,* edited by M. René Hofter, 267–72. Mainz: P. Von Zabern.

Carey, S. 2003. *Pliny’s catalogue of culture : art and empire in the natural history*. Oxford: Oxford University Press.

Carloni, R. 1995. “I restauri di Giuseppe Franzoni, Michele Ilari e Domenico Piggiani nel Museo Capitolino.” *BollMC* 9: 63–82.

Cascella, S., and M.G. Ruggi d’Aragona. 2012. *Memorie suessane di Matidia: Suessa. Citta’ e territorio dagli Aurunci all’eta’ romana*. BAR-IS 2445. Oxford: Archaeopress.

Casson, S. 1933. *The technique of early Greek sculpture*. Oxford: The Clarendon press.

Castelli, L. 1933. “Trovamenti di antichità classica nella Villa Pontificia di Castel Gandolfo.” *L’Illustrazione Vaticana* 4: 578–80.

Cavell, R. 2016. *Remediating McLuhan*. Amsterdam: Amsterdam University Press.

Ceriana, M. 2013. “Idolino.” In *Pietro Bembo e l’invenzione del Rinascimento*, edited by G. Bergamini, D. Gasparotto, and A. Tura, 375–7. Venice: Marsilio.

de Certeau, M. 1984. *The Practice of Everyday Life*. Berkeley: University of California Press.

Charles-Gaffiot, J., and H. Lavagne, eds. 1999. *Hadrien: tresors d’une villa imperiale*. Milan: Electa.

Chiurazzi. 1929. *Fonderie - Ceramica - Marmeria*. Sale Catalog.

Cioffarelli, A. 1989. “Giallo Antico.” In *Radiance in Stone*, 73–8.

Citroni Marchetti, S. 1991. *Plinio il Vecchio e la tradizione del moralismo romano*. Biblioteca di “Materiali e discussioni per l’analisi dei testi classici” 9. Pisa: Giardini.

Claridge, A. 1988. “Roman Statuary and the Supply of Statuary Marble.” In *Ancient Marble Quarrying and Trade,* edited by J.C. Fant, 139–52. BAR-IS 453. Oxford: Archaeopress.

———. 1990. “Ancient Techniques of Making Joins in Marble Statuary.” In *Marble: Art Historical and Scientific Perspectives on Ancient Sculpture*, edited by M. True and J. Podany, 135–62. Los Angeles: J. Paul Getty Museum.

———. 2015. “Marble Carving Techniques, Workshops, and Artisans.” In *The Oxford handbook of Roman sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 107–22. New York, NY: Oxford University Press.

Coarelli, F. 1976. “Architettura e arti figurative in Roma, 150-50 a.C.” In *Hellenismus in Mittelitalien : Kolloquium in Göttingen vom 5. bis 9. Juni 1974*, edited by P. Zanker, 21–32. Göttingen: Vandenhoeck und Ruprecht.

———. 1989. *Roma*. Rome: G. Laterza & figli.

———. 1990. *In Storia di Roma*, edited by A. Momigliano and A. Schiavone, II: 655f. Torino: Einaudi.

———. 2012. *Palatium. Il Palatino dalle origini all’impero*. Rome: Quasar.

Colini, A.M. 1941. “Il tempio di Apollo.” *BullCom* 68: 9–40.

Collignon, M. 1897. *Histoire de la sculpture grecque*, Vol. II. Paris: Firmin-Didot et cie.

Conze, A. 1869. *Beiträge zur Geschichte der griechischen Plastik.* Halle: Buchhandlung des Waisenhauses.

Cook, E.M. *forthcoming*. “Pliny the Elder in the Workshop of Zenodorus and the Materiality of Facture in the Natural History.” To be published in *The Nature of Art. Pliny the Elder on Materials*, ed. by A. Anguissola and A. Grüner. Brepols.

Cook, R.M. 1964. *Niobe and her children*. Cambridge: Cambridge University Press.

———. 1987. “‘Artful Crafts’: A Commentary.” *JHS* 107: 169–171.

Corsi, F. 1845. *Delle pietre antiche : trattato*. Rome: Tip. di G. Puccinelli.

Corso, A. 2010. *The art of Praxiteles: III: The Advanced Maturity of the Sculptor*. Rome: L’Erma di Bretschneider.

———. 2013. *The art of Praxiteles IV: The Late Phase of his Activity*. Rome: L’Erma di Bretschneider.

Cotterell, B. 2010. *Fracture and life*. New Jersey; Hackensack, NJ: Imperial College Press; World Scientific.

Crook, K., ed. 2001. *Joseph Forsyth: Remarks on Antiquities, Art, and Letters, during an Excursion in Italy, in the Years 1802 and 1803*. London: Associated University Presses.

Curto, S. 1995. “L’Antinoo Vaticano, incontro di due arti opposte.” In *Alessandria e il mondo ellenistico-romano (Atti del II Congresso Internazionale Italo-Egiziano, Alessandria, 23-27 novembre 1992)*, edited by N. Bonacasa, C. Naro, E.C. Portale, and A. Tullio, 293–7. Rome.

D’Alessandro, L., and F. Persegati. 1987. *Scultura e calchi in gesso : storia, tecnica e conservazione*. Studia archaeologica. Rome: L’Erma di Bretschneider.

Darnton, R. 1999. March 18. “The New Age of the Book.” *The New York Review of Books*, March 18. www.nybooks.com/contributors/robert-darnton.

Davis, W.M. 1981. “Egypt, Samos and the Archaic Style in Greek Sculpture.” *JEA* 67: 61–81.

De Franceschini, M. 1991. *Villa Adriana : mosaici, pavimenti, edifici.* Rome: L’Erma di Bretschneider,.

Del Bufalo, D. 2002. “Notulae Thebaicae.” In *I marmi colorati*, 200–201.

Delbrueck, R. 1932. *Antike Porphyrwerke*. Berlin, Leipzig: De Gruyter.

Delivorrias, A. 1993. “Der Statuarische Typus der sogenannten Hera Borghese.” In *Polykletforschungen*, edited by Herbert Beck and Peter Bol, 221–52. Berlin: Gebr. Mann.

———. 1995. “Polykleitos and the allure of feminine beauty.” In *Polykleitos, the Doryphoros, and tradition*, edited by W.G. Moon, 200–17. Wisconsin studies in classics. Madison: University of Wisconsin Press.

Della Seta, A. 1930. *Il nudo nell’arte*. Rome: Bestetti & Tumminelli.

Deonna, W. 1908. *Les statues de terre cuite dans l’antiquité : Sicile, Grand-Grèce, Étrurie et Rome*. Paris: A. Fontemoing.

Descamps-Lequime, S. 2006. “Le polychromie des bronzes grecs et romains.” In *Couleurs et matières dans l’antiquité : textes, techniques et pratiques*, edited by A. Rouveret, S. Dubel, and V. Naas, 79–92. Paris: Editions Rue d’Ulm.

———. 2011. “Le noir et l’or. La couleur des bronzes antiques.” In *Inventer la peinture grecque antique*, edited by S. Alexandre, N. Philippe, and C. Ribeyrol, 95–99. Lyon: ENS.

———. 2014. “La polychromie des bronzes grecs et romaines.” In *Splendeurs de Volubilis: bronzes antiques du Maroc et de Méditerranée*, edited by M. Morel-Deledalle, 52–53. Arles: Actes Sud.

———. 2015. “Il colore del bronzo: Policromia ed estetica delle superfici di bronzo.” In *Power and Pathos*^{b}, 151–65. Florence: Giunti Editore, S.p.A.

Deubner, O. 1979. “Der Gott mit dem Bogen: Das Problem des Apollo Belvedere.” Jahrbuch des Deutschen Archäologischen Instituts 94: 223-44.

Di Leo, B. 1989. “Basalt.” In *Radiance in Stone*, 56–63.

Diacciati, E. 2005. “Copie, contesti e fruizione del gruppo dei Niobidi in età imperiale.” In *Agōgē. Atti della Scuola di specializzazione in archeologia, 2.2005*, 197–264. Pisa: Edizioni Plus - Università di Pisa.

Diacciati, E. 2010. “The Original Setting of the Niobid Group.” In *A Theatre for Niobe*, edited by A. Natali and A. Romualdi, 195–205. Florence: Giunti.

Donati, F. 1990. “Processi di riproduzione artistica: L’uso della pece bruzia e i calchi antichi.” *Klearchos* 125–8: 105–47.

———. 1999. *La gipsoteca di arte antica*. Pisa: ETS.

Donati, P. 2013. “Die Gesichter der Bronzen von Riace. Technologische Aspekte, Untersuchungen une neue Ergebnisse.” In *Zurück zur Klassik : ein neuer Blick auf das Alte Griechenland : eine Ausstellung der Liebieghaus Skulpturensammlung, Frankfurt am Main, 8. Februar bis 26. Mai 2013*, edited by V. Brinkmann, 268–73. Frankfurt am Main: Liebieghaus Skulpturensammlung.

Dönike, M., J. Müller-Tamm, and F. Steinle, eds. 2016. *Die Farben der Klassik: Wissenschaft - Ästhetik - Literatur*. Schriftenreihe des Zentrums für Klassikforschung Band 3. Göttingen: Wallstein Verlag.

Doody, A. 2010. *Pliny’s encyclopedia: the reception of the natural history*. Cambridge: Cambridge University Press.

Drerup, H. 1980. “Totenmaske und Ahnenbild bei den Ro:mern.” *RM* 87: 81ff.

Dunand, F. 1998. “Prêtre portant dans ses mains voilées un Osiris-canope.” In *Alexandrie, les quartiers royaux submergés*, edited by F. Goddio, 189–94. London: Periplus.

Duthoy, F. 2012. *Sculpteurs et commanditaires au IIe siècle après J.-C.: Rome et Tivoli*. Rome: École Française de Rome.

Edgeworth, R.J. 1992. *The colors of the Aeneid*. New York; Bern: P. Lang.

Eggert, G. 1994. “Schwarzfärbung oder Korrosion? Das Rätsel der schwarzen Bronzen aus chemischer Sichtmore.” In *Das Wrack: der antike Schiffsfund von Mahdia*, edited by G. Hellenkemper Salies, 1033–9. Cologne: Rheinland-Verlag.

Eingartner, J. 1991. *Isis und ihre Dienerinnen in der Kunst der römischen Kaiserzeit*. New York: E.J. Brill.

Elsner, J. 2006. “Classicism in Roman Art.” In *Classical Pasts. The Classical Traditions of Greece and Rome*, edited by J.I. Porter, 270–97. Princeton: Princeton University Press.

Ensoli, S. 2002. “Per un cosiddetto Iseo nella villa di Adriano a Tivoli: il Padiglione-Ninfeo ‘di Venere-Cnidia.’” In *Villa Adriana: paesaggio antico e ambiente moderno: elementi di novità e ricerche in corso: atti del Convegno, Roma, Palazzo Massimo alle Terme, 23-24 giugno 2000*, edited by R. Righi and A.M. Reggiani, 94–112. Milan: Electa.

Ensoli, S., and E. La Rocca, eds. 2000. *Aurea Roma: dalla città pagana alla città cristiana*. Rome: L’Erma di Bretschneider.

Ensoli Vittozzi, S. 1990. *Musei Capitolini. La collezione egizia*. Silvana editorial.

Erim, K.T. 1967. “The School of Aphrodisias.” *Archaeology* 20: 18–27.

Erlich, A. 2015. “Terracottas.” In *The Oxford handbook of Roman sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 155–72. New York, NY: Oxford University Press.

Erll, A., A. Rigney, and L. Basu, eds. 2009. *Mediation, Remediation, and the Dynamics of Cultural Memory*. Berlin; Boston: De Gruyter.

Fant, J.C. 1988. “The Roman Emperors in the Marble Business: Capitalists, Middlemen or Philanthropists?” In *Classical Marble: Geochemistry, Technology, Trade*, edited by N. Herz and

M. Waelkens, 153:147–158. NATO ASI Series E: Applied Sciences. Dordrecht; Boston; London: Kluwer Academic Publishers.

———. 1993. “Ideology, Gift, and Trade: A Distribution Model.” In *The Inscribed Economy. Production and Distribution in the Roman Empire in the Light of Instrumentum Domesticum*, edited by W.V. Harris, 145–70. JRA Suppl. 6. Ann Arbor.

Fejfer, J. 2003. “Restoration and Display of Classical Sculpture in English Country Houses.” In *History of restoration of ancient stone sculptures*, edited by J. Burnett Grossman, J. Podany, and M. True. Los Angeles: J. Paul Getty Museum.

Felletti Maj, B. 1951. “Afrodite Pudica.” *ArchCl* 3: 33–65.

Ferrea, L. 2002. *Gli dei di terracotta: La ricomposizione del frontone da via di San Gregorio*. Milan: Electa.

Ferro, D., E. Formigli, and S. Bovani. 2013. “La patina artificiale antica dei grandi bronzi di Ercolano.” In *Colore e luce nella statuaria antica in bronzo*, edited by Edilberto Formigli, 33–9. Rome: L’Erma di Bretschneider.

Fink, J. 1964. “Ein Kopf für viele.” *RM* 71: 152–7.

Fish, S.E. 1980. *Is there a text in this class? : The authority of interpretive communities*. Cambridge, MA: Harvard University Press.

Fleischer, R. 1973. *Artemis von Ephesos und verwandte Kultstatuen aus Anatolien und Syrien*. EPRO 35. Leiden.

———. 1978. “Artemis von Ephesos und verwandte Kultstatuen aus Anatolien und Syrien, Supplement.” In *Studien zur Religion und Kultur Kleinasiens : Festschrift für Friedrich Karl Dörner zum 65. Geburtstag am 28. Februar 1976*, edited by S. Sahin, E. Schwertheim, and J. Wagner, 1:324–58. Leiden: E. J. Brill.

Flower, H.I. 1996. *Ancestor masks and aristocratic power in Roman culture*. Oxford: Clarendon Press.

Formigli, E. 1984. “La tecnica della costruzione delle statue di Riace.” In *Due bronzi da Riace : rinvenimento, restauro, analisi ed ipotesi di interpretazione*, edited by G. Triches, 107–42. Rome: Istituto poligrafico e zecca dello Stato.

———, ed. 1999. *I grandi bronzi antichi : le fonderie e le tecniche di lavorazione dall’età arcaica al Rinascimento : atti dei Seminari di studi ed esperimenti, Murlo 24-30 luglio 1993 e 1-7 luglio 1995*. Siena: Nuova immagine.

———. 2013a. “Le patine ‘naturali’ greche e le patine ‘artificiali’ romane.” In *Colore e luce nella statuaria antica in bronzo*, edited by E. Formigli, 49–54. Rome: L’Erma di Bretschneider.

———, ed. 2013b. *Colore e luce nella statuaria antica in bronzo*. Rome: L’Erma di Bretschneider.

———. 2013c. “Le tecniche del colore nella statuaria antica in bronzo.” In *Colore e luce nella statuaria antica in bronzo*, edited by E. Formigli, 1–23. Rome: L’Erma di Bretschneider.

Formigli, E., and R. Pecchioli. 2002. “L’Idolino di Pesaro, un’indagine archeometrica.” In *I bronzi antichi: Produzione e tecnologia: Atti del XV Congresso internazionale sui bronzi antichi (Grado-Aquileia, 22-26 maggio 2001)*, edited by A. Giumlia-Mair,187–99. Montagnac: Monique Mergoil.

Forsyth, J. *Remarks on Antiquities, Art, and Letters, during an Excursion in Italy, in the Years 1802 and 1803*. 2nd edition. London: 1816 (1st ed., 1813).

Forti, L. 1959. *Le danzatrici di Ercolano. Monumenti d’arte antica*. Naples: L’Arte tipografica.

Frederiksen, R. 2010. “Plaster Casts in Antiquity.” In *Plaster casts : making, collecting, and displaying from classical antiquity to the present*, edited by R. Frederiksen and E. Marchand, 13–33. Berlin; New York: De Gruyter.

———. 2011. *The cast gallery of the Ashmolean Museum : catalogue of plaster casts of Greek and Roman sculpture*. Oxford: The Ashmolean Museum.

Frederiksen, R., and E. Marchand, eds. 2010. *Plaster casts : making, collecting, and displaying from classical antiquity to the present*. Berlin; New York: De Gruyter.

Frel, J., J. Chamay, and J.-L. Maier, eds. 1982. *Le Monde des Césars : portraits romains*. Genève: Musée d’art et d’histoire de Genève.

Freyer-Schauenburg, B. 1983. “Zur Tyche von Aphrodisias.” *Boreas* 6: 128–42.

———. 1990. “Zur Artemis-Iphigenie-Gruppe.” In *Akten des XIII. Internationalen Kongresses für Klassische Archäologie (Berlin 1988)*, 382–4. Mainz am Rhein: Philipp von Zabern.

———. 2002. “Die Statue des Trajans auf Samos. Mit einem Beitrag von Klaus Woyski.” *AM* 117: 257–98.

Fuchs, M. 1992. *Katalog der Skulpturen. Glyptothek München. Bd. 6, Römische Idealplastik*. Munich: C.H. Beck.

———. 1999. *In hoc etiam genere graeciae nihil cedamus : Studien zur Romanisierung der späthellenistischen Kunst im 1. Jh. v. Chr*. Mainz: Phillip von Zabern.

Fuchs, W. 1696. *Die Skulptur der Griechen*. Munich: Hirmer Verlag.

Fucito, L. 2001. *Fonderia artistica Chiurazzi : la forma dell’arte*. Naples: Altrastampa.

———. 2013. “Methods and Materials Used for Patination at the Fonderia Chiurazzi.” In *Restorations of Ancient Bronzes. Naples and Beyond*, edited by E. Risser, 137–42. Los Angeles: J. Paul Getty Museum.

Fullerton, M.D. 1990. *The Archaistic Style in Roman Statuary*. Mnemosyne Supplement 110. Leiden: Brill.

Fullerton, M.D. 2001. “Statuary Types and Some Perils of Positivism.” *JRA* 14: 510–14.

Fullerton, M.D. 2003. “‘Der Stil der Nachahmer’: A Brief Historiography of Stylistic Retrospection.” In *Ancient Art and Its Historiography*, edited by A.A. Donohue and M.D. Fullerton, 92–117. Cambridge: Cambridge University Press.

Furtwängler, A. 1893. *Meisterwerke der Griechischen Plastik*. Leipzig: Geisecke & Devrient.

———. 1895. *Masterpieces of Greek sculpture. A series of essays on the history of art*. New York: Scribner.

Furtwängler, A., and P. Wolters. 1910. *Beschreibung der Glyptothek König Ludwig's I. zu München*. Munich: A. Buchholz.

Galinsky, K. 1996. *Augustan culture : an interpretive introduction*. Princeton: Princeton University Press.

Galli, M. 2007. "Et Graeci quidem eum consecraverunt. La creazione del mito di Antinoo." In *Arte e memoria culturale nell'età della Seconda Sofistica*, edited by O. Cordovana and M. Galli. Catania: Edizioni del Prisma.

Gallo, D. 1992. "Originali greci e copie romane secondo Giovanni Battista ed Ennio Quirino Visconti." *Labyrinthos* 21: 215–51.

Gasparri, C. 1989. "Una officina di copisti in eta' medio-imperiale." In *The Greek Renaissance in the Roman Empire*, edited by S. Walker and A. Cameron, 96–101. London: Institute of Classical Studies.

———. 1994. "Copie e copisti." In *EAA*, 2:267–80. Supplement.

Gasparri, C. 1995. "L'officina dei calchi di Baia." *RM* 102: 173–87.

Gasparri, C., ed. 2007. *Le sculture Farnese : storia e documenti*. 3 vols. Naples: Electa Napoli.

———, ed. 2009. *Le sculture Farnese. Le sculture ideali*. Milan: Electa.

———. 2014. "Marmi per l'imperatore. L'arredo del Palatium." In *Museo Palatino : le collezioni*, edited by M.A. Tomei, 79–95. Milan: Electa.

Gasparri, C., and R. Paris, eds. 2013. *Palazzo Massimo alle Terme: le collezioni*. Milan: Electa.

Gates-Foster, J. 2012. "The Eastern Desert and the Red Sea Ports." In *The Oxford handbook of Roman Egypt*, edited by C. Riggs, 736–48. 1st ed. Oxford handbooks in archaeology. Oxford: Oxford University Press.

Gazda, E.K. 1995. January 1. "Roman Sculpture and the Ethos of Emulation: Reconsidering Repetition." *HSCP* 97 (January): 121–156.

———, ed. 2002. *The ancient art of emulation: studies in artistic originality and tradition from the present to classical antiquity*. *MAAR* 1. Ann Arbor: University of Michigan Press.

Geominy, W. 1984. *Die Florentiner Niobiden*. Bonn: Druck : Rheinische Friedrich-Wilhelms-Universität.

Geominy, W. 1990. "Die Niobiden der Villa Hadriana." In *Akten des XIII. Internationalen Kongresses für Klassische Archäologie (Berlin 1988)*, 379–80. Mainz am Rhein: Phillip von Zabern.

Gercke, P. 1991. *Apollon und Athena : klassische Götterstatuen in Abgüssen und Rekonstruktionen*. Kassel: Staatliche Kunstsammlungen Kassel.

———. 2004. “Farbige und metallbeschichtete Nachbildungen des ‘Kasseler Apollon’ und der ‘Athena Lemnia.’” In *Bunte Götter: die Farbigkeit antiker Skulptur*, edited by V. Brinkmann, R. Wünsche, and U. Wurnig. 2. Aufl. Munich: Staatliche Antikensammlungen und Glyptothek.

Ghirardini, G. 1881. *Catalogo del Museo del Palatino* (manuscript preserved in the Archivio della Soprintendenza Archeologica di Roma). Rome.

Gilbert, C. 1995. “Ghiberti on the Destruction of Art.” *I Tatti Studies: Essays in the Renaissance* 6: 135–44.

Gill, D.W.J. 2013. “Context matters: The Cleveland Apollo goes public.” *Journal of Art Crime* 10: 69–75.

Gimma, G. 1730. *Della Fisica sotterranea*. Naples.

Giuliano, A. 1979ff. *Museo nazionale romano, Le Sculture.* Rome: De Luca.

Giumlia-Mair, A. 2015. “Tecnocronologia? La composizione delle leghe e l’impiego di caratteristiche tecniche per la datazione di bronzi antichi.” In *Power and Pathos*[b], 167–81.

Giumlia-Mair, A., and P.T. Craddock. 1993. “Corinthian aes. Das schwarze Gold des Alchimisten.” *AntW* 24: 1–62.

Gnoli, R. 1971. *Marmora romana*. Rome: Edizioni dell’Elefante.

Goldman, R. 2013. *Color-Terms in Social and Cultural Context in Ancient Rome*. Gorgias Studies in Classical and Late Antiquity 3. Piscataway, NJ: Gorgias Press.

Goodlett, V. 1991. “Rhodian Sculpture Workshops.” *AJA* 95: 669–81.

Goold, G.P., trans. 1990. *Elegies / Propertius*. Cambridge, Mass: Harvard University Press.

Gorgoni, C., L. Lazzarini, and B. Pallante. 2002. “New archaeometric data on ‘Rosso Antico’ and other red marbles used in antiquity.” In *ASMOSIA VI : Interdisciplinary studies on ancient stone : proceedings of the sixth international conference of the Association for the study of marble and other stones in antiquity : Venice, June 15-18 2000*, edited by L. Lazzarini, 199–206. Padua: Bottega d’Erasmo.

Grandet, P. 1994. *Le Papyrus Harris I, BM 9999.* BdE 109.1 and 2. Cairo: Institut français d’archéologie orientale du Caire.

Graves, R. 1963. *I miti greci*. Milan: Longanesi.

Greenberg, C. 1973. “Modernist Painting.” In *The New Art: A Critical Anthology*, edited by G. Battcock. New York: E.P. Dutton.

Gregarek, H. 1999. “Untersuchungen zur kaiserzeitlichen Idealplastik aus Buntmarmor.” *KölnJb* 32: 33–284.

———. 2002. “Roman Imperial Sculpture of Colored Marbles.” In *Interdisciplinary studies on ancient stone : proceedings of the fifth international conference of the Association for the Study of Marble*

and Other Stones in Antiquity, Museum of Fine Arts, Boston, 1998, edited by J. Herrmann, N. Herz, and R. Newman, 206–14. London : Archetype Publications.

Grenier, J.-C. 1989. "La décoration statuaire du Serapeum du Canope de la Villa Adriana: essai de reconstitution et d'interprétation." *MÉFRA*: 925–1019.

———. 2008. *L'Osiris Antinoos.* Montpelier.

Gros, P. 1976. *Aurea templa : recherches sur l'architecture religieuse de Rome à l'époque d'Auguste*. Rome: École française de Rome.

Grossman, J.B., J. Podany, and M. True, eds. 2003. *History of restoration of ancient stone sculptures*. Los Angeles: J. Paul Getty Museum.

Grusin, R. 2004. "Premediation." *Criticism* 46 1: 17–39.

———. 2010. *Premediation: Affect and Mediality After 9/11*. Palgrave.

Gschwandtler, K. 1978. *Funde aus Ephesos und Samothrake*. Vienna.

Gualandi, G. 1982. "Plinio e il collezionismo d'arte." In *Plinio il Vecchio sotto il profilo storico e letterario - atti del convegno di Como 5/6/7 ottobre 1979*, 259–99. Como : Banca Briantea.

Guasco, O. de. 1768. *De l'usage des statues chez les anciens. Essai historique*. Brussels: J. L. de Boubers.

Guerrini, L. 1959a. "Ricerche stilistiche intorno a un motivo iconografico." *ASAtene* 21/22: 403–19.

Guerrini, L. 1959b. "A proposito del cosi' detto 'auriga' dei Conservatori." *ArchCl* 11: 171–78.

———. 1986. "Peplophoroi. Il tipo Siracusa-Nemi." *Rivista Istituto Archaeologico* 8–9 (1985–1986): 37–61.

Gurval, R.A. 1995. *Actium and Augustus. The Politics and Emotions of Civil War*. Ann Arbor : University of Michigan Press.

Gusman, P. 1904. *La villa impériale de Tibur (villa Hadriana).* Paris: A. Fontemoing.

———. 1908. *L'art décoratif de Rome de la fin de la république au IVe siècle*. Paris: Ch. Eggimann.

Hafner, G. 1955. *Zum Epheben Westmacott*. Heidelberg: C. Winter.

Hallett, C. 1995. "Kopienkritik and the Works of Polykleitos." In *Polykleitos, the Doryphoros and Tradition*, edited by W.G. Moon, 121-60. Madison, WI: University of Wisconsin Press.

———. 2005a. "Emulation versus Replication: Redefining Roman Copying." *JRA* 18: 419–35.

———. 2012. "The Archaic Style in Sculpture in the Eyes of Ancient and Modern Viewers." In *Making sense of Greek art*, edited by V. Coltman, 70–100. Exeter, UK: University of Exeter Press.

———. 2005b. *The Roman nude: heroic portrait statuary 200 B.C.-A.D. 300*. Oxford; New York: Oxford University Press.

Hannestad, N. 1982. “Über des Grabmal des Antinoos. Topographische und Thematische Studien in Canopus Gebiet der Villa Adriana.” *AnalRom* 11: 69–108.

———. 1999. “Antinoos’ gravemaele? Canopusdalen i Villa Adriana.” In *Hvad fandt vi? : en gravedagbog fra Institut for Klassisk Arkæologi, Aarhus Universitet*, edited by G. Bilde, V. Nørskov, and P. Pedersen, 103–15.

Harrell, J.A. 2010. “An Early Roman Quarry for Anhydrite and Gypsum Near Wadi El-Anba’ut, Red Sea Coast (Egypt).” *Marmora* 6: 45–55.

———. 2011. “Report on the Petrology of Wadi Hammamat Bekhen-Stone.” http://www.eeescience.utoledo.edu/Faculty/Harrell/Egypt/Quarry_stone_petrography.pdf.

Harrell, J.A., and V.M. Brown. 1994. “Chephren’s Quarry in the Nubian Desert of Egypt.” *Nubica* 3: 43–57.

Harris, W.V. 2015. “Prolegomena to a Study of the Economics of Roman Art.” *AJA* 119 3: 395–417.

Hartswick, K. 1990. “The Ares Borghese Reconsidered.” *RA* 2: 227–83.

Hartswick, K.J. 1995. “Head Types of the Doryphoros.” In *Polykleitos, the Doryphoros, and tradition*, edited by W.G. Moon, 161–171. Wisconsin studies in classics. Madison, Wis: University of Wisconsin Press.

———. 2000. “Review of In hoc etiam genere graeciae nihil cedamus : Studien zur Romanisierung der späthellenistischen Kunst im 1. Jh. v. Chr. by M. Fuchs.” *AJA* 104: 811–12.

Hartswick, K.J. 2004. *The Gardens of Sallust : a changing landscape*. Austin: University of Texas Press.

Haskell, F., and N. Penny. 1981. *Taste and the antique: the lure of classical sculpture, 1500-1900*. New Haven: Yale University Press.

Havelock, C.M. 1995. *The Aphrodite of Knidos and her successors : a historical review of the female nude in Greek art.* Ann Arbor: University of Michigan Press.

Haynes, D.E.L. 1992. *The technique of Greek bronze statuary*. Mainz am Rhein: P. von Zabern.

Heiderich, G. 1966. “Asklepios.” PhD dissertation, Giessen: Freiburg.

Heizer, R.F., F. Stross, T.R. Hester, A. Albee, I. Perlman, F. Asaro, and H. Bowman. 1973. “The Colossi of Memnon Revisited: Recent research has established the source of the stone of the two 720-ton statues at Thebes.” *Science* (New York, N.Y.) 182 4118: 1219–1225.

Hekster, O., and J. Rich. 2006. “Octavian and the Thunderbolt: The Temple of Apollo Palatinus and Roman Traditions of Temple Building.” *CQ* 56.1: 149–68.

Helbig, W., and G. Barracco. 1893. *La collection Barracco, pub. par Frédéric Bruckmann*. Munich: Verlagsanstalt für kunst und wissenschaft, vormals F. Bruckmann.

Hellenkemper Salies, G., ed. 1994. *Das Wrack: der antike Schiffsfund von Mahdia*. Kataloge des Rheinischen Landesmuseums Bonn Bd. 1. Köln: Rheinland Verlag.

Henzen, W. 1850. June. “Römische Ausgrabungen.” *AZ* 8 (*AA* 15) (June): 175.

———. 1862. “Scavi Palatini intrapresi per ordine di S.M. l’Imperatore dei Francesi.” *BdI*: 225–34.

Himmelmann, N. 1981. *Utopia del passato: archeologia e cultura moderna*. Bari: De Donato.

Hiorns, A.H. 1892. *Metal-colouring and Bronzing*. London: Macmillan.

Hirt, A.M. 2010. *Imperial mines and quarries in the roman world : organizational aspects, 27 BC-AD 235*. Oxford classical monographs. Oxford: Oxford University Press.

Hobbold, S. 1995. *Das Bild des Mars: Untersuchung zum römischen Kriegsgott*. Bonn: Rheinland Verlag.

Hoffmann, A. 1980. *Das Gartenstadion in der Villa Hadriana*. Mainz am Rhein: P. von Zabern.

Hollinshead, M. 2002. “Extending the Reach of Marble: Struts in Greek and Roman Sculpture.” In *The ancient art of emulation: studies in artistic originality and tradition from the present to classical antiquity*, edited by E. Gazda, 117–152. *MAAR* 1. Ann Arbor: University of Michigan Press.

Holly, M.A. 2002. “Reciprocity and Reception Theory.” In *A companion to art theory*, edited by P. Smith and C. Wilde, 448–57. Blackwell companions in cultural studies 5. Oxford ; Malden, MA: Blackwell.

———. 2013. “Notes from the field: Materiality.” *ArtB* 95 1: 15–17.

Hölscher, T. 1980. “Römische Siegesdenkmäler der späten Republik.” *In Tainia : Roland Hampe zum 70. Geburtstag am 2. Dezember 1978*, edited by H. Cahn and E. Simon, 357–71. Mainz am Rhein: Ph. Von Zabern.

———. 2004 [1987]. *The language of images in Roman art*. Cambridge: Cambridge University Press.

Holz, S. 2009. “Praeda und Prestige - Kriegsbeute und Beutekunst im (spät-) republikanischen Rom.” In *Praeda : butin de guerre et société dans la Rome républicaine = Kriegsbeute und Gesellschaft Im republikanischen Rom*, edited by M. Coudry and M. Humm. Stuttgart: Franz Steiner Verlag.

Hornbostel, W. 1973. *Sarapis. Studien zur Überlieferungsgeschichte, den Erscheinungsformen und Wandlungen der Gestalt eines Gottes*. Leiden: Brill.

Hughes, D., and P.J. Parsons. 1984. “Against philosophers.” *Oxyrhynchus Papyri* 52: 55–61, no. 3659.

Humann, C., J. Kohte, and C. Watzinger. 1904. *Magnesia am Maeander; Bericht über die Ergebnisse der Ausgrabungen der Jahre 1891-1893*. Berlin: G. Reimer.

Hünemörder, C. “Gypsum.” In *Brill’s New Pauly*. Leiden: Brill.

Iacopi, I., and G. Tedone. 2006. “Bibliotheca e Porticus ad Apollinis.” *RM* 112: 351–78.

Inan, J. 1990. “Eine hellenistische Tänzerin aus Perge.” In *Akten des XIII. Internationalen Kongresses für Klassische Archäologie: Berlin, 24.-30. Juli 1988*, 347–8. Mainz: P. von Zabern.

Ingold, T. 1992. “Culture and the perception of the environment.” In *Bush base: forest farm. Culture, environment and development*, edited by E. Croll and d. Parkin, 39–56. London ; New York : Routledge

———. 2007. “Materials against materiality.” *Archaeological Dialogues* 14 01: 1–16.

———. 2011. *Being Alive: Essays on Movement, Knowledge and Description*. London: Taylor & Francis Group.

Isager, J. 1991. *Pliny on art and society: the Elder Pliny’s chapters on the history of art*. Odense: Odense University Press.

Iser, W. 1974. *The implied reader; patterns of communication in prose fiction from Bunyan to Beckett.* Baltimore: Johns Hopkins University Press.

———. 1978. *The act of reading : a theory of aesthetic response*. Baltimore: Johns Hopkins University Press.

Işkan, H. 1998. “Der bronzene Jüngling aus dem Schwarzen Meer.” *AntP* 26: 91–100.

Jaffé, M. 1977. *Rubens and Italy*. Ithaca: Cornell University Press.

Jansen-Winkeln, K. 2014. *Inschriften der Spätzeit, Teil IV: Die 26. Dynastie*. 2 vols. Wiesbaden: Harrassowitz.

Jaros, S.A. 1993. “Roman copies of Greek sculpture and the problem of the ‘nobilia opera’” PhD Thesis, New York, Columbia University.

Jauss, H.R. c1982. *Toward an aesthetic of reception*. Minneapolis: University of Minnesota Press.

Jex-Blake, K. 1968 [1896]. *The Elder Pliny’s chapters on the history of art*. Reprint of 1896 ed. Chicago: Argonaut.

Johnson, F.P. 1931. “Sculpture 1896-1923.” *Corinth* 9 1: iii-161.

Jones, W.H.S., trans. 1935. *Pausanias. Description of Greece, Books VIII.22-X*. Cambridge, MA: Harvard University Press.

Kaschnitz von Weinburg, G. 1936. *Sculture del magazzino del Museo Vaticano, I-II.* Città del Vaticano.

Kekulé, R. 1895. “Review of Furtwängler (1893).” *Göttingische Gelehrte Anzeigen* 8: 625–43.

Kell, K. 1988. *Formuntersuchungen zu spät- und nachhellenistischen Gruppen*. Saarbrücken: Saarbrücker Druckerei und Verlag.

Kellum, B. 1985. “Sculptural programs and propaganda in Augustan Rome: the temple of Apollo on the Palatine.” In *The Age of Augustus*, edited by R. Winkes, 169–76. Providence, RI: Brown University Center for Old World Archaeology and Art.

Kemp, W., ed. 1985. *Der Betrachter ist im Bild: Kunstwissenschaft und Rezeptionsästhetik*. Erstveröff. DuMont Taschenbücher 169. Cologne: DuMont.

———. 1998. “The Work of Art and Its Beholder: The Methodology of the Aesthetic of Reception.” In *The Subjects of art history: historical objects in contemporary perspectives*, edited by M. Cheetham, M.A. Holly, and K.P.F. Moxey,180–96. Cambridge; New York : Cambridge University Press

Keuls, A.E. 1974. *The Water Carriers in Hades. A Study of Catharsis through Toil in Classical Antiquity*. Amsterdam: Hakkert.

King, A. 2000. “Thinking with Bourdieu against Bourdieu: A ‘Practical’ Critique of the Habitus.” *Sociological Theory* 18: 417–33.

Klein, W. 1921. *Vom antiken Rokoko*. Vienna: E. Hölzel.

Klemm, R., and D. Klemm. 2008. *Stones and quarries in Ancient Egypt*. London: the Trustees of the British Museum press.

Kluge, K. 1927. *Die antiken Grossbronzen*. Berlin: W. de Gruyter & co.

Koch, H. 1912. *Dachterrakotten aus Campanien : mit Ausschluss von Pompei*. Berlin: Georg Reimer.

Koch, L. 1994. *Weibliche Sitzstatuen der Klassik und des Hellenismus und ihre kaiserzeitliche Rezeption : die bekleideten Figuren*. Muenster: Lit.

Koch-Brinkmann, U., H. Piening, and V. Brinkmann. 2014a. “On the Rendering of Human Skin in Ancient Marble Sculpture.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 140–51. Odder, Denmark: Production, Narayana Press.

———. 2014b. “Girls and Goddesses.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 116–39. Odder, Denmark: Production, Narayana Press.

Konstam, N., and H. Hoffman. 2004. “Casting the Riace bronzes (2): a sculptor’s discovery.” *OJA* 23 4: 397–402.

Koortbojian, M. 2002. “Forms of Attention.” In *The ancient art of emulation: studies in artistic originality and tradition from the present to classical antiquity*, edited by E. Gazda. *MAAR* 1. Ann Arbor: University of Michigan Press.

Kopcke, G. 1964. “Golddekorierte attische Schwarzfirniskeramiks des vierten Jahrhunderts v. Chr.” *AM* 79: 22–84.

Krautheimer, R. 1953. “Ghiberti and the Antique.” *Renaissance News* 6 2 (July 1): 24–26.

Kreikenbom, D. 1990. *Bildwerke nach Polyklet: kopienkritische Untersuchungen zu den männlichen statuarischen Typen nach polykletischen Vorbildern: “Diskophoros”, Hermes, Doryphoros, Herakles, Diadumenos*. Berlin: Gebr. Mann.

Kurz, O. 1954. In *Nouvelles recherches archéologiques à Begram, ancienne Kâpici, 1939-1940; rencontre de trois civilisations, Inde, Grèce, Chine*, edited by Joseph Hackin, 137–40. Paris: Impr. nationale.

Kuttner, A. 2013. “Representing Hellenistic Numidia, in Africa and at Rome.” In *The Hellenistic West. Rethinking the Mediterranean,* edited by J. Prag and J. Quinn, 216–72. Cambridge: Cambridge University Press.

La Regina, A., ed. 2005. *Museo nazionale romano: Palazzo Massimo alle Terme, Terme di Diocleziano, Palazzo Altemps, Museo Palatino, Crypta Balbi*. Milan: Electa.

La Rocca, E. 1974. “Eirene e Ploutos” *JdI* 89: 112-36.

———. 1977. “L’Apollo ‘qui citharam... tenet’ di Timarchides: un frammento dal tempio di Apollo in circo.” *BollMC* 23: 16–33.

———. 1985. *Amazzonomachi. Le sculture frontonali del Tempio di Apollo Sosianus*. Rome.

———. 1987. *L’auriga dell’Esquilino*. Rome.

———. 1990. In *Roma e l’Italia*, edited by C. Ampolo, 429ff. Antica madre 13. Milan: Libri Scheiwiller.

———. 2008. “Gli affreschi della casa di Augusto e della villa della Farnesina: una revisione cronologica.” In *Le due patrie acquisite. Studi archeologia dedicati a Walter Trillmich,* edited by W. Trillmich, E. La Rocca, P. León, and C. Parisi Presicce, 223–242. Rome: L’Erma di Bretschneider.

———. 2010. “La maesta’ degli de’i come apparizione teatrale.” In *I giorni di Roma : l’età della conquista*, edited by E.La Rocca and C. Parisi Presicce, 95–114. Milan: Skira.

———. 2012. “La pietrificazione della memoria. I templi a Roma in eta’ medio-repubblicana.” In *"Sacra Nominis Latini". i santuari del Lazio arcaico e repubblicano : atti del Convegno Internazionale, Roma, Palazzo Massimo, 19-21 febbraio 2009*, edited by E. Marroni, 37-90. Naples: Loffredo.

La Rocca, E., and C. Parisi Presicce, eds. 2010a. *I giorni di Roma : l’età della conquista*. Milan: Skira.

———. 2010b. *Musei Capitolini: le sculture del palazzo nuovo.* Milan: Electa.

Lacau, P., and H. Chevrier. 1977. *Une chapelle d’Hatshepsout à Karnak.* Cairo: Service des antiquités de l’Egypte : Institut français d’archéologie orientale du Caire.

Lahusen, G., and E. Formigli. 1993. “Der Augustus von Meroë und die Augen der römischen Bronzebildnisse.” *AA*: 655–74.

———. 2001. *Römische Bildnisse aus Bronze: Kunst und Technik*. Munich: Hirmer Verlag.

Lakoff, G., and M. Johnson. 1980. *Metaphors We Live By*. Chicago and London: University of Chicago Press.

Lanciani, R.A. 1894. “Il ‘Palazzo Maggiore’ nei secoli XVI-XVIII.” *RM* 9: 3–36.

———. 1906. *La Villa Adriana*. Rome: Tip. della R. Accademia dei lincei.

Landwehr, C. 1982. *Griechische Meisterwerke in römischen Abgüssen : der Fund von Baia*. Frankfurt am Main : Liebieghaus Museum alter Plastik,.

———. 1984. *Capolavori greci in calchi romani: il rinvenimento di Baia e la tecnica delgi antichi copisti*. Naples: Soprintendenza Archeologica di Napoli e Caserta.

———. 1985. *Die Antiken Gipsabgüsse aus Baiae: griechische Bronzestatuen in Abgüssen römischer Zeit*. Berlin: Mann.

———. 1990. "Bronze grec original, moulage en platre, et copie romaine en marbre." In *Pierre éternelle du Nil au Rhin: carrières et préfabrication*, edited by M. Waelkens, 143–61. Brussels: Crédit communal.

———. 2000. *Die römischen Skulpturen von Caesarea Mauretaniae : Denkmäler aus Stein und Bronze. Vol. II, Idealplastik. Männliche Figuren*. Berlin: Gebr. Mann.

———. 2010. "The Baiae Casts and the Uniqueness of Roman Copies." In *Plaster casts : making, collecting, and displaying from classical antiquity to the present*, edited by R. Fredriksen and E. Marchand, 35–46. Berlin; New York: De Gruyter.

Lange, C.H. 2009. *Res Publica Constituta: Actium, Apollo and the Accomplishment of the Triumviral Assignment*. Leiden: Brill.

Lange-Berndt, P., ed. 2015. *Materiality. Documents of contemporary art*. Cambridge, MA: The MIT Press.

Lapatin, K.D.S. 2001. *Chryselephantine statuary in the ancient Mediterranean world*. Oxford: Oxford University Press.

———. 2015. *Luxus : the sumptuous arts of Greece and Rome*. Los Angeles: The J. Paul Getty Museum.

Lapatin, K.D.S., and J. Paul Getty Museum, eds. 2014. *The Berthouville silver treasure and Roman luxury*. Los Angeles: The J. Paul Getty Museum.

Lapuente, P., T. Nogales, P. Leon, H. Royo, and M. Preite-Martinez. 2012. "Black Sculptural Materials from Villa Adriana: Study of Provenance." In *Interdisciplinary Studies on Ancient Stone. Proceedings of the IX Association for the Study of Marbles and Other Stones in Antiquity (ASMOSIA) Conference (Tarragona 2009)*, edited by A. Gutiérrez Garcia-Moreno, P. Lapuente Mercadal, and I. Rodà de Llanza, 376–83. Tarragona: Institut Català d'Arqueologia Clàssica.

Laubscher, H.P. 1999. "Beobachtungen zu tetrarchischen Kaiserbildnissen aus Porphyr." *JdI* 114: 207–52.

Lauro, M.G. 1978. "La statua della Fortuna a Palestrina." *RendLinc* 33: 199–213.

Lazzarini, L. 1990. "Rosso Antico and Other Red Marbles Used in Antiquity: a Characterization Study." In *Marble: Art Historical and Scientific Perspectives on Ancient Sculpture*, edited by M. True and J. Podany, 237–52. Malibu: J. Paul Getty Museum.

———. 2004. "Marmor Taenarium (Rosso Antico), fortuna e diffusione, cavatura e lavorazione, caratterizzazione scientifica e provenienza di suoi manufatti." In *Studi di archeologia in onore di Gustavo Traversari*, edited by M. Fano Santi, 583–604. Rome: G. Bretschneider.

———. 2007. *Poikiloi lithoi, versiculores maculae: i marmi colorati della Grecia antica : storia, uso, diffusione, cave, geologia, caratterizzazione scientifica, archeometria, deterioramento*. Pisa: F. Serra.

———. 2010. “Review: Quarries in the region of Aphrodisias: the black and white marbles of Göktepe (Muğla), by D. Attanasio, M. Bruon, A. Yavuk.” *Marmora* 6: 169–71.

———. 2011. “Controreplica alla replica della mia recensione a ‘La realtà del marmo afrodisiense di Göktepe.’” *Marmora* 7: 123–4.

———. 2013. “A First Characterization of a New Bigio Antico Marble from a Hitherto Unknown Ancient Quarry at Aghios Petros (Tripolis-Peloponnesus).” In *Exempli gratia: Sagalassos, Marc Waelkens and interdisciplinary archaeology*, edited by J. Poblome, 141–52. Leuven: Leuven University Press.

Lazzarini, L., S. Cancelliere, and R. Pierobon. 2005. “Il marmo di Iaso. Cave, uso, caratterizzazione e indagini archeometriche.” In Iaso e la Caria. *La Parola del Passato*, 320–31.

Lazzarini, L., M. Agus, and S. Cara. 2006. “The ancient quarries of the Neri Antichi (black limestones) from Zeugitania (Tunisia).” *Marmora* 2: 58–70.

Leach, E.W. 2004. *The social life of painting in Ancient Rome and on the bay of the Naples*. New York: Cambridge University Press.

Lefèvre, E. 1989. *Das Bild-Programm des Apollo-Tempels auf dem Palatin*. Konstanz: Universitatsverlag.

Lembke, K. 1994a. *Das Iseum Campense in Rom.* Archaologie und Geschichte Band 3. Heidelberg: Verlag Archäologie und Geschichte.

———. 1994b. “Ein Relief aus Arriccia und seine Geschichte.” *RM* 101: 97–102.

Lepri, G. 2005. “L’architettura di palazzo Doria Pamphilj dal XV al XIX secolo.” In *Capolavori da scoprire: Colonna, Doria Pamphilj, Pallavicini,* edited by G. Lepri, 111–21. Milan: Skira.

León, P. 2008. “Nueva réplica de la Amazona Sciarra.” In *Le due patrie acquisite. Studi archeologia dedicati a Walter Trillmich*, edited by E. La Rocca, P. León, and C. Parisi Presicce, 243–53. Rome: L’Erma di Bretschneider.

Lidonnici, L.R. 1992. “The Images of Artemis Ephesia and Greco-Roman Worship: a Reconsideration.” *HTR* 85 4: 389–415.

Ling, R. 1991. *Roman painting*. New York: Cambridge University Press.

Lippold, G. 1923. *Kopien und Umbildungen griechischer Statuen*. Munich: Oskar Beck.

———. 1950. *Die griechische Plastik.* Handbuch der Archäologie 6. Munich: C.H. Beck.

Liverani, P. 1989. “L’antiquarium di Villa Barberini a Castel Gandolfo.” *AttiPontAcc* 61: 103–30.

———. 2010. “New Evidence on the Polychromy of Roman Sculpture.” In *Circumlitio : the polychromy of antique and medieval sculpture,* edited by V. Brinkmann, O. Primavesi, and M. Hollein, 290–302. Frankfurt am Main: Schriftenreihe der Liebieghaus Skulpturensammlung.

———. 2014. “The State of Research and Some Perspectives.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 48–53. Odder, Denmark: Production, Narayana Press.

Liverani, P., and U. Santamaria, eds. 2014. *Diversamente bianco: la policromia della scultura romana*. Rome: Edizioni Quasar.

Lizardo, O. 2004. “The Cognitive Origins of Bourdieu’s Habitus.” *Journal for the Theory of Social Behaviour* 34 4: 375–401.

Lloyd, A.B. 2010. “The Reception of Pharaonic Egypt in Classical Antiquity.” In *A companion to ancient Egypt*, edited by A. Lloyd, 1067–85. Oxford: Wiley-Blackwell.

Lollio Barberi, O., G. Parola, and M.P. Toti. 1995. *Le antichità egiziane di Roma imperiale*. Roma: Istituto poligrafico e Zecca dello Stato, Libreria dello Stato.

Lorenz, T. 1972. *Polyklet*. Wiesbaden: F. Steiner.

———. 2009. “Rilievo con teste virili.” In *L’antica Basilica di San Lorenzo in Damaso. Vol. 2, I materiali,* edited by C.L. Frommel and M. Pentiricci, 99–101. Rome: De Luca.

Löwy, E. 1885. *Inschriften griechischer Bildhauer*. Leipzig: B. G. Teubner.

Lugli, G. 1946a. *Roma antica, il centro monumentale*. Rome: G. Bardi.

———. 1946b. *NSc*: 60ff.

———. 1965. “Il tempio di Apollo Aziaco e il gruppo augusteo sul Palatino.” In G. Lugli, *Studi minori di topografia antica*, 258–90. Rome: De Luca.

Maderna-Lauter, C. 1993. “Polyklet in hellenistischer und römischer Zeit.” In *Polyklet*, edited by Herbert Beck and Peter Bol, 298–327. Berlin: Gebr. Mann.

———. 1994. “Statuen-Replik des ‘weissen’ Marsyas.” In *Forschungen zur Villa Albani. Katalog der antiken Bildwerke, 4. Bildwerke im Kaffeehaus*, edited by P. Bol, 292–8. Berlin: Mann.

———. 1999. “Überlegungen zum roten und zum weissen Marsyas.” In *Hellenistische Gruppen: Gedenkschrift für Andreas Linfert*, 115–40. Mainz am Rhein: Phillip von Zabern.

Mankowitz, W. 1953. *Wedgwood ware.* London: Batsford.

Mansuelli, G. 1958. *Galleria degli Uffizi. Le sculture Vol. I*. Rome: Instituto Poligrafico dello Stato.

———. 1961. *Galleria degli Uffizi. Le sculture Vol. II.* Rome: Instituto Poligrafico dello Stato.

Marchini, G. 1973a. “Nella bottega di Donatello.” *Prato, Storia e Arte* 38: 5–10.

———. 1973b. “Calchi donatelliani.” In *Festschrift Klaus Lankheit: zum 20. Mai 1973,* edited by K. Lankheit and W.Hartman, 132–4. Cologne: DuMont Schauberg.

Marconi, P. 1930. “La scultura e la plastica nella Sicilia Antica.” *Historia* 4: 645–74.

Mari, Z. 2002. March. “L’Antinoeion di Villa Adriana: risultati della prima campagna di scavo.” *RendPontAcc* 75 (March): 145–85.

———. 2003. “L’Antinoeion di Villa Adriana: risultati della seconda campagna di scavo.” *RendPontAcc* 76: 263–314.

———. 2006. “La tomba-tempio di Antinoo a Villa Adriana.” In *Suggestioni egizie a Villa Adriana*, edited by Benedetta Adembri, 35–45. Milan: Electa.

———. 2008. “I ‘luoghi egizi’ di Villa Adriana: l’Antinoeion e la Palestra.” In *La lupa e la sfinge. Roma e l’Egitto dalla storia al mito*, edited by E. Lo Sardo, 122–31. Milan: Electa.

———. 2010. “L’Egitto a Villa Adriana: l’Antinoeion e la cosidetta Palestra.” In *Villa Adriana. Una storia mai finita (Cataloga della mostra, Tivoli, 1 aprile-1 novembre 2010)*, edited by M. Sapelli Ragni, 129–37. Milan: Electa.

———. 2012. “Antinoo a Villa Adriana.” In *Antinoo. Il fascino della bellezza*, edited by M. Sapelli Ragni, 78–91. Milan: Electa.

Mari, Z., and S. Sgalambro. 2006. “Tivoli. Villa Adriana. Il complesso della Palestra.” In *Lazio e Sabina: Atti del III incontro di studi sul Lazio e la Sabina, Roma, 18-22 novembre 2004*, edited by G. Ghini, 53–68. Rome: De Luca.

Mari, Z., and S. Sgalambro. 2007. “The Antinoeion of Hadrian’s Villa: Interpretation and Architectural Reconstruction.” *AJA* 111 1: 83–104.

Martín, F.M., M.C.L. de Azcona, and M.A. Elvira. 1987. “Petrología arqueológica de esculturas procedentes de la villa romana de Valdetorres de Jarama (Madrid).” *Revista de materiales y procesos geológicos* 5: 45–70.

Martin, H.G. 1987. *Römische Tempelkultbilder : eine archäologische Untersuchung zur späten Republik*. Rome: “L’Erma” di Bretschneider.

Martini, W. 1984. *Das Gymnasium von Samos*. Bonn: In Kommission bei R. Habelt.

Marvin, M. 1997. “Roman Sculptural Reproductions or Polykleitos.” In *Sculpture and Its Reproductions*, edited by A. Hughes and E. Ranft, 7–28. London: Reaktion Books.

———. 2008. *The language of the muses : the dialogue between Roman and Greek sculpture*. Los Angeles: J. Paul Getty Museum.

Mattusch, C. 1977a. “Bronze and ironworking in the area of the Athenian Agora.” *Hesperia* 46: 340–79.

———. 1977b. “Corinthian metalworking: the Forum area.” *Hesperia* 46: 380–89.

———. 1978. “The Bronze Torso in Florence: An Exact Copy of a Fifth-Century B.C. Greek Original.” *AJA* 82: 101–4.

———. 1980. “The Berlin Foundry Cup: the casting of Greek bronze statuary in the early fifth century BC.” *AJA* 84: 435–44.

———. 1988. *Greek bronze statuary : from the beginnings through the fifth century B.C*. Ithaca, NY: Cornell University Press.

———. 1996. *Classical bronzes: the art and craft of Greek and Roman statuary*. Ithaca: Cornell University Press.

———. 2002. "In Search of the Greek Bronze Original." *MAAR*. Supplementary Volumes 1: 99–115.

———. 2003. "Corinthian Bronze. Famous, but Elusive." In *Corinth, the Centenary: 1896-1996*, edited by C. Williams and N. Bookidis, 219–232. Princeton: Princeton University Press.

———. 2005. *The Villa dei Papiri at Herculaneum : life and afterlife of a sculpture collection*. Los Angeles: J. Paul Getty Museum.

———. 2008. "Metalworking and Tools." In *The Oxford Handbook of Engineering and Technology in the Classical World*, edited by J.P. Oleson, 569–95. Oxford: Oxford University Press.

———., ed. 2011. *Johann Joachim Winckelmann. Letter and Report on the discoveries at Herculaneum*. J. Paul Getty Museum.

———. 2015. "Bronzes." In *The Oxford handbook of Roman sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 139–54. New York, NY: Oxford University Press.

Mau, A. 1877. "Scavi di Pompei." *BdI* 49.

McLuhan, M. 1964. *Understanding media : the extensions of man*. New York : New American Library.

Menninger, M. 1996. Untersu*chungen zu den Gläsern und Gipsabgüssen aus dem Fund von Begram (Afghanistan).* Würzburg: ERGON.

Meomartini, A. 1904. *NSc*: 112, 130–31.

Mercando, L. 1995. "Sculture greco-romane provenienti dell'Egitto nel Museo di Antichità di Torino." In *Alessandria e il mondo ellenistico-romano : 1. centenario del Museo greco-romano : Alessandria, 23-27 novembre 1992 : atti del 2. Congresso internazionale italo-egiziano.* Rome: L'Erma di Bretschneider.

de Mèredieu, F. 1994. *Histoire matérielle & immatérielle de l'art moderne*. Paris: Larousse.

Merker, G.S. 1973. *The Hellenistic sculpture of Rhodes.* Studies in Mediterranean archaeology. Gothenburg: Sodra Vagen.

Meyer, H. 1987. *Der weisse und der rote Marsyas : eine kopienkritische Untersuchung*. Munich: W. Fink.

———. 1991. *Antinoos: die archäologischen Denkmäler unter Einbeziehung des numismatischen und epigraphischen Materials sowie der literarischen Nachrichten: ein Beitrag zur Kunst- und Kulturgeschichte der hadrianisch-frühantoninischen Zeit*. Munich: W. Fink.

Michaelis, A. 1886. "Die sogennanten ephesischen amazonenstatues." *JdI* I: 14–74.

Michelucci, M., ed. 2006. *Apoxyomenos: l'atleta della Croazia*. 1. ed. Florence: Giunti.

Miles, M.M. 2008. *Art as plunder: the ancient origins of debate about cultural property*. New York: Cambridge University Press.

Milizia, F. 1827. *Dizionario delle belle arti disegno*. Bologna: Cardinali e Frulli.

Millar, F. 2002. *Rome, the Greek World, and the East: Government, society, and culture in the Roman Empire*. Chapel Hill: University of North Carolina Press.

Mitchell, W.J.T. 1994. *Picture Theory.* Chicago: University of Chicago Press.

Moesch, V. 1999. "Groupe des Niobides." In *Hadrien: tresors d'une villa imperiale*, edited by J. Charles-Gaffiot and H. Lavagne, 373–74. Milan: Electa.

———. 2000. "Gruppo di Niobidi." In *Adriano. architettura e progetto*, 230–231. Milan: Electa.

Moltesen, M. 2002. *Imperial Rome II, statues : catalogue, Ny Carlsberg Glyptotek*. Copenhagen: Ny Carlsberg Glyptotek.

———. 2007a. "The portrait head and its reworking." In *Agrippina Minor : life and afterlife = liv og eftermæl*e, edited by M. Moltesen and M. Nielsen, 139–50. Copenhagen: Ny Carlsberg glyptotek.

———. 2007b. "Agrippina Minor in the Montemartini: the statue type." In *Agrippina Minor : life and afterlife = liv og eftermæle*, edited by M. Moltesen and M. Nielsen, 123–38. Copenhagen: Ny Carlsberg glyptotek.

Morawietz, G. 2000. *Der gezähmte Kentaur : Bedeutungsveränderungen der Kentaurenbilder in der Antike*. Munich: Biering & Brinkmann.

———. 2005. "Die Kentauren des Aristeas und Papias und die Repliken der beiden Statuentypen." *AntP* 29: 47–67.

Moreno, P. 1994. *Scultura ellenistica*. 2 vols. Rome: Istituto Poligrafico e Zecca dello stato.

———. 1995. *Lisippo: l'arte e la fortuna*. Milan: Fabbri Editore.

Morgan, L. 2011. "Enlivening the Body. Color and stone statues in Old Kingdom Egypt." *Source. Notes in the History of Art* 30.3: 4–11.

Mori, F. 1806. *Sculture del Museo capitolino*. Rome: [s.n.].

Moss, C.F. 1988. "Roman marble tables. (Volumes I-IV)." PhD thesis, New Jersey: Princeton University.

Müskens, S.W.G. 2017. "Egypt beyond representation: materials and materiality of Aegyptiaca Romana". PhD thesis published in Archaeological studies Leiden University; 35. Leiden: Leiden University Press.

Naas, V. 1996. "L'art grec dans l'Histoire naturelle de Pline l'Ancien." *Histoire de l'art* 35/36: 15–26.

———. 2002. *Le projet encyclopédique de Pline l'ancien*. Rome: Ecole française de Rome.

Nagel, A. 2011. *The controversy of Renaissance art*. Chicago: University of Chicago Press.

———. 2014. “Colour in Ancient Near Eastern and Egyptian Sculpture.” In *Transformations. Classical Sculpture in Colou*r, edited by J. Stubbe Østergaard and A.M. Nielsen, 54–69. Odder, Denmark: Production, Narayana Press.

Napoleone, C., ed. 2001. *Delle pietre antiche di Faustino Corsi romano*. Milan: F.M. Ricci.

Napoli, M. 1954. “Una nuova replica della Sosandra di Calamide.” *BdA* 39: 1–10.

Naumann, F. 1983. *Ikonographie der Kybele in der phrygischen und griechischen Kunst*. *IstMittBH* 28. Tübingen: E.Wasmuth.

Neer, R. 2004. “The Athenian Treasury at Delphi and the Material of Politics.” *ClAnt* 23 1: 63–93.

Neils, J. 2008. “‘Women are white’: White ground and the Attic funeral.” In *Papers on Special Techniques in Athenian Vases*, edited by K. Lapatin. Los Angeles: J. Paul Getty Museum.

Neudecker, R. 1988. *Die Skulpturenausstattung römischer Villen in Italien*. Mainz am Rhein: P. von Zabern.

Neuerburg, N. 1974. “The New J. Paul Getty Museum.” *Archaeology* 27 3: 175–81.

———. 1977. “Building the J. Paul Getty Museum - a Personal Account.” *Classical America* 4: 63.

Neumeister, C. 1993. “Polyklet in der ro:mischen Literatur.” In *Polyklet*, edited by H. Beck and Peter Bol, 428–49. Berlin: Gebr. Mann.

Newby, Z. 2016. *Greek Myths in Roman Art and Culture: Imagery, Values and Identity in Italy, 50 BC–AD 250*. Cambridge University Press.

Nicolaou, K. 1972. “Archaeological News from Cyprus , 1970.” *AJA* 76 3: 311–20.

Nogara, B. 1933. RendPontAcc 9: 70–71.

———. 1934. “Recenti scoperti di statuaria classica nella villa papale di Castel Gandolfo già Barberini.” In *Atti III Congresso Nazionale di Studi Romani*, edited by C. Galassi Paluzzi, 31–8. Bologna: L. Capelli.

Nolte, S. 2006. *Steinbruch - Werkstatt - Skulptur : Untersuchungen zu Aufbau und Organisation griechischer Bildhauerwerkstätten*. Göttingen: Edition Ruprecht.

Nota Santi, M., and M.G. Cimino. 1991. *Museo Barracco, Roma*. Rome: Istituto poligrafico e Zecca dello Stato, Libreria dello Stato.

Olszewski, E.J. 2012. “Praxiteles’ ‘Apollo’ and Pliny’s ‘Lizard Slayer.’” *Source: Notes in the History of Art* 31 2: 2–9.

d’Onofrio, C., ed. 1969. *Roma nel Seicento: “Roma ornata dall”architettura, pittura e scoltura’ di Fioravante Martinelli*. Florence: Vallecchi.

Orsi, P. 1913. “Piccoli bronzi e marmi inediti del Museo di Siracusa.” *Ausonia* 8: 44-75.

Østergaard, J.S. 2014. “Transformations. Classical Sculpture in Colour.” In *Transformations. Classical Sculpture in Colour*, edited by J.Stubbe Østergaard and A.M. Nielsen, 12–21. Odder, Denmark: Production, Narayana Press.

———. 2015. “Identical Roman copies? Diversification through color.” In *Serial/portable classic*, 113–17. Milan: Fondazione Prada.

Østergaard, J.S., M.L. Sargent, and R.H. Therkildsen. 2014. “The polychromy of Roman ‘ideal’ marble sculpture of the 2nd century CE.” In *Diversamente bianco: la policromia della scultura romana*, edited by P. Liverani and U. Santamaria, 51–69. Rome: Edizioni Quasar.

Overbeck, J.A. 1857. *Geschichte der griechischen Plastik*. 1st ed. Leipzig: J.C. Hinrichs.

———. 1869. *Geschichte der griechischen Plastik*. 2nd ed. Leipzig: J.C. Hinrichs.

———. 1881. *Geschichte der griechischen Plastik*. 3rd ed. Leipzig: J.C. Hinrichs.

———. 1893. *Geschichte der griechischen Plastik*. 4th ed. Leipzig: J.C. Hinrichs.

Palagia, O. 1989. “A Classical Variant of the Corinth/Mocenigo Goddess: Demeter/Kore as Athena?” *BSA* 84: 323–31.

———. 2003. “Did the Greeks use a pointing machine?” *BAC* 30: 55–64.

———. 2006. “Marble Carving Techniques.” In *Greek sculpture: function, materials, and techniques in the archaic and classical periods*, edited by O. Palagia, 243–79. New York, NY: Cambridge University Press.

Pandermalis, D. 1971. “Zur Programm der Statuenausstattung in der Villa dei Papiri.” *AM* 86: 173–209.

Pape, M. 1975. “Griechische Kunstwerke aus Kriegsbeute und ihre öffentliche Aufstellung in Rom: von der Eroberung von Syrakus bis in augusteische Zeit.” Ph.D. thesis, Hamburg: [s.n.].

Paribeni, E. 1951. “Una ipotesi sul cosi’ detto ‘Auriga dei Conservatori.’” *BullCom* 74: 13–18.

———. 1953. *Museo Nazionale Romano. Sculture greche del v secolo, originali e repliche*. Rome: Libreria dello Stato.

Paribeni, E. “Persefone regina”1955. *BdA* 40: 97-102.

Paribeni, R. 1932. *Le Terme di Diocleziano e il Museo Nazionale Romano*. 2a ed. Le Guide dei Musei Italiani. Rome: La Libreria dello Stato.

Parker, R. 1983. *Miasma : pollution and purification in early Greek religion*. Oxford: Clarendon Press.

Parlasca, K. 2003. “Ägyptisierende Tempelreliefs und Architecturelemnte aus Rom.” In *Isis en Occident: Actes du IIème Colloque international sur les études isiaques, Lyon III 16-17 mai 2002*, edited by L. Bricault and M.J. Versluys, 405–20. Religions of the Graeco-Roman World 159. Leiden: Brill.

———. 2007. “Aphrodite Kallipygos. Ihre kunstarchäologische Stellung un Aspekte ihrer Rezeption.” In *Zentren und Wirkungsräume der Antikenrezeption. Zur Bedeutung von Raum und Kommunikation*

für die neuzeitliche Transformation der griechisch-römischen Antike, edited by K. Schade, D. Rößler, and A. Schäfer, 223–234. Muenster.

Pasquier, A. 2004. “Le type statuaire de l’Héra Borghèse au Musée du Louvre.” CRAI 711–742.

Pastoureau, M. 2001. *Blue: the history of a color.* Princeton: Princeton University Press.

———. 2009. *Black: the history of a color*. Princeton: Princeton University Press.

———. 2014. *Green: the history of a color*. Princeton: Princeton University Press.

———. 2017. *Red: the history of a color.* Princeton: Princeton University Press.

Peacock, D.P.S., and V.A. Maxfield, eds. 1997. *Mons Claudianus : survey and excavation, 1987-1993*. 3 vols. Cairo: Institut français d’archéologie orientale.

Penna, A. 1833. *Viaggio pittorico della Villa Adriana*. Rome: Aureli.

Pensabene, P. 1976. “Fregio in marmo nero da Villa Adriana.” *ArchCl* 28: 126–60.

———. 1991. “Il Tempio dell Vittoria sul Palatino.” *BdA* 11: 11–51.

———. 1997. “Elementi architettonici dalla casa di Augusto sul Palatino.” *RM* 104: 149–92.

———. 2002a. “Il fenomeno del marmo nel mondo Romano.” In *I marmi colorati* 3–67. Venice: Marsilio.

———. 2002b. “Lo ‘spiccato’ in marmo della Villa di Domiziano a Sabaudia.” In *I marmi colorati*, 157–61.

———. 2002c. “La casa di Augusto sul Palatino.” In *I marmi colorati*, 437–9.

———. 2009. “‘Canopo’ di Villa Adriana. Programmi tematici, marmi e officine nell’arredo statuario.” *ASAtene* 87: 381–424.

———. 2011. “Arredo statuario del Canopo.” In *Lazio e Sabina. Atti del convegno : settimo Incontro di studi sul Lazio e la Sabina, Roma, 9-11 marzo 2010,* edited by G. Ghini and Z. Mari, 7:.

———. 2013. *I marmi nella Roma antica*. Rome: Carocci.

———. *forthcoming*. *Scavi del Palatino II. Culti, architettura, e decorazione*.

Pensabene, P., and L. Lazzarini. 1998. “Il problema del bigio antico e del bigio morato: contributo allo studio delle cave di Teos e di Chios.” In *Marmi antichi II: cave e tecnica di lavorazione, provenienze e distribuzione,* edited by P. Pensabene and A. Alvarez i Pérez. Rome: “L’Erma” di Bretschneider.

Perdu, O. 2006. “Documents relatifs aux gouverneurs du Delta au début de la XXVIe dynastie.” *RÉg* 57: 151–88.

Perez Die, M. del C. 1985. *Museo Arqueologico Nacional : guia didactica : Egipto y Proximo Oriente*. Madrid: Museo Arqueologico Nacional.

Pergola, S. 2002. “La ritrattistica imperiale. Significato e uso di alcuni marmi colorati nella ritrattistica imperiale.” In *I marmi colorati* 321–22.

Perry, E. 2005. *The aesthetics of emulation in the visual arts of ancient Rome*. Cambridge: Cambridge University Press.

———. 2012. “The same, but different: the Temple of Jupiter Optimus Maximus through time.” In *Architecture of the Sacred. Space, Ritual, and Experience from Classical Greece to Byzantium*, edited by B. Westcoat and R. Ousterhout, 175–200. Cambridge: Cambridge University Press.

Pfanner, M. 1989. “Über das Herstellen von Porträts. Ein Beitrag zu Rationalisierungsmaßnahmen und Produktionsmechanismen von Massenware im späten Hellenismus und in der römischen Kaiserzeit.” *JdI* 104: 157.

———. 2014. “The Limits of Ingenuity: Ancient copyists at work.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 101–5. Odder, Denmark: Production, Narayana Press.

Pietrangeli, C. 1963. *Museo Barracco di scultura antica : guida*. Rome: SPQR.

Pinch, G. 2001. “Red Things: The Symbolism of Colour in Magic.” In *Colour and painting in ancient Egypt*, edited by W.V. Davies, 182-5. London: British Museum Press.

Pinza, G. 1910. “Il tempio di Apollo Palatino.” *BullCom* 38: 3–41.

———. 1913. “Nuovi osservazioni intorno al tempio di Apollo Palatino.” *BullCom* 41: 199–224.

———. 1914. “Alcune osservazioni topografiche sul tempio di Apollo Palatino.” *DissPontAcc*: 192–4.

Piranesi, G.B., and F.A. Sebastiani. 1828. *Viaggio a Tivoli fatto nel 1825*. Fuligno: Tomassini.

Pollitt, J.J. 1974. *The ancient view of Greek art: criticism, history, and terminology*. New Haven: Yale University Press.

———. 1978. “The Impact of Greek Art on Rome.” *TAPA* 108 (January 1): 155–174.

Popkin, M. 2015. “Decorum and the Meanings of Materials in Triumphal Architecture of Republican Rome.” *JSAH* 74: 289–311.

Potts, A. 1980. “Greek Sculpture and Roman Copies I: Anton Raphael Mengs and the Eighteenth Century.” *JWarb* 43: 150–73.

Poulsen, W.H. 1937. *Der Strenge Stil*. Acta Archaeologica VIII. Copenhagen: Levin & Munksgaard.

Pritchard, D.M. 1999. “Fool’s gold and silver: reflections on the evidentiary status of finely painted Attic pottery.” *Antichthon* 33: 1–32.

Puerta, C., T. Artigas, and M.Á. Elvira. 1994. *La colección de esculturas hallada en Valdetorres de Jarama*. Madrid: Inst. Diego Velázquez.

Quenemoen, C.K. 2006. “The Portico of the Danaids: A New Reconstruction.” *AJA* 110 2: 229–250.

Raeder, J. 1983. *Die statuarische Ausstattung der Villa Hadriana bei Tivoli*. Frankfurt: Peter Lang.

Rakob, F., ed. 1994. *Simitthus II. Der Tempelberg und das römische Lager*. Mainz am Rhein: P. von Zabern.

Ramsay, G.G., trans. 1950. *Juvenal and Persius*. Cambridge, MA: Harvard University Press.

Rastrelli, A., and A. Romualdi, eds. 1996. *Bronzi greci e romani dalle collezioni del Museo archeologico nazionale di Firenze: guida alla mostra*. Florence: Edizioni Polistampa.

Rea, R., and M.A. Tomei, eds. 2011. *Nerone*. Milan: Electa.

Reinsberg, C. 1980. *Studien zur hellenistischen Toreutik : die antiken Gipsabgüsse aus Memphis*. Hildesheim: Gerstenberg.

Reisner, G.A. 1931. *Mycerinus: the temples of the third pyramid at Giza*. Cambridge, MA: Harvard University.

Renberg, G. 2010. "Hadrian and the Oracles of Antinous (SHA, Hadr. 14.7); with an appendix on the so-called Antinoeion at Hadrian's Villa and Rome's Monte Pincio Obelisk." *MAAR* 55: 159–98.

———. 2017. *Where Dreams May Come: Incubation Sanctuaries in the Greco-Roman World*. Leiden: Brill.

Renfrew, C. 2001. "Symbol before concept, material engagement and the early development of society." In *Archaeological Theory Today*, edited by I. Hodder, 122–40. Cambridge: Polity.

———. 2004. "Towards a Theory of Material Engagement." In *Rethinking materiality : the engagement of mind with the material world*, edited by E. DeMarrais, C. Gosden, and C. Renfrew, 23–31. Oakville, CT: Oxbow Books.

Renger, M.O. 1969. "The Providence Niobid Sarcophagus." *AJA* 73: 179-84.

Reuterswärd, P. 1960. *Studien zur Polychromie der Plastik*. Stockholm: Almqvist & Wiksell.

Richmond, O.A. 1914. "The Augustan Palatium." *JRS* 4: 194–220.

Richter, G.M.A. 1925. "A Neo-Attic Krater in the Metropolitan Museum of Art." *JHS* 45: 201–209.

———. 1928. "Were the Nude Parts in Greek Marble Sculpture Painted?" *MMS* I: 25–31.

———. 1944. "Polychromy in Greek Sculpture, with Special Reference to the Archaic Gravestones in the Metropolitan Museum." *AJA* 48: 327–36.

———. 1954. *Catalogue of Greek sculptures in the Metropolitan Museum of Art*. Cambridge: Published for the Museum by Harvard University Press.

———. 1958. "Ancient Plaster Casts of Greek Metalware." *AJA* 62 4: 369–377.

———. 1959a. "Pliny's Five Amazons." *Archaeology* 12: 111–15.

———. 1959b. “A Plaster Cast of a Horse’s Nose-Piece.” *Record of the Art Museum, Princeton University* 18 2: 53–59.

———. 1962. “How were the Roman Copies of Greek Portraits Made?” *RM* 69: 52–8.

———. 1970. “An Aristogeiton from Baiae.” *AJA* 74 3: 296–297.

Ridgway, B.S. 1966. “Stone and Metal in Greek Sculpture.” *Archaeology* 19: 31–42.

———. 1970. *The severe style in Greek sculpture*. Princeton: Princeton University Press.

———. 1974. “A Story of Five Amazons.” *AJA* 78: 1–17.

———. 1977. *The archaic style in Greek sculpture.* Princeton: Princeton University Press.

———. 1981. *Fifth century styles in Greek sculpture*. Princeton: Princeton University Press.

———. 1984. *Roman copies of Greek sculpture : the problem of the originals*. Ann Arbor: University of Michigan Press.

———. 1990a. *Hellenistic sculpture I: The Styles of ca. 331-200 B.C*. Madison, Wis: University of Wisconsin Press.

———. 1990b. “Metal Attachments in Greek Marble Sculpture.” In *Marble: Art Historical and Scientific Perspectives on Ancient Sculptures*, edited by J. Podany and M. True, 180–206. Malibu, CA: J. Paul Getty Museum.

———. 1995. “Paene ad exemplum: Polykleitos’ Other Works.” In *Polykleitos, the Doryphoros, and tradition*, edited by W. Moon, 177–99. Wisconsin studies in classics. Madison: University of Wisconsin Press.

———. 1997. *Fourth-century styles in Greek sculpture*. Madison: University of Wisconsin Press.

———. 2000. *Hellenistic sculpture II: The Styles of ca. 200-100BC*. Madison, Wis: University of Wisconsin Press.

———. 2002. *Hellenistic sculpture III: The Styles of ca. 100-31BC*. Madison, Wis: University of Wisconsin Press.

———. 2015. “Review: Jens M. Daehner, Kenneth Lapatin (ed.), Power and Pathos: Bronze Sculpture of the Hellenistic World.” *BMCR* 2015.09.02.

———. 2016. “Review of: Response: Ridgway on Barr-Sharrar on Ridgway on Daehner and Lapatin, Power and Pathos.” *BMCR* 2016.02.47.

Risser, E., ed. 2013. *Restorations of Ancient Bronzes. Naples and Beyond.* Los Angeles: Getty.

Robert, C. 1919. *Die Antiken Sarkophagreliefs III*. Berlin: G. Grote.

Robertson, M. 1985. “Beazley and Attic Vase Painting.” In *Beazley and Oxford: lectures delivered in Wolfson College, Oxford, 28 June 1985*, edited by D. von Bothmer, d. Kurtz, and B. Ashmole, 20–26. Oxford: Oxford Univeristy Committee for Archaeology.

Robins, G. 2001. “Color Symbolism.” In *The Oxford Encyclopedia of Ancient Egypt*, edited by D. Redford, 1:291–94. Oxford: Oxford University Press.

Rockwell, P. 1991. “Aphrodisias: unfinished statuary associated with a sculptor’s studio.” In *Aphrodisias Papers 2. The Theatre, a Sculptor’s Workshop, Philosophers, and Coin-types*, edited by R.R.R. Smith and K.T. Erim, 127–43. *JRA* Supplementary Series 2. Providence, RI: Journal of Roman Archaeology.

———. 1993. *The art of stoneworking : a reference guide*. New York: Cambridge University Press.

———. 2003. “The Creative Reuse of Antiquity.” In *History of restoration of ancient stone sculptures*, edited by J. Burnett Grossman, J. Podany, and M. True, 75–85. Los Angeles: J. Paul Getty Museum.

Rohden, H. von, and H. Winnefeld. 1911. *Architektonische römische Tonreliefs der Kaiserzeit*. 2 pt. Berlin: Spemann.

Rolley, C. 1983. *Les bronzes grecs.* Fribourg, Suisse: Office du Livre.

———. 1990. “Les bronzes grec et romains: recherches récentes.” *RA* 2: 343–56.

———. 1994. *La sculpture grecque, 1 and 2. Les Manuels d’art et d’archéologie antiques*. Paris: Picard.

Romeo, P. 2006. “L’Egitto al tempo dei Romani.” In *Suggestioni egizie a Villa Adriana*, edited by B. Adembri, 21–33. Milan: Electa.

Rosa, P. 1865. “Scavi del Palatino.” *AdI*: 346-67.

———. “Sulle recenti scoperte palatine.” 1869. *BdI*: 67.

———. 1873. *Sulle scoperte archeologiche della città e provincia di Roma negli anni 1871-72*. Rome: Regia Tipografia.

Roullet, A. 1972. *The Egyptian and Egyptianizing monuments of imperial Rome*. Etudes préliminaires aux religions orientales dans l’Empire romain 20. Leiden: Brill.

Rouveret, A., S. Dubel, and V. Naas, eds. 2006. *Couleurs et matières dans l’antiquité: textes, techniques et pratiques.* Etudes de littérature ancienne 17. Paris: Editions Rue d’Ulm.

Rubensohn, O. 1911. *Hellenistisches Silbergerät in antiken Gipsabgüssen*. Berlin: K. Curtius.

Rumpf, A. 1939. “Der Idolino.” *Critica d’Arte* 4: 17–27.

———. 1950. “Die schönsten Statuen Winckelmanns.” In *Miscellanea academica berolinensia* II 2, 31–43. Berlin: Akademie-Verlag.

Russell, B. 2013. *The economics of the Roman stone trade*. Oxford: Oxford University Press.

Russman, E. 2010. “Late Period Sculpture.” In *A Companion to Ancient Egypt*, edited by A. Lloyd, vol. II: 944–69. Chichester, West Sussex: Wiley-Blackwell.

Rutledge, S.H. 2012. *Ancient Rome as a museum : power, identity, and the culture of collecting*. Oxford: Oxford University Press.

Säflund, G. 1963. *Aphrodite Kallipygos*. Acta Univ. Stockolmiensis 3. Stockholm.

Salza Prina Ricotti, E. 2001. *Villa Adriana: il sogno di un imperatore*. Rome: “L’Erma” di Bretschneider.

Santangeli Valenzani, R., and R. Volpe. 1986. “Domus Tiberiana. Lo scavo del bastione Farnesiano.” *BullCom* 91, 2: 463-67.

Sargent, M.L. 2012. “Investigations into the polychromy of some 5th century BCE Etruscan architectural terracottas.” In *Tracking Colour. The polychromy of Greek and Roman sculpture in the Ny Carlsberg Glyptotek Preliminary Report*, edited by J. Stubbe Ostergaard, vol. 4: 26–44.

Sargent, M.L., and R.H. Therkildsen. 2010. “The Technical Investigations of Sculptural Polychromy at the Ny Carlsberg Glyptotek 2009-2010 - An Outline.” In *Tracking Colour. The polychromy of Greek and Roman sculpture in the Ny Carlsberg Glyptotek, Preliminary Report*, edited by J. Stubbe Ostergaard, vol. 2, 11–26.

Sartorio, R., U. Bellwald, and D. Ugolini, eds. 1985. *Domus Tiberiana: nuove ricerche: studi di restauro*. Veröffentlichungen des Instituts für Denkmalpflege an der Eidgenössischen Technischen Hochschule Zürich Bd. 5. Rome: L’Erma di Bretschneider.

Scatozza Höricht, L.A. 1982. “Restauri alle collezioni del Museo Ercolanese di Portici alla luce di documenti inediti.” *Atti dell’Accademia Pontaniana* 31: 495–540.

Schäfer, T. 1979. “Das Siegesdenkmal vom Kapitol.” In *Die Numider : Reiter und Könige nördlich der Sahara : ein Jugendführer*, edited by G. Walzik, 243–50. Bonn: R. Habelt.

Schlörb, B. 1964. *Untersuchungen zur Bildhauergeneration nach Phidias*. Waldsassen; Bayern: Stiftland-Verlag.

Schmidt, E.E. 1973. *Die Kopien der Erechtheionkoren*. Berlin: Mann.

Schneider, R.M. 1986. *Bunte Barbaren: Orientalenstatuen aus farbigem Marmor in der römischen Repräsentationskunst*. Worms: Wernersche Verlagsgesellschaft.

———. 2001. “Coloured Marble. The splendour and power of imperial Rome.” *Apollo. The International Magazine of the Arts*: 3–10.

———. 2002. “Nuove immagini del potere romano. Sculture di marmo colorato nell’Impero romano.” In *I marmi colorati*, 83–106.

Schöller, F.M. 1969. *Darstellungen des Orpheus in der Antike*. Freiburg.

Schraudoph, E. 2007. “Beispiele hellenistischer Plastik der Zeit zwischen 190 und 160 v.Chr.” In *Die Geschichte der antiken Bildhauerkunst* 3,[2], edited by P.C. Bol, 236–7. Mainz: Phillip von Zabern.

Schürmann, W. 1985. *Typologie und Bedeutung der Stadtrömischen Minerva-Kultbilder*. Rome: Bretschneider.

Schweighauser, P. 2014. “Relations Between Media.” In *The Johns Hopkins guide to digital media*, edited by M.-L. Ryan, 424–7. Baltimore: Johns Hopkins University Press.

Schwiete, H.E., and A.N. Knauf. 1969. *Gips: alte und neue Erkenntnisse in der Herstellung und Anwendung der Gipse*. Merziger Druckerei und Verl.

Sellers, E. 1896. *The Elder Pliny’s chapters on the History of Art*. Translated by K. Jex-Blake with commentary and historical introduction by E. Sellers. London: Macmillan.

Sestieri, P.C. 1953. “Peplophoros.” *ArchCl* 5: 23–33.

Settis, S. 1992. “Fortuna del Diadoumenos: I testi.” *NumAntCl* 21: 51–68.

———. 1999. *Laocoonte, fama e stile*. Rome: Donzelli.

Sieveking, J. 1926. *AA*: 334–40.

Skovmøller, A., and R. Therkildsen. 2014. “A Reconstruction Portrait of a Young Roman Man.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 256–67. Odder, Denmark: Production, Narayana Press.

Slavazzi, F. 2000. “Immagini riflesse. Copie e doppi nelle sculture di Villa Adriana.” In *Villa Adriana. Paesaggio antico e ambiente moderno. Elementi di novità e ricerche in corso. Atti del convegno, Roma 23 - 24 giugno 2000*, edited by A. Reggiani, 52–61. Milan: Electa.

———. 2002. “Un mondo di immagini: Ricomposizione e lettura dei programmi decortivi della Villa Adriana a Tivoli.” In *Sviluppi recenti nella ricerca antichistica*, edited by V. De Angelis, 55–62. Milan: Cisalpino.

Smith, A.H. 1892. *A catalogue of sculpture in the Department of Greek and Roman Antiquities*. Vol. 3 Vols. London: Trustees of the British Museum.

Smith, M. 2006. “Osiris NN or Osiris of NN?” In *Totenbuch-Forschungen : gesammelte Beiträge des 2. Internationalen Totenbuch-Symposiums, Bonn, 25. bis 29. September 2005*, edited by B. Backes, I. Munro, and S. Stöhr, 325–37. Wiesbaden: Harrassowitz.

Smith, M. 2008. “Osiris and the Deceased.” *UCLA Encyclopedia of Egyptology* 1 1.

Smith, R.R.R. 1991. *Hellenistic sculpture, a handbook*. New York: Thames and Hudson.

Smith, R.R.R., and J. Lenaghan, eds. 2009. *Aphrodisias'tan Roma portreleri =: Roman portraits from Aphrodisias*. Istanbul: Yapı Kredi Yayınları.

Smith, R.R.R., and B. Ward-Perkins, eds. 2016. *The last statues of antiquity*. First edition. Oxford: Oxford University Press.

Snowden, F.M. 1970. *Blacks in antiquity: Ethiopians in the Greco-Roman experience*. Cambridge, MA: Belknap Press of Harvard University Press.

Sogliano, A. 1901. “Relazione degli scavi eseguiti durante il mese di giugno 1901.” *NSc*: 299-304.

Sourouzian, H. 2014. “Recent work in the temple of Amenhotep III.” *Egyptian Archaeology, the Bulletin of the Egypt Exploration Society* 44: 39–41.

Spence, K.E. 1999. “Red, White and Black: Colour in Building Stone in Ancient Egypt.” *CAJ* 9 1: 114–17.

Squarciapino, M.F. 1943. *La scuola di Afrodisia*. Rome: Governatorato di Roma,.

———. 1983. “La scuola di Afrodisia, 40 anni dopo.” *ArchCl* 35: 74–87.

———. 1991. “La scuola di Aphrodisias (dopo 40 anni).” In *Aphrodisias Papers 2, the theatre, a sculptor's workshop, philosophers, and coin-types : including the papers given at the Third International Aphrodisias Colloquium held at New York University on 7 and 8 April, 1989,* edited by R.R.R. Smith and K.T. Erim, 123–26. JRA Suppl. 2. JRAA.

Stanwick, P.E. 2002. *Portraits of the Ptolemies: Greek kings as Egyptian pharoahs*. Austin: University of Texas Press.

Steiner, C. 2001. “Rites of Passage: On the Liminal Identity of Art in the Border Zone.” In *The Empire of Things*, edited by F. Meyers, 207–32. Oxford: James Currey Ltd.

Stemmer, K., B. eds. 1995. *Standorte - Kontext und Funktion antiker Skulptur: [Ausstellung “Standorte - Kontext und Funktion antiker Skulptur” 29.11.1994-4.6.1995 in der Abguss-Sammlung Antiker Plastik des Seminars für Klassische Archäologie an der Freien Universität Berlin]*. Berlin: Freunde & Förderer der Abguss-Sammlung Antiker Plastik,

Stewart, A. 2015. “Why Bronze?” In Power and Pathos[a], 35–47.

———. 1990. *Greek sculpture: an exploration*. New Haven; New York: Yale University Press.

Stewart, P. 2003. *Statues in Roman society : representation and response*. Oxford: Oxford University Press.

Stillwell, R. 1938. *Antioch-on-the-Orontes. II. The excavations, 1933-1936*. Princeton: Published for the Committee by the Dept. of Art and Archaeology of Princeton University.

Stocks, D. 1999. “Stone sarcophagus manufacture in Ancient Egypt.” *Antiquity* 73: 179–82.

———. 2001. “Testing ancient Egyptian granite-working methods in Aswan, Upper Egypt.” *Antiquity* 75: 89–94.

Stoyanov, T. 1990. “Artemis and Iphigenia: A Fragmental Part of a Statuary Group from the Strymon Valley. An Attempt at Reconstruction.” In *Akten des XIII. Internationalen Kongresses für Klassische Archäologie (Berlin 1988),* 384–5. Mainz am Rhein: Phillip von Zabern.

Strazzulla, M.J. 1990. *Il principato di Apollo. Mito e propaganda nelle lastre “Campana” dal tempio di Apollo Palatino*. Rome: L’Erma di Bretschneider.

———. 2006. “Ancora sul frontone di via di San Gregorio: alcune considerazioni.” *ScAnt* 13: 249–64.

———. 2010. “L’architettura religiosa di Roma tra tradizione e innovazione.” In *I giorni di Roma : l’età della conquista*, edited by E. La Rocca and C. Parisi Presicce, 83–94. Milan: Skira.

Strong, D.E. 1966. *Greek and Roman gold and silver plate*. London: Methuen.

———. 1976. *Roman art*. Baltimore: Penguin.

Strong, E. 1907. *Roman sculpture from Augustus to Constantine*. New York: C. Scribner’s Sons.

Studniczka, F. 1926. “Artemis und Iphigeni: Marmorgruppe der Ny Carlsberg Glyptotek.” *AbhLeip* 37.5: 1–160.

Summerer, L. 1996. “Nachklänge.” In *Hauch des Prometheus: Meisterwerke in Ton. (Ausstellung, Staatliche Antikensammlungen am Königsplatz in München*), edited by F. Hamdorf, 145–9. Munich: Staatliche Antikensammlungen und Glyptothek.

Swetnam-Burland, M. 2007. “Egyptian objects, Roman contexts: a taste for Aegyptiaca in Italy.” In *Nile into Tiber: Egypt in the Roman World. Proceedings of the 3rd International Conference of Isis Studies, Leiden, May 11-14, 200*5, edited by M. J. Versluys, P. Meyboom, and Laurent Bricault, 113–36. Religions of the Graeco-Roman World 159. Leiden: Brill.

———. 2015a. “Egyptian-Style Monuments.” In *The Oxford handbook of Roman sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 307–22. New York, NY: Oxford University Press.

———. 2015b. *Egypt in Italy. Visions of Egypt in Roman Imperial Culture*. Cambridge: Cambridge University Press.

Symmons, J.S. 1984. *Flaxman and Europe. The Outline Illustrations and their Influence*. New York and London: Garland.

Talamo, E. 2002. “Un monumento di propaganda trionfale degli horti di Sallustio sul quirinale.” In *I marmi colorati*, 430–2.

———. 2007. “I ritrovamenti archeologici sul celio e la scoperta della statua di Agrippina Orante.” In *Agrippina Minor : life and afterlife = liv og eftermæle*, edited by M. Moltesen and M. Nielsen, 95–112. Copenhagen: Ny Carlsberg glyptotek.

Thoresen, L. 2009. “Archaeometry.” <www.lthoresen.com/archaeometry>.

Todisco, L. 1993. *Scultura greca del IV secolo: maestri e scuole di statuaria tra classicità ed ellenismo*. Milan: Longanesi.

Tomei, M. 2002. “Nuovi elementi per la localizzazione del Portico delle Danaidi al Palatino.” In *I marmi colorati*, 440–5.

———. 1990a. “Statue fittili dalla Domus Tiberiana.” *BdA* 1–2: 155–159.

———. 1990b. “Le tre Danaidi in Nero Antico dal Palatino.” *BdA* 5/6: 35–48.

———. 1990c. “Gli scavi di Pietro Rosa per Napoleone III.” In *Gli Orti Farnesiani sul Palatino*, edited by V. Cazzato and G. Morganti, 61-107. Rome: Ecole française du Rome.

———. 1992. “Statue di terracotta dal Palatino.” *RM* 99: 171–228.

———. 1997. *Museo Palatino*. Milan: Electa.

———. 1999. *Scavi francesi sul Palatino. Le indagini di Pietro Rosa per Napoleone III (1861-1870)*. Roma antica 5. Rome.

———. 2000a. “Le case di Augusto sul Palatino.” *RM* 107: 7–36.

———. 2000b. “I resti dell’Arco di Ottavio sul Palatino e il Portico delle Danaidi.” *MÉFRA* 112: 575–610.

———. 2006. “Danaidi in rosso antico dal Palatino.” *RM* 112: 379–84.

———. 2013. “Introduzione al Monumento e storia degli scavi.” In *Domus Tiberiana. Scavi e restauri 1990-2001*, edited by M.A. Tomei and M.G. Filetici. Milan: Electa.

———, ed. 2014a. *Museo Palatino : le collezioni*. Milan: Electa.

———. 2014b. “Augusto sul Palatino.” In *Museo Palatino : le collezioni*, edited by M.A. Tomei, 47–61. Milan: Electa.

Touchette, L.-A. 2000. “The Mechanics of Roman Copy Production?” In *Periplous: papers on classical art and archaeology presented to Sir John Boardman*, edited by G.R. Tsetskhladze, A.J.N.W. Prag, and A.M. Snodgrass, 344–352. London ; New York: Thames & Hudson.

———. 2015. “Archaism and Eclecticism.” In *The Oxford handbook of Roman sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 292–306. New York, NY: Oxford University Press.

Toynbee, J.M.C. 1934. *The Hadrianic school, a chapter in the history of Greek art*. Cambridge: The Cambridge University Press.

Tran, V.T.T. 1973. *Isis lactans. Corpus des monuments gréco-romains d’Isis allaitant Harpocrate*. Leiden: Brill.

Trillmich, W. 1973. “Bermerkungen zur Erforschung der römischen Idealplastik.” *JdI* 88: 247–82.

———. 1979. “Eine Junglingstatue in Cartagena und Überlegungen zur Kopienkritik.” *MM* 20: 339–60.

———., ed. 1993. *Hispania antiqua. Denkmäler der Römerzeit*. Mainz am Rhein: Phillip von Zabern.

———. 2010. “La Pepolophoros de Cartagena y las Danaides en el portico del Apollo Palatinus.” *Mastia* 9: 179–206.

Trimble, J. 2000. “Replicating the Body Politic: The Herculaneum Women Statue Types in Early Imperial Italy.” *JRA* 13: 41–68.

———. 2011. *Women and visual replication in Roman imperial art and culture*. Cambridge, UK: Cambridge University Press.

———. 2015. “Reception Theory.” In *The Oxford handbook of Roman sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 606–21. New York, NY: Oxford University Press.

Uhlenbrock, J.P. 1990. *The coroplast's art : Greek terracottas of the Hellenistic world*. New Rochelle, N.Y.: A.D. Caratzas.

Ungaro, L. 2002. "Il foro di Augusto." In *I marmi colorati*, 108–23.

Valesio, F. 1978. *Diario di Roma.* Ed. G. Scano. Milan: Longanesi.

Vasari, G. c1998. *Le opere di Giorgio Vasari : con nuove annotazioni e commenti di Gaetano Milanesi*. Florence: Casa Editrice le Lettere.

van der Veen, M., and S. Hamilton-Dyer. 1998. "A Life of Luxury in the Desert? The Food and Fodder Supply to Mons Claudianus." *JRA* 11: 101–16.

Vermeule, C.C. 1974. *Greek and Roman sculpture in gold and silver*. Boston: Museum of Fine Arts.

Versluys, M.J. 1997. "The Sanctuary of Isis on the Campus Martius in Rome." *BABesch* 72: 159–69.

———. 2017. "Egypt as part of the Roman koine: mnemohistory and the Iseum Campense in Rome." In *Entangled Worlds. Religious Confluences between East and West in the Roman Empire*, 274–93. Tübingen: Mohr Siebeck.

Vickers, M. 1985. "Artful Crafts: The Influence of Metal Work on Athenian Painted Pottery." *JHS* 105: 108–28.

———. 2006. "Material values past and present: the intellectual history of the study of greek ceramics." In *Ceramic studies : Papers on the social and cultural significance of ceramics in Europe and Eurasia from prehistoric to historic times*, edited by D. Gheorghiu, 77–84. Oxford: Archaeopress.

Vickers, M.J., and D.W.J. Gill. 1994. *Artful crafts: ancient Greek silverware and pottery*. Oxford, New York: Clarendon Press, Oxford University Press.

Vierneisel-Schlörb, B. 1979. *Glyptothek Mu:nchen. Katalog der Skulpturen, II. Klassische Skulpturen des 5. und 4. Jahrhunderts v. Chr*. Munich: Beck.

Villard, L., ed. 2006. *Couleurs et vision dans l'Antiquité classique*. Rouen: Publ. de l'Université de Rouen.

Visconti, C.L. 1885. *I monumenti del Museo Torlonia riprodotti con la fototipia*. Rome: Setth.

Visconti, E.Q., and G. Visconti. 1818. *Il Museo Pio Clementino*. Milan: N. Bettoni.

Visconti, G., and E.Q. Visconti. 1782. *Il Museo Pio-Clementino*. Rome: L. Mirri.

Von Bothmer, D. 1957. *Amazons in Greek art*. Oxford: Clarendon Press.

von Steuben, Hans. 1967. "Kopf des polykletischen Herakles. Rom, Konservatorenpalast." *AntP* 7 1–6: 101–3.

———. 1993. "Der Doryphoros." In *Polyklet*, edited by H. Beck and P. Bol, 185–98. Berlin: Gebr. Mann.

von Steuben, H., and P. Zanker. 1966. "Wagenlenker und Omphalosapollon." *AA*: 68-75.

van Voorhis, J. 2012. “The Working and Re-working of Marble Sculpture at the Sculptor’s Workshop at Aphrodisias.” In *Ateliers and Artisans in Roman Art and Archaeology*, edited by B. Poulsen and T.M. Kristensen, 38–54. *JRA* supplemental series 92. Portsmouth, RI: JRA.

Vorster, C. 1993. *Museo Gregoriano Profano ex Lateranense. Katalog der Skulpturen, 2. Römische Skulpturen des späten Hellenismus und der Kaiserzeit, Werke nach Vorlagen und Bildformen des 5. und 4. Jahrhunderts v. Chr.* MAR 34. Wiesbaden: Reichert.

Wagner, M. 2001. “Material.” In *Ästhetische Grundbegriffe (ÄGB): historisches Wörterbuch in sieben Bänden*, edited by Karlheinz Barck, 3:866–70. Stuttgart: Metzler.

Wallace-Hadrill, A. 1990. “Pliny the Elder and Man’s Unnatural History.” *GaR* 37 1: 80–96.

———. 2008. *Rome’s Cultural Revolution*. New York: Cambridge University Press.

Walters, E. 2002. “The black and the red: Isis and the Egyptian tradition for contrasts in stones.” In In *ASMOSIA VI : Interdisciplinary studies on ancient stone : proceedings of the sixth international conference of the Association for the study of marble and other stones in antiquity : Venice, june 15-18 2000*, edited by L. Lazzarini, 127-34. Padua: Bottega d’Erasmo.

Walters, H.B., and R.A. Smith. 1921. *Catalogue of the silver plate (Greek, Etruscan and Roman) in the British Museum.* London: Printed by Order of the Trustees.

Ward-Perkins, J.B. 1951. “Tripolitania and the Marble Trade.” *JRS* 41: 89–104.

———. 1971. “Quarrying in antiquity.” *ProcBritAc* 57: 137–58.

———. 1992. *Marble in antiquity: collected papers of J.B. Ward-Perkins*. Edited by H. Dodge and B. Ward-Perkins. London: British School at Rome.

Weber, H. 1960. “Zur Zeitbestimmung der Florentiner Niobiden.” *JdI* 75: 112ff.

Weber, M. 1976. “Die Amazonen von Ephesos.” *JdI* 91: 28–96.

———. 1988. “Klassische Amazonen als Gemmenbilder.” In *Kanon.Festschrift Ernst Berger*, edited by E. Berger and M. Schmidt, 134–9. AntK-BH 15. Basel: Vereinigung der Freunde antiker Kunst.

Weil, P.D. 1967. August 1. “Contributions toward a History of Sculpture Techniques: 1. Orfeo Boselli on the Restoration of Antique Sculpture.” *Studies in Conservation* 12 3 (August 1): 81–101.

Weis, A. 1979. “The Hanging Marsyas: The Origin and History of a Statue.” PhD thesis, Bryn Mawr College.

———. 1988. “Material limitations and exotic materials in the copying of a Hellenistic statuary type.” In *Classical Marble: Geochemistry, Technology, Trade*, edited by N. Herz and M. Waelkens, 153:219–229. NATO ASI Series E: Applied Sciences. Dordrecht; Boston; London: Kluwer Academic Publishers.

———. 1992. *The hanging Marsyas and its copies: Roman innovations in a Hellenistic sculptural tradition*. Rome: G. Bretschneider.

West, M.L., ed. 2003. *Greek epic fragments from the seventh to the fifth centuries BC*. The Loeb classical library 497. Cambridge, MA: Harvard University Press.

Wheeler, S.M. 1999. *A discourse of wonders: audience and performance in Ovid's Metamorphoses*. Philadelphia: University of Pennsylvania Press.

Wichmann, E. 1977. "Die Kopien vom Typus Hera Borghese." Magisterarbeit, Munich.

Wildung, D. 1995. "Headhunters." In *Staatliche Sammlung Ägyptischer Kunst München*, edited by S. Schoske-Wildung, 74–81. Munich: Phillip von Zabern.

Willer, F. 1994. "Fragen zur intentionellen Schwarzpatina an den Mahdiabronzen." In *Das Wrack: der antike Schiffsfund von Mahdia*, edited by G. Hellenkemper Salies, 1023–31. Kataloge des Rheinischen Landesmuseums Bonn Bd. 2. Cologne: Rheinland Verlag.

Willers, D. 1986. "Typus und Motiv: aus der hellenistischen Entwicklungs-geschichte einer Zweifigurengruppe." *AntK* 29: 137–50.

Wilson, P. 2010. "Temple Architecture and Decorative Systems." In *A companion to ancient Egypt*, edited by A. Lloyd, 781–803. Chichester; West Sussex: Wiley-Blackwell.

Winckelmann, J.J. 1784. *Storia delle arti del disegno presso gli antichi*. Translated by C. Fea. Rome: Dalla stamperia Pagliarini.

Winter, F. 1892. *JdI* 7: 164ff.

Winter, N. 2009. *Symbols of Wealth and Power. Architectural Terracotta Decoration in Etruria and Central Italy, 640-510BC. MAAR* Suppl. 9. Ann Arbor.

Wojcik, M.R. 1986. *La Villa dei Papiri ad Ercolano : contributo alla ricostruzione dell'ideologia della nobilitas tardorepubblicana*. Rome: L'Erma di Bretschneider.

Wood, S. 2015. "Women in Action: A Statue of Matidia Minor and Its Contexts." *AJA* 119, 2: 233–259.

Wünsche, R. 1972. "Der Jüngling von Magdalensberg." In *Festschrift Luitpold Dussler: 28 Studien zur Archäologie und Kunstgeschichte*, edited by M. Restle, J.A. Schmoll, and H. Weiermann, 45–80. Munich: Deutscher Kunstverlag,.

———. 2007. "On the Coloring of the Munich Bronze Head with Victor's Fillet." In *Gods in color : painted sculpture of classical antiquity*, edited by V. Brinkmann and R. Wünsche, 119–31. Munich: Stiftung Archäologie.

Wünsche-Werdehausen, E. 2005. *Glyptothek München: Meisterwerke griechischer and römischer Skulptur*. Munich: Beck.

Zagdoun, M.-A. 1989. *La sculpture archaïsante dans l'art hellénistique et dans l'art romain du Haut-Empire*. Paris: Diffusion De Boccard.

Zancani Montuoro, P. 1933. "Replica romane di una statua fidiaca." *BullCom* 61: 25–58.

Zanker, P. 1974. *Klassizistische Statuen: Studien zur Veränderung des Kunstgeschmacks in der römischen Kaiserzeit.* Mainz am Rhein: Phillip von Zabern.

———. 1983. “Der Apollontempel auf dem Palatin: Ausstattung und politische Sinnbezüge nach der Schlacht von Actium.” In *Città e architettura nella Roma imperial*, *AnalRom* Suppl. 10, 1983, 21–40. Odense, Denmark : Odense University Press.

———. 1988. *The power of images in the Age of Augustus*. Translated by A. Shapiro. Ann Arbor: University of Michigan Press.

———. 2015. “Copies in Context. Greek art in Roman settings.” In *Serial/portable classic*, 51–72.

Ziegler, C. 1997. *Les statues egyptiennes de I’Ancien Empire*. Paris: Réunion des musées nationaux.

Zimmer, G. 2012. “Die Farbe des Metalls. Möglichkeiten der Farbgestaltung bei Großbronzen.” In *Collections électroniques de l’INHA. Actes de colloques et livres en ligne de l’Institut national d’histoire de l’art.* INHA. http://journals.openedition.org/inha/3986.

Zink, S. 2008. “Reconstruction the Palatine temple of Apollo: a case study in early Augustan temple design.” *JRA* 21: 47–63.

———. 2014. “Polychromy in Roman Architecture. Colours, Materials, and Techniques.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 256–67. Odder, Denmark: Production, Narayana Press.

Zink, S., and H. Piening. 2009. “Haec aurea templa: The Palatine Temple of Apollo and Its Polychromy.” *JRA* 22: 109–21.

Appendix A: The Scientific Provenancing of White and Colored Marbles and Limestones

Modern interest in the geographic origin of the marbles utilized by Roman sculptors and architects dates back at least to Winckelmann, but it was not until the late 19th century that scientific methods of identification were first developed.[1] Critical treatments of the history of this field – and, especially, the advantages and disadvantages of various scientific methods for characterizing marbles in quarries and establishing the provenance of sculptures – have been offered by M. Mariottini[2] and, more recently, by L. Lazzarini[3]. What follows here is a brief survey of the methods practiced and a discussion of how the problems of identification affect the scope of the present project.

The earliest attempts at provenancing the marble of ancient artworks relied upon comparative macroscopic evaluations of color, brilliance, and grain size between sculptures and quarry samples. The analysis of these qualities, however, often produces misleading results, since they can vary widely within a single quarry or be identical between two different quarries located at a great distance from one another.[4] Even if macroscopic examinations of physical characteristics still offer a useful first level of analysis, identifications arising from them should be considered preliminary and in need of confirmation. Augmenting these with microscopic analysis, more reliable identifications study thin sections of rock for mineralogical or petrographic peculiarities[5], but these are also variable across a single quarry. More recently, scholars have approached identification via the geochemical analysis of trace elements in marble samples from quarries and sculptures.[6] This approach has allowed the relatively reliable discrimination between two or more particular quarries, but this method remains problematic for some quarries given the

[1] By R. Lepsius (1890).

[2] Mariottini 1998.

[3] Lazzarini 2004.

[4] Renfrew and Springer Peacy 1968.

[5] Herz and Pritchett 1953; Young and Ashmole 1968.

[6] Among the earliest: Rybach and Nissen 1965; offering an early attempt to categorize Italian marbles in this manner: Conforto et al. 1975.

variability of how these trace elements attach to other minerals within the marble.[7] A promising method examines the isotopic ratios of Carbon and Oxygen in samples, which has had success in some regions and, with a growing data bank, will continue to broaden its reach.[8] However, the addition of data to this bank showed overlapping results for different quarries, revealing the possibility of misidentifications using this analysis alone.[9] Various other methods have been proposed, ranging from cathode-luminescence[10] to the proportions of Calcium and Strontium in pure marbles[11] or to Electronic Spin Resonance (ESR) and later Electronic Paramagnetic Resonance Spectroscopy (EPR)[12], but none have offered an independent and conclusive method that successfully distinguishes one marble from another.[13]

Given the limitations of each individual method, it has become clear that an approach that performs at least two discreet types of analysis (macroscopic, petrographic, geochemical, or others) offers the best way to characterize the stone of a specific quarry, whether it is a white or colored marble, limestone, or other stone.[14] The pair most commonly utilized today are minero-petrographic study of thin sections and isotopic analysis[15] (recent studies increasingly utilize EPR as a third method[16]). With this data, it becomes more possible to compare the very small samples allowed to be removed from extant works of art or

[7] Mariottini 1998; Lazzarini 2004, 115.

[8] Herz 1988; recently updated by Antonelli and Lazzarini 2015.

[9] Lazzarini 2004, 116.

[10] Renfrew and Springer Peacy 1968.

[11] Lazzarini et al. 1980.

[12] Cordischi et al. 1983.

[13] Renfrew and Springer Peacy 1968.

[14] Lazzarini 2004, 115.

[15] Gorgoni et al. 2002; Agus et al. 2006.

[16] Attanasio 2003, 2006; Brilli et al. 2011. For controversial datasets, the identification of trace elements may be added as a fourth method: Attanasio et al. 2015.

architecture[17] and to match them with the profile of a specific quarry.[18] While individual studies of quarries or sculptures are usually published in scientific journals or in the collected papers of the ASMOSIA conferences, surveys of their results and its impact for the study of Greek and Roman art history have been published in the form of two landmark works: on the stones utilized in Greece, L. Lazzarini's *Poikiloi lithoi, versiculores maculae: i marmi colorati della Grecia antica* (2007); and, on those exploited by Rome, P. Pensabene's *I marmi nella Roma antica* (2013). Still, it is crucial to refer back to the original scientific studies to gain an appreciation of the uncertainty and disagreement that often remains regarding the identification of the provenance of particular sculptures that tends to be obscured in these broad treatments. Even identifications produced with multi-method examinations can still be controversial and hypothetical, while over-confident attribution to one or another quarry can have a significant impact for the history of art or economics of the ancient world.

For example, one of the biggest hurdles to a clear understanding of the exploitation of white marbles for sculpture in the Roman period is the distinction of high-quality, statuary white marbles utilized in the second century AD. The similar macroscopic and relatively similar geochemical profiles of marble from Carrara in northern Italy and from Göktepe in Asia Minor has sowed disagreement about the origin of a significant amount of statuary of this period, including for some of the most elite commissions like those for Hadrian's Villa and the so-called Esquiline Group.[19] For a long time these marbles were consistently identified with the Luna white marble quarried at Carrara, but a recently discovered quarry of high quality white marble near Göktepe, south of Aphrodisias in Asia Minor, has led scholars to propose an alternative. The team that discovered this quarry has illustrated that two of the quarry sites (G3 and G4) bear minero-petrographic and isotopic values that are incredibly similar to Carrara, but which can be distinguished by

[17] At the moment, there are no non-destructive methods that produce conclusive results, although a few have been developed (Careri et al. 1992; Biricotti and Severi 2004).

[18] Cf. Lazzarini 2004, 117-21.

[19] E.g. on Hadrian's Villa: Attanasio et al. 2013. On the Esquiline Group: Attanasio et al. 2009a, esp. 337-9.

their low EPR values. They have thus argued that several sculptures whose stone was assigned to Carrara but whose style was attributed to Aphrodisian artists were in fact produced from Göktepe white marble.[20] Their re-identification would imply a massive eastward shift of the economy of the stone trade in this period, as outlined by the discussion of the provenance of the white and colored marbles used throughout Hadrian's Villa at Tivoli.[21] This team's findings have been strongly challenged by Lazzarini, who does not agree that the quarries of Göktepe could have produced the amount of white marble proposed and challenges the identification of this provenance by EPR.[22]

While the Göktepe team has reaffirmed their analyses and attributions several times, they have acknowledged difficulties of distinguishing between Göktepe, Carrara, and even Docimium white marbles using both petrographic and EPR techniques. The amount of white marble statuary produced from the Göktepe 4 quarry, for example, may be overestimated thanks to a similar EPR signature to the Docimium quarry of white marble.[23] At present, the articles, reviews, replies and counter-replies to this debate have failed to produce a consensus from the scientific perspective.[24] From a broader point of view, there is some foundation for the argument that Asiatic marbles may have gained empire-wide provenance alongside their sculptors, whose familial and business networks may have facilitated extraction from these sites.[25] However, these provide only circumstantial evidence that must be confirmed by scientific results before

[20] Attanasio et al. 2009a; Attanasio et al. 2009b; Yavuz et al. 2011.

[21] Attanasio et al. 2013; Attanasio et al. 2009c; see also Lapuente et al. 2012. A significant shift in the use of quarries has also been identified at Ceasarea Mauritania (Attanasio et al. 2013, 4367). See also Russell 2013, Ch. 5, especially 339-45. Contra, Pensabene (2009) reaffirms the identification of these statues as Carrara by means of petrographic analysis.

[22] Lazzarini 2010; Lazzarini 2011.

[23] Attanasio et al. 2011a.

[24] Specifically, the series of articles, review, reply, and counters between Attanasio et al. and Lazzarini (Attanasio et al. 2009a; Lazzarini 2010; Attanasio et al. 2011b and Lazzarini 2011) seem only to have entrenched the sides further.

[25] Russell 2013, ch. 5, especially 339-45.

further analysis and discussion of the materiality of white marble sculptures can be fully addressed for this period.

This dissertation approaches the provenance identification of white and colored marbles in a slightly different manner. While some of the white marble sculptures included in the survey of Chapter 2 have been scientifically provenanced, most are only attributed to a certain quarry on the basis of macroscopic identifications. As these are often misleading and the majority of the white marbles utilized for these ideal sculpture cannot yet be confidently identified, the white marbles are treated together as a group. This approach is allowed in large part because many of the high-quality statuary white marbles seem to have been worked and adorned in a similar manner in the Roman period. Approaches to sculpting and superficial polychromy have not (yet) been determined to have significantly varied by the provenance of white marble. Research has, of course, indicated that composite white marble statues might prioritize the better white marble for skin portions – since it can take a higher polish and provides a better ground for painting – but, still, a consistent approach to coloring was employed throughout the sculpture.[26] The differences in treatment of white marbles are crucial and are deserving of a full investigation, but in the context of this dissertation, they are viewed as a difference of degree rather than kind. Practices of coloring white marble sculpture as a whole are contrasted, for example, with those of adorning colored stone statuary, which makes use of the pattern or color of the stone as an integral part of the representation.

The identification of colored stones has achieved a higher degree of certainty, although some disagreement remains about the connections between certain sculptures and quarries. This dissertation makes use of these identifications while clearly indicating controversial or hypothetical attributions. It treats the stones of different quarries as individual media in response to the well-documented Roman association between materials and their geographic origins.[27] Although there is some question as to how well the Roman audience could distinguish between the various grey to black marbles utilized extensively for ideal

[26] Claridge 1990; 2015; Skovmøller and Therkildsen 2014.

[27] For a general summaries of this trend: Gregarek 1999; Schneider 2002; Allen 2015.

sculpture, this dissertation's case studies illustrate the temporal shifts in the exploitation of black stones for sculpture and the ways their geographic origins were made to matter in their Roman deployments.

Bibliography:

Agus, M., S. Cara, L. Lazzarini, and M. Mola. 2006. "A laboratory characterization of black limestones (Neri Antichi) from Zeugitania (Tunisia)." *Marmora* 2: 71–82.

Allen, M. 2015. "Technique and Message in Roman Art." In *A companion to Roman art*, edited by B. Borg, 153-71. Chichester, West Sussex, UK: Wiley, Blackwell.

Antonelli, F., and L. Lazzarini. 2015. "An updated petrographic and isotopic reference database for white marbles used in antiquity." *Rendiconti Lincei Scienze Fisiche e Naturali* 26, 4: 399-413.

Attanasio, D. 2003. *Ancient white marbles: analysis and identification by paramagnetic resonance spectroscopy*. Rome: L'Erma di Bretschneider.

———. 2006. *The isotopic signature of classical marbles*. Rome: L'Erma di Bretschneider.

Attanasio, D., M. Bruno, and W. Prochaska. 2011a. "The Docimium marble of the Ludovisi Gauls and other replicas of the Pergamene dedications." *AJA* 115: 575–87.

Attanasio, D., M. Bruno, W. Prochaska, and A.B. Yavuz. 2013. "The Asiatic marbles of the Hadrian's Villa at Tivoli." *JAS* 40: 4358–68.

Attanasio, D., M. Bruno, W. Prochaska, and A.B. Yavuz. 2015. "A multi-method database of the black and white marbles of Göktepe (Aphrodisias), including isotopic, EPR, trace and petrographic data." *Archaeometry* 57: 217–45.

Attanasio, D., M. Bruno, and A.B. Yavuz. 2009a. "Quarries in the region of Aphrodisias: the black and white marbles of Göktepe (Muğla)." *JRA* 22, 1: 312–48.

Attanasio, D., M. Bruno, and A.B. Yavuz. 2011b. "La realtà del marmo afrodisiense di Göktepe: replica a una recensione." *Marmora* 7: 119–22.

Attanasio, D., M. Bruno, A.B. Yavuz, and H. Elçi. 2009b. "Aphrodisias and the newly discovered quarries at Göktepe." In *Aphrodisias'tan Roma portreleri = Roman portraits from Aphrodisias*, edited by R. R. R. Smith and L. Lenaghan, 217–27. Istanbul: Yapı Kredi Yayınları.

Attanasio, D., G. Mesolella, P. Pensabene, R. Platania, and P. Rocchi. 2009c. "EPR and petrographic provenance of the architectural white marbles of three buildings at Villa Adriana." In *ASMOSIA VII: Interdisciplinary Studies on Ancient Stone, Thasos 2003*, edited by Y. Maniatis, 357–69. Athens: École française d'Athènes.

Biricotti, F., and M. Severi. 2004. "A non-destructive methodology for the characterization of white marble of artistic and archaeological interest." *Journal of Cultural Heritage* 5, 1: 49–61.

Brilli, M., L. Conti, F. Giustini, M. Occhiuzzi, P. Pensabene, and M. De Nuccio. 2011. "Determining the Provenance of Black Limestone Artifacts Using Petrography, Isotopes, and EPR Techniques: The Case of the Monument of Bocco." *JAS* 38, 6: 1377–84.

Careri, G., L. Lazzarini, and V. Mazzacurati. 1992. “Angular distribution of light diffused from laser-irradiated crystalline marbles. Potential use for identification purposes.” In *Ancient stones : quarrying, trade and provenance : interdisciplinary studies on stones and stone technology in Europe and Near East from the prehistoric to the early Christian period*, edited by M. Waelkens, N. Herz, and L. Moens, 237–42. Leuven, Belgium: Leuven University Press.

Claridge, A. 1990. “Ancient Techniques of Making Joins in Marble Statuary.” In *Marble: Art Historical and Scientific Perspectives on Ancient Sculpture*, edited by M. True and J. Podany, 135–62. Los Angeles: J. Paul Getty Museum.

———. 2015. “Marble Carving Techniques, Workshops, and Artisans.” In *The Oxford handbook of Roman sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 107–22. New York, NY: Oxford University Press.

Conforto, L., M. Felici, D. Monna, L. Serva, and A. Taddeucci. 1975. “A preliminary evaluation of chemical data (trace elements) from classical marble quarries in the Mediterranean.” *Archaeometry* 17: 201–13.

Cordischi, D., D. Monna, and A.L. Segre. 1983. “ESR analysis of marble samples from Mediterranean quarries of archaeological interest.” *Archaeometry* 25: 68–76.

Gorgoni, C., L. Lazzarini, and B. Pallante. 2002. “New archaeometric data on ‘Rosso Antico’ and other red marbles used in antiquity.” In *ASMOSIA VI : Interdisciplinary studies on ancient stone : proceedings of the sixth international conference of the Association for the study of marble and other stones in antiquity : Venice, June 15-18 2000*, edited by L. Lazzarini, 199–206. Padua: Bottega d'Erasmo.

Gregarek, H. 1999. “Untersuchungen zur kaiserzeitlichen Idealplastik aus Buntmarmor.” *KölnJb* 32: 33–284.

Herz, N. 1988. “The oxygen and carbon isotopic database for classical marble.” In *Classical Marble: Geochemistry, Technology, Trade*, edited by N. Herz and M. Waelkens, 153:305–14. Dordrecht; Boston; London: Kluwer Academic Publishers.

Herz, N., and W.K. Pritchett. 1953. “Marble in Attic epigraphy.” *AJA* 57: 71–83.

Lapuente, P., T. Nogales, P. León, H. Royo, and M. Preite-Martínez. 2012. “Black Sculptural Materials from Villa Adriana: Study of Provenance.” In *Interdisciplinary Studies on Ancient Stone. Proceedings of the IX Association for the Study of Marbles and Other Stones in Antiquity (ASMOSIA) Conference (Tarragona 2009)*, edited by A. Gutiérrez Garcia-Moreno; P. Lapuente Mercadal; I. Rodà de Llanza, 376–83. Tarragona: Institut Català d'Arqueologia Clàssica.

Lazzarini, L. 2004. “Archaeometric aspects of white and coloured marbles used in antiquity: the state of the art.” *Periodico di Mineralogia* 73 3: 113–125.

———. 2007. *Poikiloi lithoi, versiculores maculae: i marmi colorati della Grecia antica : storia, uso, diffusione, cave, geologia, caratterizzazione scientifica, archeometria, deterioramento*. Pisa: F. Serra.

———. 2010. “Review: Quarries in the region of Aphrodisias: the black and white marbles of Göktepe (Muğla), by D. Attanasio, M. Bruon, A. Yavuk.” *Marmora* 6: 169–71.

———. 2011. “Controreplica alla replica della mia recensione a ‘La realtà del marmo afrodisiense di Göktepe.’” *Marmora* 7: 123–4.

Lazzarini, L., G. Moschini, and B.M. Stievano. 1980. “A contribution to the identification of Italian, Greek and Anatolian marbles through a petrological study and the evaluation of Ca/Sr ratio.” *Archaeometry* 22: 173–82.

Lepsius, R. 1890. *Griechische Marmorstudien*. Berlin: Könige. Akademie der Wissenschaften.

Mariottini, M. 1998. “La provenienza dei marmi cristallini usati in antico: un problema aperto.” *In Marmi Antichi II, cave e tecnica di lavorazione, provenienze e distribuzione*, edited by P. Pensabene, 23–35. Rome: L’Erma di Bretschneider.

Pensabene, P. 2009. “‘Canopo’ di Villa Adriana. Programmi tematici, marmi e officine nell’arredo statuario.” *ASAtene* 87: 381–424.

———. 2013. *I marmi nella Roma antica*. Rome: Carocci.

Renfrew, C., and J. Springer Peacy. 1968. “Aegean marble: a petrological study.” *BSA* 63: 45–66.

Russell, B. 2013. *The economics of the Roman stone trade*. Oxford: Oxford University Press.

Rybach, L., and H.U. Nissen. 1965. “Neutron activation of Mn and Na traces in marbles worked by the ancient Greeks.” In *Radiochemical methods of analysis : proceedings of the Symposium on Radiochemical Methods of Analysis : held by the International Atomic Energy Agency, at Salzburg, 19-23 October 1964*, 105–17. Vienna: International Atomic Energy Agency.

Schneider, R.M. 2002. “Nuove immagini del potere romano. Sculture di marmo colorato nell’Impero romano.” In *I marmi colorati della Roma imperiale*, edited by M. De Nuccio and L. Ungaro, 83–106. Venice: Marsilio.

Skovmøller, A., and R. Therkildsen. 2014. “A Reconstruction Portrait of a Young Roman Man.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 256–67. Odder, Denmark: Production, Narayana Press.

Yavuz, A.B., D. Attanasio, H. Elçi, M. Brilli, and M. Bruno. 2011. “Discovery and preliminary investigation of Göktepe marble quarries (Muğla, Turkey): an alternative source of Aphrodisias marbles.” In *Leukos lithos: marbres et autres roches de la Méditerranée antique : études interdisciplinaires : actes du VIIIe colloque ASMOSIA, Aix-en-Provence 2006*, edited by Ph. Jockey, 93-109. Aix-en-Provence: Maison méditerranéenne des sciences de l’homme.

Young, W.J., and B. Ashmole. 1968. “The Boston relief and the Ludovisi Throne.” *Bulletin of the Museum of Fine Arts* 66: 124–66.

Appendix B: Black and Dark-Colored Marbles and Stones – Nomenclature and Quarries

Black and dark-colored stones are grouped together in this appendix because of the wide-ranging and consistent confusion regarding their identification and petrographic characteristics in the art historical literature. The present section seeks to address the problems of identification and nomenclature that principally contribute to the misunderstandings of these stones and their characteristics. It is intended as a first, preliminary categorization of the dark-colored marbles, limestones, greywackes, basalts, and other stones in use for Roman sculpture, especially ideal sculpture. This section is intended as a discussion of existing literature that, moreover, indicates the areas in which further research (scientific and art historical) would be useful. Its survey indicates that from the first century BC through the second century AD, sculptures were principally produced in stone quarried at three different sites, each of which had a different floruit. All of these were used for a variety of subjects and styles of representation and some were even deployed for architectural elements, both with and without relief adornment.

The history of attempts to identify these stones and their quarries parallels, in large part, the history of techniques used for white marbles that was described in the previous section. The earliest methods of distinguishing dark-colored marbles, limestones, and stones primarily employed macroscopic examination. These are reflected in the antiquarian terms that developed over the centuries and gained particular specification alongside growing interest in ancient sculpture; Winckelmann names numerous dark-colored stones and connects them with extant examples known in his time.[1] The terms *nero antico, bigio antico,* and *bigio morato* are still commonly used today, although some scholars have tried to reorient these macroscopic descriptors to instead refer to modern distinctions in lithotype.[2] While a full historiography of the variety of terms used to refer to dark-colored stones in different periods is necessary, the present study will concern itself primarily with addressing how these terms have come to be used in current scholarship and with the identification of the stones to which they refer and, if possible, the connection of these with

[1] Winckelmann 1784, vol. II, 15.

[2] Pensabene and Lazzarini 1998.

their ancient names.[3] As described above in the section on white marbles, the vast contributions of material studies in recent decades have made it possible to more accurately identify which sculptures derive from which quarries. Since there are fewer quarries of dark-colored stone than there are of white marble and because the color is produced by the presence of elements that can vary significantly, the identification of dark-colored stones has reached a higher level of accuracy than that of white marbles. While similar in color, the stones under examination here vary in petrological composition, geographic source, and/or the history of their exploitation by the Romans. These details have been essential to the case studies' reconstructions of the history of the possible relationships among these stones and their possible connections to other materials. The stones that are most commonly exploited for sculpture, especially for ideal sculpture, are the greywacke of Wadi Hammamat (often referred to as basalt or basanite) and several black to dark grey limestones and marbles (called *nero antico*, *bigio morato*, and *bigio antico*). A few sculptures in granodiorite and basalt are also known, although not in such significant quantities.

Greywacke from Wadi Hammamat, basalt, and granodiorite

The greywacke from Wadi Hammamat was used for imperial portraiture, ideal sculpture, and massive commissions like the Hercules and Dionysus that adorned the Aula Regia of Domitian's palace on the Palatine.[4] It is a fine-grained, very hard stone that varies from dark green to greyish-black or black in color.[5] In scholarly literature and museum placards, the sculptures carved in this material have often been called basalt, which it resembles in macroscopic appearance. Both are fine-grained, dark-colored stones

[3] The author plans a future project on this subject. The changing meanings of antiquarian terminology and identifications of the materials of different statues speaks more to the reception of these stones in the modern period than to their ancient identification or evaluation.

[4] Belli Pasqua 1995, cat. 55, p. 98-99 (Hercules) and cat. 37, p. 89-90 (Dionysus); Gregarek 1999, cat. E20, p. 247 (Hercules); cat. D1, p. 210 (Dionysus); cat. A43, p. 178 (head of Zeus, lost).

[5] The variation appears as a full-scale change in the fabric's color rather than veining, e.g. the black torso of the Doryphoros in the Uffizi (Belli Pasqua 1995, 79, cat. 21; Gregarek 1999, 255-6, cat. F2) versus the dark greenish youthful Hercules in the Capitoline museum (Belli Pasqua 1995, 99, cat. 56; Gregarek 1999, 246-7, cat. E19). Supra Chapter 4, p. 189, fig. 4.9.

which can take a high polish. Basalt, however, is igneous, or volcanically-formed, whereas the stone of these Roman sculptures is geologically a greywacke, a sedimentary stone.[6] Both basalt and greywacke can be, moreover, difficult to distinguish visually from the dark grey to black granodiorite, a metamorphic rock, quarried at Aswan.[7] Greywacke has also been called basanite in the art historical literature, which is now its most common name among scholars of antiquity. It earned this name since it is almost certainly to be identified with the passage in Pliny the Elder's *Natural History* on *lapis basanites* (36.58), which he describes as a hard, dark-colored stone quarried in Egypt.[8] To add to the confusion of terminology, it seems to have been this very same passage that spawned the name for basalt when a copyist wrote *basaltes* instead of *basanites*.[9] Then, in an odd twist of history, modern geology has come to use the terms basanite and basalt to identify two different igneous rocks, neither of which has anything to do with the greywacke deposit which Pliny originally named lapis basanites.[10] Throughout this dissertation, the greywacke quarried at Wadi Hammamat has been referred to as greywacke or, more frequently, as Pliny's *lapis*

[6] This error also persists in studies of Egyptian sculpture in greywacke (Klemm and Klemm 2008, 302, 306-7). Roman quarrying of basalt occurred only on a limited scale, though blocks leftover from earlier projects and found at Egyptian quarries and construction sites were also likely utilized. On Egyptian sources of basalt and their exploitation, cf. *ibid.*, 315-21). The quarries were located at Widan el-Faras, in the northern Faiyum desert (Bloxam and Storemyr 2002), and Tilal Sawda, near El-Bahnasa, ancient Oxyrhynchus (Storemyr et al. 2009). The full extent of their use in Egyptian and Roman times may never be known since evidence of ancient quarrying at these sites and others, including Abu Roash near Cairo, has almost certainly been destroyed by modern exploitation (Storemyr et al. 2009, 244; Storemyr and Heldal 2009). Even the Roman quarry that Storemyr's team documented in 2002 was destroyed by 2006 (Storemyr et al. 2009, fig. 8).

[7] Harrell and Bown 1995; Klemm and Klemm 2008, 248. Like greywacke, and to a lesser extent basalt, granodiorite was also exploited by the Romans for statuary, e.g. the half-scale replica of the Venus de Medici at the Metropolitan Museum of Art (inv. 28.57.6; supra Chapter 2, p. 51-2). The gallery placard now calls it diabase, but its material has also been called basalt, as on the museum website and greywacke, e.g. by Belli Pasqua (1995, 85, cat. 28, Pl. 36), who is adjusting Richter's (1954, 84, n. 148) identification as "Black basalt (diabase)"). The authenticity of the Metropolitan statue has sometimes been questioned (noted by Ridgway 1990, 354).

[8] E.g. Pensabene (2013, 246-49) refers to the stone as basanite throughout his text, though he does clarify that the stone is technically a meta-greywacke. Pliny mentions the stone three other times, cf. Belli Pasqua (1995, 17-28) for a collection of the ancient sources that refer or possibly refer to this stone.

[9] Sethe 1933, 894.

[10] Best 2003, 35-37.

basanites, since the latter has the virtues of being more familiar among scholars, more in keeping with Roman terminology, and more precise than other options.

The Romans' only source of lapis basanites came with a long history of Egyptian exploitation that played an ideological role in the Roman adoption and use of the stone.[11] The quarry was located in the Eastern Desert of Egypt, in a dry canyon called Wadi Hammamat that runs between Quft (ancient Coptos), on the Nile, and Quseir (or Kosseir, ancient Album Portum), on the Red Sea.[12] This wide ravine lies about 90 miles south of the quarries of Mons Porphyrites (Gebel Dokhan) and Mons Claudianus (Gebel Fatireh) and near outcrops of granite, diorite, and numerous other stones.[13] The entire region's rich resources were exploited by the Egyptians from the Late Predynastic period (c. 3000 BC), but Wadi Hammamat gained a special importance. In addition to being the shortest and one of the most important routes across the Eastern Desert, it was the only location that Egyptians quarried the greywacke, highly prized under the name of *bekhen*. It was also the site of a rich deposit of gold at Bir Umm Fawakhir and a quarry of *breccia verde antica*, a green stone used in pharaonic commissions.[14] Inscriptions in the living rock of the hillsides of Wadi Hammamat document numerous Egyptian campaigns to quarry the greywacke for royal projects. The most informative inscriptions date to the Middle Kingdom, but huge expeditions of sometimes more than 8,000 men continued into the New Kingdom and, at a reduced scale, into the Ptolemaic period.[15] These expeditions sometimes remained for an extended period of time, both hunting for suitable blocks on the

[11] Belli Pasqua 1995, 35-41; Klemm and Klemm 2008, 302, 297-311.

[12] Klemm and Klemm 2008, 297-311; Sidebotham 2008; on the Eastern desert under the Roman empire, cf. Gates-Foster 2012a, 2012b.

[13] Sidebotham 2008, 61-93.

[14] *Ibid.*, 63-9. Klemm and Klemm (2008, 307) note that while the "Hammamat series" of stones occur frequently in the Eastern Desert, Wadi Hammamat seems to have been the only area in which these stones were quarried. They suggest that this deposit was favored for its broad jointing which allows for the extraction of larger blocks which the other outcrops could not yield.

[15] Hikade (2006) suggests that the New Kingdom expeditions may even have come at the expense of great damage to the Egyptian economy.

floor of the Wadi and quarrying new ones. However, no consistent Egyptian settlement was established at the greywacke quarry, although one does seem to have existed at the Bir Umm Fawakhir gold mine.[16]

Along with the rest of Egypt, the Eastern Desert quarries came under Roman control after the battle of Actium in 31 BC. The Roman imperial administration continued the millennia-old tradition of state-sponsored quarrying in the Eastern desert, and under the Roman empire, the exploitation of the region's resources reached unparalleled heights. An organized, systematic approach to overseeing quarrying activities in the Eastern Desert seems to have become fully established under Tiberius, and scholars have argued that it provided a model for the management of natural resources in other regions of the Mediterranean.[17] Permanent settlements were established near Mons Porphyrites and Mons Claudianus to provide a constant labor force and the settlements were connected to one another and to the Nile and the Red Sea by a network of roads protected by occupied forts.[18]

Continuing the tradition of pharaonic and Ptolemaic usage, lapis basanites was adopted by the Romans as a material to be used for sculpture intended for the most elite stratum of society. Portraits of Augustus and Livia as well as ideal sculptures of extremely high quality have been dated to the Augustan period.[19] The stone continued to be used throughout the Julio-Claudian and Flavian periods, culminating in its employment for the colossal statue of the Nile in Vespasian's Forum of Peace and for the well over life-size statues of male deities in Domitian's Aula Regia.[20] The use of lapis basanites declined in the last years

[16] Sidebotham 2008, 63-69.

[17] Pensabene 2013, 230-1. A certain P. Iuventus Rufus calls himself μεταλλαρχες in his dedication to the god Pan of an aedicula near Wadi Hammamat (Dubois 1908, 69). Cf. Hirt (2010, esp. 11-32) on the Egyptian quarries. Against the idea of complete imperial administration cf. Russell 2013. While Russell's tempering of the idea that the majority of quarrying operations were controlled by the state is welcome in many respects, it seems unlikely that independent contractors could have found the resources to work at and transport from the extremely isolated quarries like these in the Eastern Desert.

[18] The most complete archaeological survey of these sites were completed by Maxfield and Peacock. On Mons Porphyrites: Maxfield and Peacock 2001-2007. On Mons Claudianus: Peacock and Maxfield 1997-2006. For a brief summary, cf. Klemm and Klemm 2008, 269-90; Sidebotham 2008, 84-93.

[19] Belli Pasqua 1995, cat. 4-6 (Augustus) and cat. 7-8 (Livia), p. 69-71, and cat. 20, p. 79 (Doryphoros head).

[20] Nile: Pliny, *NH*, 36, 58 describes this statue as being carved from the largest single block of *lapis basanites*, to be identified with the Wadi Hammamat greywacke (Belli Pasqua 1995, 26). On the Aula Regia statues: Supra, Chapter

of the first century AD, after which point imperial commissions are attested only at a smaller scale and not apparently for such public environments, but it is as yet unclear whether the stone's fall from favor was due to changing tastes, lack of skilled craftsmen, or to the exhaustion of the outcrop.[21] At least one portrait of Hadrian is extant, and Pausanias' description of two portraits of the same emperor in "Egyptian stone" in the Olympieion in Athens may testify to others.[22] Moreover, the Hadrianic period should be considered a crucial, if anomalous, period of the Roman use of greywacke; while extant sculptures imply that production of new sculptures in greywacke was low, Hadrian employed several greywacke "antiques" of Ptolemaic or earlier periods in the decoration of his villa in Tivoli.[23] Used alongside old and new sculpture in a wide variety of black stones, the *lapis basanites* antiquities show that the stone was still prized, but not necessarily as a medium for new, massive commissions.[24]

It should be noted, of course, that dating sculpture in this very hard stone by stylistic comparison with sculpture in softer stones – often the only means available – involves some as yet under-studied assumptions about shared practices between hard-stone and marble workshops.[25] Portraits of the emperors and known commissions like the Flavian works are our most reliable guide to this material's age of popularity, alongside the inscriptions carved into a shrine near the quarry that was dedicated to Pan in the early first century AD.[26] The dating of the inscriptions parallel the dates of the portraits; several were written

2, 50; Belli Pasqua 1995, cat. 55, p. 98-99 (Hercules) and cat. 37, p. 89-90 (Dionysus); Gregarek 1999, cat. E20, p. 247 (Hercules); cat. D1, p. 210 (Dionysus); cat. A43, p. 178 (head of Zeus, lost).

[21] Belli Pasqua (1995, 57-58) suggest all three are possible. While there are, for example a portrait of Hadrian and a few other statues dated to the Trajanic or Hadrianic periods, these seem to primarily be associated with a private context (*ibid*, 55). Mielsch (1985, 26) first suggested the lack of skilled sculptors.

[22] Pausanias, *Per.* I, 18, 6; Belli Pasqua 1995, 18-19, 26 and cat. 13, p. 74-75, pl. XVI.

[23] See Chapter 6.

[24] For a (perhaps overly inclusive) collection of the Egyptian and Roman Egyptianizing works discovered at Hadrian's Villa, see Roullet (1972, 49-51), with a list of references to her catalog. The stones represented range from white, red and black marble to red and black granites, diorite, basalt and lapis basanites.

[25] See discussion in Chapter 6, p. 338.

[26] Bernand 1972, p. 75ff. See also Belli Pasqua (1995, 30-31) with additional literature.

in the Julio-Claudian period, two in the Flavian, followed by two dated to Hadrian's reign and one to that of Antoninus Pius. A few others date to the third century and the latest epigraphic evidence of an expedition to the quarry dates to AD 238, under the emperor Maximus.[27] Descriptions and surveys of the quarry do not mention any apparent depletion of the stone, but it is not clear whether the size and quality of blocks required for sculpture were still available.[28] The Romans certainly worked an outcrop located across the ravine from the one exploited by the pharaohs, but it is possible that the pharaonic area may have produced blocks even in the later period; the joint pattern of the stone breaks cleanly in a near perpendicular fashion producing sheer horizontal and vertical faces, making it difficult to find archaeological traces of quarrying.

What is clear is that the decline in Roman use of greywacke coincides neither with a sudden inaccessibility of the site, since expeditions continued into the third century AD, nor with a general decrease of quarrying activity in the area, since the second century AD saw a dramatic increase in exploitation in other areas of the eastern desert, like Mons Porphyrites. Moreover, the rising popularity of sculpture in porphyry suggest that sculptors skilled in working very hard stones were still readily available.[29] Two possible explanations for the decreasing use of lapis basanites remain. Either the quarry no longer produced blocks of the appropriate size and quality, a hypothesis which might be excluded in the future by more detailed surveys of the quarry – though it would then unclear why expeditions of even the third century AD would have returned to a quarry known to be depleted – or there was a change in taste in Italy and obtaining the stone was no longer considered worth the effort and cost. With regard to the latter, it is worth noting that lapis basanites' decline in favor coincides with the fall of Domitian and the Flavian dynasty, whose preference for the stone was attested in at least two enormous statuary commissions in the city of Rome:

[27] Klemm and Klemm 2008, 299.

[28] *Ibid.*, 297-311.

[29] Rockwell (1993, 8-9) indicates that the skills and tools for carving different stones are primarily dependent on the hardness of the stone. On the Mohs scale of hardness, most marbles and limestones rank 3-4, while *Lapis basanites* is a 6 and porphyry is a 7. Since the scale is not linear, the increase in hardness between two numbers can be from 25% to 300% (like that between corundum, which is a 9, and diamonds, which are 10). If sculptors were working porphyry and granite, they could work basanite also.

the Nile God in Vespasian's Forum of Peace and the gods of the Domitian's Aula Regia. Such works were testament to Roman virtuoso sculpture in this expensive, difficult stone. The Nile God was the largest block of lapis basanites ever quarried (Pliny *NH* 36.58) and the Aula Regia sculptures were a massive tour de force of hellenizing style employed in the service of the emperor. Hadrian's life-size portraits and his villa's re-use of Egyptian antiquities, only some of which were made in greywacke, strike an entirely different tone that speaks to his interest in Egypt.

In either case, the decreasing popularity of lapis basanites corresponds to the increasing use of black limestones and marbles quarried in other locations around the Mediterranean. The quick decline of new sculpture in lapis basanites and the subsequent spike in the sculptural use of dark grey or black limestones or marbles has led some scholars to suggest that these new stones were exploited as a substitute for lapis basanites.[30] The proposition is reasonable, since these three lithotypes constitute the vast majority of sculpture in grey to black stones and there is a definite point at which *lapis basanites* is supplanted by a marble from Göktepe in Asia Minor. The other Egyptian black stones, basalt and granodiorite, never reach the same popularity for use as sculptural stones under the Romans and, moreover, much of the Roman-period sculpture in basalt seems to have been displayed in Egypt.[31] The height of Roman usage of these two, though as yet poorly documented and studied, seems to follow the same trajectory as lapis basanites and most known sculptures date from the first century AD. Moreover, while the cost of transporting granodiorite and basalt, both quarried much nearer to the Nile than greywacke, might have been less prohibitive, both are very hard stones with larger grain size. Their craftsmanship must have been difficult and expensive, without even offering the precision of carving and smooth polish that greywacke's finer grain could achieve. By contrast, the black limestones and marbles are softer and their comparative ease of

[30] Belli Pasqua 1995, 56-58; Attanasio et al. 2009a, 339-40, n. 111.

[31] Klemm and Klemm 2008, 302, 306-7. Gaining an accurate quantitative picture of the distribution and the uses to which they were put awaits a comprehensive campaign to identify the stones via archaeometric tests, since the literature and museum identifications are full of misidentifications and a visual examination, especially of patinated museum objects, cannot be sufficiently precise.

carving, and its lower associated cost, has constituted a principal point of the argument that they arise as a convenient substitute for the Egyptian stone.

Marbles and Limestones: Nero antico, Bigio Morato, Bigio Antico

Black and dark grey limestones and marbles began to be used for freestanding sculpture displayed in Italy as early as the second century BC, rarely, followed by at least one major commission in Rome in the Augustan period, and they were then exploited increasingly from the Domitianic period.[32] They reach the height of their popularity in the first half of the second century AD, with a particular floruit in the Hadrianic period.[33] After the Hadrianic period, interest in these and other colored stones wanes from the Antonine period onward, with the exception of the rising popularity of porphyry.[34] Often, local use of a quarry preceded or continued on after the high period of the material's export for projects elsewhere. For example, the quarrying of black stone at Göktepe continued into the late second or early third centuries AD, as is indicated by the commission of about twenty columns for the Bouleterion of the nearby city of Aphrodisias.[35]

In common usage, a grey or black marble or limestone is usually called *bigio antico*, *bigio morato*, or *nero antico*. Originally stemming from the terminology of stonecutters in Rome, these terms first appear in scholarship in Faustino Corsi's treatise *Delle Pietre Antiche* in 1845.[36] Referring to their color, the names classified the stones according to their macroscopic appearance rather than their provenance. Bigio antico referred to grey stones, nero antico to black ones, and bigio morato to those in between, of a greyish-black

[32] Fornaseri et al. (1995) pioneered the archaeometric testing of these black limestones. Augustan: the *Canephorae* found on the Palatine (Tomei 1990; *Augusto*, 221-2, cat. V.1; Tomei 2014;). Domitianic date: Zevi 2002. Compare the lower half of the Scylla excavated in the Bergamo nymphaeum near the Villa of Domitian at Castel Gandolfo (Liverani 1989, 83-85, cat. 29).

[33] Gnoli 1971, 165.

[34] Delbrueck 1932; Maxfield and Peacock 2001; Del Bufalo 2012.

[35] Bier 2008; Attanasio et al. 2009a, 341;.

[36] Corsi 1845; Gnoli 1971, 152-53, 165-67); Lazzarini 2013, 141, n. 2.

color, or as Corsi described it, "a black stone slightly covered with dust."[37] With advances in materials science and the identification of many of these stones as either limestone or marble, P. Pensabene and L. Lazzarini examined how the antiquarian terms mapped onto modern classifications, developing a standardization of use that has largely been accepted among specialists.[38] Under their schema, bigio antico is used to identify, specifically, marbles which could range in color from bluish-grey to dark grey or even black. By contrast, bigio morato refers to limestones that are "black, more or less grey, and more or less white-veined".[39] The meaning of nero antico is not clarified in this article, but other scholars assimilate bigio morato and nero antico, which they write are "mostly limestones, but… this is not always the case."[40] In later publications, Lazzarini uses neri antichi as a blanket term for stones of this color range, including both bigi antichi and bigi morati.[41] Moreover, Lazzarini has noted the particular usefulness of a term that encompasses both lithotypes of black stones, given the difficulty that non-specialists have in distinguishing between the two with the naked eye. He notes that the difficulty is only enhanced by the fact that these stones are highly susceptible to an oxidation patina, which "rather quickly" increases the greyish appearance of the stones' surfaces.[42] Lazzarini thus suggests that, when in doubt, one should call a black stone of unknown lithotype a *nero antico*.

Though these technical classifications aim at clarity, they have added another layer to the confusion of terminology, since now the terms that once referred strictly to color have been repurposed as an indication

[37] Corsi 1845, 94, and 106-7.

[38] Pensabene and Lazzarini 1998.

[39] *Ibid.*, 141.

[40] Attanasio et al. (2009a) identify the black stone quarried at Göktepe as a *nero antico* that is a true marble.

[41] Lazzarini 2011, 123; Lazzarini 2013, 142.

[42] *Ibid.*, 142-3.

of the lithotype regardless of color.[43] So the material of the Capitoline centaurs from Hadrian's Villa has long been called *bigio morato*, was recently re-identified as a *nero antico* marble with the discovery of its quarry at Göktepe, and, since it is a marble, is considered "probably" a *bigio antico* in a recent article by Lazzarini.[44] Moreover, museum placards rarely change in response to a revised name of a material,[45] new catalogs fail to include bibliography about the stone's provenance,[46] and even publications focusing on these stones do not always precisely follow Pensabene and Lazzarini's division.[47] In other words, even though it is now clear that these dark-colored stones were quarried at various sites around the Mediterranean, and it is becoming increasingly possible to differentiate them by their lithotype or place of origin, these old descriptors remain preeminent in scholarly and casual usage. Individuation is resisted in favor of assimilating, descriptive terms.

The present state of confusion is, however, instructive in some ways. It is reflective of the difficulty modern audiences have with the fact that stones of varying appearances should be grouped together from a petrographic point of view. All the marbles, the *bigi antichi*, that present this color range from light grey to midnight black appear quite different to the untrained eye but are genetically the same.[48] During the metamorphosis from limestone to marble, organic matter in the limestone protolith is burned, which,

[43] Whether one should follow the Corsi (1845) and Gnoli (1971) or Pensabene and Lazzarini (1998) is still the subject of heated debate. Cf. Lazzarini 2010a (review of Attanasio et al. 2009a; Attanasio et al. 2012; Lazzarini 2011.

[44] *Nero antico*: Attanasio et al. 2009a; *bigio antico*: Lazzarini (2013, 144), who considers Attanasio et al. (2009) a "rather confused description of the lithotypes quarried at Göktepe".

[45] The Capitoline centaurs' labels are old and maintain "bigio morato"; museum placards rarely identify a stone's provenance even if known.

[46] E.g. the entry for the so-called Danaids or *canephorae* from the Palatine in the 2014 catalog of the Museo Palatino makes no mention that the stone has been studied or tested, much less that its provenance has been securely identified (Tomei 2014, cat. 13, p. 168-71); likewise their catalog entry in the 2013 "Augusto" catalog (p. 226 (Cima)). On their quarry: Bruno and Pallante 2002, 174 (favoring lapis taenarium); Agus et al. 2006, 79-80 (confirming Tunisian, likely Ain El Ksir).

[47] Attanasio et al. (2009, 331) e.g. consider the black stone quarried at Göktepe to be a *nero antico*, even though it is a true marble and not a limestone: "The Göktepe black stone, a typical *nero antico*, that being a marble, might mistakenly be called a *bigio antico*, is a good example of the possible inconsistencies."

[48] Lazzarini 2013, 142-3.

depending upon various conditions, produces more or less carbonaceous matter/graphite particles. The light grey to black color of such marbles is the result of the number, size, and distribution of these particles. The metamorphic process transforms limestones into colored marbles, while the black limestones used by the Romans were formed by the lithification of accumulations of sediment and carbonaceous matter. The geological distinction, even between stones that present the very same color, is crucial, because it correlates with a tangible difference in their fracture patterns that distinguishes their suitability for carving.[49]

Moreover, the confusing and often assimilating terminology used for all these grey to black lithotypes finds parallel with Pliny the Elder's nonchalant assimilation of black stones (*lapides nigri*) in the *Natural History* (36, 29): "*Sunt et nigri, quorum auctoritas venit in Marmora, sicut Taenarius. Varro nigros ex Africa firmiores esse tradit quam in Italia*, …". Though Pliny notes several origins for the stones and describes one as stronger than another, what is most interesting is his grouping together of all black stones from Italy to Africa to Greece. Rather than their geographic origin, it is their color that defines them and that is significant. By contrast with the singular origin of most colored stones, like *pavonazzetto* or *giallo antico*, numerous sources of grey to black stones were known by the late first century AD.[50] Visual discrimination between them might have been as difficult for an ancient audience as it has been for modern scholars. It has been only in the last decades that the work of several scholars has made it possible for us to discuss exactly which quarries these grey and black stones came from and to track the trends of each quarry's exploitation. The work remains unfinished, however, and in the last five years alone, two new important Roman quarry sites have been discovered and several others have been studied archaeometrically for the first time.[51] However, like much of the work on stone provenance and identification, the results of

[49] *Ibid*., 141, n.2.

[50] One should keep in mind that these stones largely came into vogue toward the end of the first century AD, shortly after Pliny's *Natural History* was published, so perhaps he is not as concerned with their origin as he is with the other stones.

[51] Newly discovered: at modern Iznik in NW Turkey (Yavuz et al. 2012), and at Aghios Petros (Tripolis-Peloponnesus) (Lazzarini 2013). The quarry on Mount Lartos near Lindos on Rhodes was known for local use but archaeometric testing has connected it with the base and prow of the Victory of Samothrace (Palagia 2010; Maniatis et al. 2012).

these studies have principally been reported individually, by quarry location, or in small groups as a database of provenance identification information.[52] A brief review of the evidence for their exploitation for Roman sculpture is necessary.

B.2.i Lapis Taenarius: marble and limestones, grey to black

The black stone known to Pliny as *Lapis Taenarius* has already been mentioned and, indeed, a field survey has revealed that both dark-colored limestones and marbles exist on Cape Tainaron (modern Cape Matapan).[53] Pliny uses one (or both) of these dark rocks as an example of the black stones (*nigri*) that are highly esteemed in his era and he also mentions it in a description of the quarries of the Mani peninsula (*NH* 36.43).[54] Although Pliny describes a black stone (*lapis*), rather than a marble (*marmor*), it was the deposit of grey-black marble that was systematically exploited in antiquity.[55] While outcrops of a black, fine-grained limestone have been discovered, there is no archaeological evidence of ancient quarrying at these sites. By contrast, near the cape, there are three quarry sites of grey to blackish, medium-grained marble. Two of these were certainly exploited in antiquity, one larger and one smaller, where a relatively limited volume of this marble was extracted. A larger quarry of a similarly colored marble is known at nearby Langada, but any traces of ancient exploitation have been destroyed by modern.[56] Moreover, despite Pliny's praise, there is as yet little archaeological evidence that the marble of Cape Tainaron often left the

[52] Lazzarini (2007, 97-107; 2013) and Brilli et al. (2011) are the notable exceptions. Both treat the material more from a scientific perspective, and Lazzarini (2013) emphasizes petrographic descriptions over assessing the types of sculptures that have been associated with each quarry. However, Lazzarini (2007) predates the discovery of Göktepe and Brilli et al. are concerned with limestones, mentioning the new marble only briefly.

[53] Bruno and Pallante 2002; Lazzarini 2007, 97-107; Lazzarini 2013, 146-7.

[54] *Lapis Taenarius* is not to be confused with Pliny's *Marmor Taenarium* (*NH* 135, 158), which refers to the red marble commonly known as *rosso antico* and which is also quarried on this peninsula (cf. Lazzarini 1990; Gorgoni et al. 1992; Gorgoni et al. 2002; Lazzarini 2007, 71-96).

[55] Gnoli (1971, 165) notes that he is unable to confirm the reports of black or gray-black marble on the peninsula and lists several other possible sources. See: Cooper 1988, 68ff.; Pensabene and Lazzarini 1998, 141.

[56] Lazzarini 2013, 146.

Peloponnese.[57] Perhaps more sculptures and architectural elements remain to be identified, but so far the only sculpture outside of Greece that has been archaeometrically connected with the these quarries, although not definitively, is the Isis/Fortuna from Palestrina.[58]

B.2.ii Zeugitania – limestones, black

The other black stones mentioned by Pliny are more difficult to associate with known quarries. Since Pliny describes the black stones of Egypt in other sections of his text, the African black stones he writes about here (quoting Varro) are most likely to be the black limestones quarried in Northern Africa and especially Tunisia.[59] Numerous sources of black stones are known in Tunisia and Northern Africa, but, at present, only a few of these have been studied.[60]

The limestones quarried at Djebel Azeiza and Djebel Oust, near Bir Mcherga north of Thuburbo Majus, are relatively similar in isotopic character and in their dark-grey to black color.[61] That of Djebel

[57] It has been suggested that the of black limestone at Vitina might have provided stone for Roman commissions, but modern quarrying would have obliterated any traces of ancient (Lazzarini 2007). The only object linked to the archaeometric values associated with the quarry is a fragment of a marble ship from Hadrian's Villa. However, the authors of this study note that it is controversial whether ancient quarrying occurred at the site and suggest that these value may represent an error in process (Attanasio et al. 2013, Table 1, VA 24, 4365-66).

[58] Bruno and Pallante (2002, 172-3) note that the Isis/Fortuna statue from Palestrina exhibits a general affinity with the Mani marbles, but since its isotopic signature lies in the overlap between those of the Mani and Lesbos *bigio antico* quarries, its provenance remains uncertain. Lazzarini (2007, 97) considers its provenance certain, however, and anticipates that further testing will identify many more sculptures in this material.

[59] The black limestones of Tunisia are the only ones that are currently known to have reach Rome in enough quantity for Pliny to consider them so popular. Yet the rest of the passage is also vague. For example, it is unclear which black Italian stones Pliny compares with the African. Perhaps he means the Palombino of the Civitavecchia-Tolfa region in Lazio, which was used for the *Lapis Niger* in the Roman Forum (Fornaseri et al. 1995). Yet if the Italian stone is the same as the Tusculan one mentioned a few sentences later then it refers to the dark calcareous tufa of that region. Yet if Pliny compares the Tunisian limestones with Italian tufa, he collapses two radically different types of stone. So perhaps the passage refers to some other black African stone. Since, however, Pliny switches to white stones in the sentence between, the discussion of Tusculan tufa may be no help in identifying what black Italian stone Pliny meant to describe.

[60] Fornaseri et al. 1995, 238 (brief descriptions); Agus et al. 2006; Lazzarini et al. 2006.

[61] Gnoli (1971, 165-67) proposed Djebel Azeiza as the Roman's primary source of *nero antico*, which he distinguished as a much richer black than the *bigio morato* of e.g. the centaurs from Hadrian's Villa. Ward-Perkins (1951, 91) knew only the deposit of black stone at Djebel Filfila, where a white marble was quarried extensively.

Azeiza, however, is distinguished by white veins, whereas the limestone of Djebel Oust has fewer and presents a slightly lighter color. The latter was used for cornices and other architectural elements and was exported to Rome in limited quantities from the third century BC.[62] The third quarry site, Ain El Ksir, is located near Chemtou (ancient Simitthus), which was the source of the famous *giallo antico* or *marmor Numidicum*.[63] The Ain El Ksir quarries produced a stone of an almost pure black color that was highly polishable. It is likely to have been one of the sources of dark limestones exploited for visible architectural elements, statuary and reliefs in North African cities from the fourth to first centuries BC.[64] Ain El Ksir and the other sites probably became available to the Romans in 146BC with the end of the Third Punic War.

In the Roman period, all of these stones enjoyed continued use throughout the province of Zeugitania, principally for architectural features or veneer and were also exported to the city of Rome. A. Kuttner's recent reevaluation of the so-called Bocchus reliefs excavated in the Area Sacra di Sant'Omobono, as honoring Scipio Aemilianus Africanus and Massinissa instead of Sulla and Bocchus, suggests that a black Numidian stone was used in a major monument in Rome shortly after 146BC.[65] Though the stone's composition has yet to be identified with any known Mediterranean quarry, the closest parallel is Ain El Ksir, and a North African origin is most likely.[66] The geographic resonance of the stone would be in keeping with either dedication's commemoration of Italian/North African relations. Whether

[62] Pensabene 1991.

[63] Rakob's (1993, vol. I, 52-3) earlier study of Chemtou and its quarries mentions Ain El Ksir as an ancient quarry of gray stone but only briefly describes the site.

[64] Kuttner (2013, 267), with examples of pre-Roman architecture and statuary. I am unaware of any archaeometric analyses that attempt to identify the provenance of works that predate the Roman period.

[65] Kuttner (*Ibid.*, 2013, 248-67) challenging the more common identification as a monument dedicated by the Mauretanian king Bocchus in 91BC in commemoration of their cooperation in ending the Jugurthine Wars: see bibliography in La Rocca and Parisi Presicce 2010, 285-7, cat. II.19 (R. Di Cesare). I am grateful to Dan Diffendale for pointing me to Kuttner's recent reevaluation of this monument.

[66] While its archaeometric values are closest to Ain El Ksir, there are enough discrepancies between the values of the Sant'Omobono reliefs and samples from all known black limestone quarries that Brilli et al. (2011, 1383-4) have suggested that there at least one more source in Proconsular Africa that may still be unknown. Brilli et al. (2010) also ruled out Thala as the origin of the limestone, contra scholars' previous suggestions (Schäfer 1979; Hölscher 1980). Brilli et al. (2010) note that Thala may still have been an ancient quarry, though modern projects have erased any archaeological traces at the site.

set up in 146 or 91BC, the reliefs, which probably formed the quadrangular base for a bronze sculpture, remain a very early instance of the monumental exploitation of the geographic resonance of a colored stone. Moreover, Numidian black limestones were put to sculptural use quite early, as indicated by the canephorae (probably to be associated with the Danaids that decorated the portico of the Temple of Apollo Palatinus) found on the Palatine Hill, whose archaeometric values match precisely those of Ain El Ksir.[67]

B.2.iii Italy – various types of stones, dark grey to black stones

It is not exactly clear which Italian black stones Pliny means to compare with the African ones. Several sources of dark-colored stones were known, including the *palombino* quarried near Tolfa and employed, for example, for the *lapis niger* in the Roman Forum but these seem not to be exploited for sculpture.[68] Other stones, like the grey-black Ardesia from the north of Italy were frequently used in architecture or *opus sectile*, as at Hadrian's Villa.[69] Even the grey peperino tufa could be considered a lapis niger in a very broad sense. Despite its porous nature, peperino was sometimes, albeit rarely, used for sculpture. The mid-second century BC sculptural group discovered near San Giovanni in Laterano perhaps celebrated a Roman victory in Gaul and probably belonged to a sanctuary of Hercules in the area.[70] The peperino head of Hercules in the Ny Carlsberg Glyptothek may also belong to this context.[71] However, several traces of stucco and pigment remaining on the sculptures indicate that the dark color of the stone was entirely obscured in the final product, suggesting that its color was not the primary motive for its

[67] The *canephorae* had previously been associated with the *nero antico* limestone outcrops of Mani, based on isotopic and petrographic affinity (Bruno and Pallante 2002, 174). Agus et al. (2006, 79-80) confirmed their provenance as Ain El-Ksir.

[68] Fornaseri et al. 1995.

[69] Adembri 2002.

[70] Colonna 1991, 221-23; Bertoletti et al. 2006, 29-31. Cf. also Coarelli 1976, p. 25; La Rocca 1990, p. 430.

[71] Moltesen 1985, 71, fig. 12.

selection.[72] As will be discussed below, the black limestones and marbles exploited in the imperial period are likely to have left large portions of the stone visible even if some pigment or other superficial adornment was added. The peperino statues thus represent a different phenomenon.

B.2.iv Lesbos – marble, middle grey

Outside of Pliny's text, there are literary attestations for a few other grey to black stones. For example, the grey *bigio antico* marble quarried near Moria on Lesbos is found listed in the Diocletianic Price Edict, where it is the only grey or black stone mentioned.[73] It is a lighter to middle grey color, quite similar macroscopically to the so-called *bardiglio* of the Luni quarries as well as the Pentelic, Hymettan, and Proconnesian grey marbles.[74] Another variety often shows evidence of fossils, a characteristic which has led to its inclusion among the stones referred to in modern times as *bigi lumachellato*.[75] The more regular grey variety was quarried for exportation from the Hellenistic period into late antiquity. Its popularity may have been partially due to its low cost; in the Edict it is among the cheapest marbles and there is so far no evidence that quarrying was strictly controlled by local or imperial administration. Quantitatively, it was one of the most used grey stones of antiquity, but it is not to be associated with any of the ideal sculptures collected in Chapter 2.

B.2.v Hymettan/Pentelic/Lunense – marble light to dark grey varieties

Some of the major quarries of antiquity also produced light grey varieties of marble, like those at Mount Hymettus, Mount Pentelikon and Luni or Luna (Carrara).[76] The grey beds at the former two sites were exploited in the Hellenistic and Roman periods for architectural elements but not for sculpture, though

[72] Bertoletti et al. 2006, 29.

[73] Giacchero 1974; Millar and Williams 1993; Lazzarini et al. 1999; Lazzarini 2010b; Pensabene 2013, 306-8, 603.

[74] Pensabene and Lazzarini 1998, 142.

[75] Lazzarini et al. 1999, 175.

[76] Marinos 1948, p. 387; Dolci 1980; Goette et al. 1999; Lazzarini 2013, 146-7.

the white marble from each site exhibits grey veins. The *bardiglio* of Luna had primarily the same function, but was sometimes used also for small reliefs and other artifacts. There are some attestations of light grey or grey-streaked ideal sculpture, like the torso of a classical athlete (possibly a Doryphoros) in Berlin, but the provenance of their material is unidentified.[77] Moreover, it remains unclear how much these grey-streaked varieties of white marble or even light grey marbles were treated in a manner similar to white or colored marbles.

B.2.vi Chios – limestone, black

The black limestone of Chios is mentioned in a much earlier source, Theophrastus' *De Lapidibus*, but the meaning of his description of the stone as "transparent" (I, 7) is unclear.[78] On the other hand, there is archaeological evidence that the black limestone quarried on Chios, near the town of Màrmaro, was significantly exploited for local production in the Hellenistic period.[79] Some monuments date even to the late classical period and the stone continues to be used through the Roman empire and into the Byzantine era, but still in a principally regional manner.[80] It seems never to have reached the level of renown acquired by the Chian breccia called *portasanta*, since, so far, no artifacts outside of Chios and the nearby coastal region of Turkey can be securely attributed to the black limestone quarry.

B.2.vii Aghios Petros & Iznik – marble, black

Other known ancient quarry sites of grayish-black limestones and marbles remain less well studied, particularly because they are recently discovered. To this group belongs the quarry on Mount Parnonas near

[77] Berlin, Antikensammlung inv. 522: Gregarek 1999, 256, cat. F3.

[78] Mottana and Napolitano 1997, 159. Theophrastus refers to it again in *De Lapidibus*, VI, 33, saying that "the black stone of Orchomenos is darker than that of Chios" (trans. *Ibid.*, 1997, 163).

[79] Lazzarini 2007, 151-9; Brilli et al. 2010. Preliminary results in: Lazzarini 2001; Lazzarini 2003.

[80] Pensabene and Lazzarini 1998; Lazzarini 2007, 151-2;.

Aghios Petros, in the province of Tripolis and the quarry near ancient Nicaea, modern Iznik, in NW Turkey.[81] At Aghios Petros, a recent opening of a modern quarry of a marble with an intense black color prompted scholars to conduct a survey of the site, which documented clear evidence of ancient exploitation which the investigators judged to be more likely Roman than Greek. At Iznik, there are extensive signs of ancient exploitation that suggests it produced a large enough quantity of marble that exportation should be expected.[82] Scholars are still working to establish where and how far this stone may have travelled. Both of these marbles are of a quality good enough for sculpture as well as architectural elements, but as yet no extant ancient products have been associated with either quarry.

B.2.viii Teos – marble, limestone, grayish-black

Another largely unstudied quarry – due to difficulties of survey – is the grey marble quarry near Teos.[83] While Pliny's text does mention Teos as a source of marble, scholars are reasonably agreed that the stone he refers to is the famous "Africano" or "Lucullan" marble that was extracted, in a region called Sığacık, from the surrounding strata of grey marble.[84] The grey marble was less famous, but also exploited in the imperial period. Inscriptions on numerous blocks left in the areas around the quarry, noted by travelers as early as the 18th century, testify to second century imperial patronage of the grey stones. [85] Limited survey projects have transcribed and studied the blocks on the surface, but they have also indicated the existence of numerous more partially interred blocks that await excavation. In addition, at nearby Kara Göl, a "grey" variety of *africano* was quarried. Though lacking *africano*'s red and pinkish inclusions, it presents

[81] Lazzarini 2013, 147-50.

[82] Yavuz et al. 2012.

[83] Pensabene and Lazzarini (1998, 142-51); Pensabene 2013, 392-93.

[84] Ballance and Ward-Perkins 1966; Fant 1987; 1989.

[85] Bequignon 1928, 189; Fant 1987, 392-3. Pensabene and Lazzarini (1998), as well as Attanasio et al. (2009a, 330-4) and Brilli et al. (2010), survey the data available for the study of black limestones and marbles and note unstudied quarries.

a similar pattern in shades of grey to black and has been called "bigio africanato". Though perhaps not as prized as the more colorful version, it was used locally as well as in Rome, as the inscribed blocks found among the marble stockpiles at Ostia testify.[86] These important sites await a comprehensive catalog of their inscriptions and archaeometric testing, especially of their gray stones. However, the natural spring whose water fills the cavity of the quarry presents a daunting obstacle for future studies.[87] In the meantime, the current study is not terribly hampered by the lack of such data, since these quarries have not been securely identified or even suggested as the provenance of the ideal Roman sculpture collected here. Rather, they seem to have been exploited primarily for architectural elements. For example, at Ostia, "bigio africanato" is represented only by columns and rectilinear blocks or drums which were probably intended for the production of slabs used in wall revetment.[88]

B.2.ix Göktepe – marble, bigio antico and nero antico

The value of continuing research in this area has been illustrated by the study of the recently discovered quarries at Göktepe, near Aphrodisias, which is currently reshaping our understanding of trade patterns and artistic production. First published only in 2009, Göktepe is now considered to have been one of the most significant Roman quarries of black statuary stones, qualitatively and perhaps also quantitatively.[89] Among the five districts surveyed at the site, three different stones have been identified: a black, calcitic, very fine-grained marble; a grey-colored marble; and a white statuary, very fine-grained

[86] Pensabene (1994, 17, Tab. p. 422-23) lists 21 total examples of "bigio africanato"; Pensabene and Bruno 1998, 11-12; Pensabene 2013, 119-25, 393.

[87] Fant 1987, 391-2.

[88] Pensabene 2013, 120-21, fig. 2.5.

[89] Attanasio et al. 2009a; Attanasio et al. 2013. There is still controversy over the scale and importance of the Göktepe quarry of black marble and some of the methods used in these studies: cf. Lazzarini 2010a (a review of Attanasio et al. 2009a); Attanasio et al. 2011; Lazzarini 2011. Preliminary reports on the quarries in: Attanasio et al. 2009b; Yavuz et al. 2011. The only marble that Göktepe stone might be confused with in an archaeometric analysis is Vitina, but the two are very different on a micro- and macroscopic level. The massive modern quarry at Vitina, northwest of Tripoli in the Peloponnese, has probably destroyed any evidence of ancient quarrying but its exploitation in antiquity is possible (Lazzarini 2007, 156). Cf. also Pensabene 2013, 359-60.

marble.[90] The white marble is similar, upon visual examination and isotopic analysis, to Carrara, as discussed in Appendix A. The black marble was not exploited at the same volume, but it was used in several imperial projects of the highest order. Notably, the two Dacian prisoners from Trajan's forum, now in the courtyard of the Palazzo dei Conservatori, and numerous sculptures from Hadrian's villa at Tivoli have been securely assigned a Göktepe provenance.[91] The prevalence of this stone in Trajanic and Hadrianic projects, combined with the discovery of blocks at quarry site 4.B with inscribed quarry marks and cavities prepared for the imperial seal, has been considered to indicate that the quarries were under imperial control sometime during the second century AD if not at other times.[92]

Comments on the use of dark-colored marbles, limestones, and stones

The recent discoveries at Göktepe, Iznik, and Aghios Petros suggest that the next decades will continue to reshape our knowledge of the exploitation of grey to black limestones and marbles exploited in Greek and Roman antiquity. Even known and well-studied quarries and stones may still present surprises. For example, recent investigations of the Nike of Samothrace have indicated that the dark bluish-grey marble of the ship should be associated with the Rhodian quarry at Lartos (modern Lardos).[93] The local use of this marble, for monuments and statue bases, was already established to have lasted from the Hellenistic to the Medieval periods[94], but it was not previously known to have been exported from the island.

This history of quarry exploitation clarifies several points. First, it shows that Pliny's identification of "black" stones includes a much wider color range that might be expected, if his *Lapis Taenaris* is the grayish marble that archaeologists confirm was quarried there. Second, it indicates that there are three

[90] Attanasio et al. (2009a) refer to the black marble as a *nero antico*, the grey as a *bigio morato*.

[91] Attanasio et al. 2009a.

[92] Attanasio et al. 2009a, 344.

[93] Palagia 2010, 156-7; Maniatis et al. 2012, 270.

[94] Papavasiliou 2004.

primary sources of dark colored stones that range from greenish/black to dark grey and black, all of which are represented among the ideal sculptures collected in Chapter 2: lapis basanites from Wadi-Hammamat, black marble from Göktepe, and black limestone from Northern Africa, perhaps principally the quarry at Ain El Ksir. Third, if we also take into account the types of sculpture carved in these three different (albeit visibly similar) stones, some patterns emerge.

A brief history of the sculptural use of black stones would begin with sporadic imports to Italy of Greek grey statuary marbles (e.g. the Palestrina Isis/Fortuna, from Cape Tainaron) in the second century BC as well as imports of North African black limestones, beginning perhaps in the second century BC (for statue bases), but definitely in the first. The elite Roman taste for using this black stone for architectural, monumental, or sculptural projects likely derived from generals' and magistrates' experience of its use for these purposes in Hellenistic cities of the East and, especially, North Africa.[95] Yet even with the conquest of the region and control of its quarries, Roman sculptural use of North African black limestones seems – as far as we know – to have been limited. The only major statuary commission so far identified is the prominent Augustan commission of the Danaids for the Palatine Temple of Apollo. The Augustan period's interest in brightly colored stones seems also to have included these dark stones, since it is precisely in this moment that Egyptian lapis basanites emerges as an elite material for Roman sculpture. At this time and in earlier periods, Egyptian sculpture in this stone was brought to Rome and installed around the city, but probably especially in Egyptian sanctuaries, like the Temple of Isis in the Campus Martius.[96] New works in lapis basanites included portraiture of the Augustan gens, replicas of Greek ideal types and statues of

[95] Lazzarini et al. 2006; Kuttner 2013, 267. If Kuttner's article is any indication, there is much to learn about the impact of North African monumental and domestic architecture, and particularly its polychromy, on constructions in the city of Rome.

[96] It is not known precisely how many or what kind of Egyptian sculptures or monuments which came to Rome after the conquest of Egypt were installed in the Temple of Isis under Augustus since the temple was destroyed under Tiberius and many of its statues thrown into the Tiber. Rebuilt under Caligula and burned in a fire under Titus, the sanctuary was again reconstructed under Domitian, when it seems many of the works excavated there must have been imported, among which are several in *lapis basanites*. See Roullet 1972, 23-35 and, on other possible settings for Egyptian sculpture in Rome, 36-51; Lembke 1994.

Serapis. It continues to be used as an elite material until the end of the first century AD, when it is employed in colossal commissions for the Palatine Aula Regia, after which point Roman importation of lapis basanites decreases dramatically. By the reign of Trajan, and even more so under Hadrian, the black marble of Göktepe becomes the black stone of choice for sculptures ranging from replicas of Classical and Hellenistic types to Egyptianizing fantasies. The Roman use of dark-colored stones for statuary is thus relatively circumscribed within the period ranging from the late first century BC to the middle of the second century AD. The differing uses of the stones and their possible associations, particularly their often-attributed imitation of bronze, are dealt with at length in the chapters of this dissertation.

Bibliography:

Adembri, B. 2002. "I marmi colorati nella decorazione di Villa Adriana." In *I marmi colorati della Roma imperiale*, edited by M. De Nuccio and L. Ungaro, 471–81. Venice: Marsilio.

Agus, M., S. Cara, L. Lazzarini, and M. Mola. 2006. "A laboratory characterization of black limestones (Neri Antichi) from Zeugitania (Tunisia)." *Marmora* 2: 71–82.

Attanasio, D., M. Bruno, W. Prochaska, and A.B. Yavuz. 2013. "The Asiatic marbles of the Hadrian's Villa at Tivoli." *JAS* 40: 4358–68.

Attanasio, D., M. Bruno, and A.B. Yavuz. 2009a. "Quarries in the region of Aphrodisias: the black and white marbles of Göktepe (Muğla)." *JRA* 22.1: 312–48.

Attanasio, D., M. Bruno, and A.B. Yavuz. 2011. "La realtà del marmo afrodisiense di Göktepe: replica a una recensione." *Marmora* 7: 119–22.

Attanasio, D., M. Bruno, A.B. Yavuz, and H. Elçi. 2009b. "Aphrodisias and the newly discovered quarries at Göktepe." In *Aphrodisias'tan Roma portreleri = Roman portraits from Aphrodisias*, edited by R. R. R. Smith and L. Lenaghan, 217–27. Istanbul: Yapı Kredi Yayınları.

Ballance, H., and J.B. Ward-Perkins. 1966. "The origin of Africano." *PBSR* 34: 79–81.

Belli Pasqua, R. 1995. *Sculture di età romana in "basalto"*. Xenia Antiqua 2. Roma: "L'Erma" di Bretschneider.

Bequignon, Y. 1928. "Les 'Pyrgoi' des Tèos." Revue archéologique 28: 185–208.

Bernand, A. 1972. *De Koptos à Kosseir*. Leiden: Brill.

Bertoletti, M., M. Cima, and E. Talamo. 2006. *Centrale Montemartini : Musei capitolini*. Milan: Electa.

Best, M.G. 2003. *Igneous and metamorphic petrology*. Malden, MA: Blackwell Pub.

Bloxam, E.G., and P. Storemyr. 2002. “Old Kingdom Basalt Quarrying Activities at Widan el-Faras, Northern Faiyum Desert.” *JEA* 88: 23–36.

Brilli, M., F. Antonelli, F. Giustizi, L. Lazzarini, and P. Pensabene. 2010. “Black limestones used in antiquity: the petrographic, isotopic and EPR database for provenance determination.” *JAS* 37: 994–1005.

Brilli, M., L. Conti, F. Giustini, M. Occhiuzzi, P. Pensabene, and M. De Nuccio. 2011. “Determining the Provenance of Black Limestone Artifacts Using Petrography, Isotopes, and EPR Techniques: The Case of the Monument of Bocco.” *JAS* 38 6: 1377–84.

Bruno, M., and P. Pallante. 2002. “The ‘Lapis Taenarius’ quarries of Cape Tainaron (Mani Peninsula, S. Peloponnesus, Greece).” In *ASMOSIA VI : Interdisciplinary studies on ancient stone : proceedings of the sixth international conference of the Association for the study of marble and other stones in antiquity : Venice, June 15-18 2000,* edited by L. Lazzarini, 163–76. Padua: Bottega d’Erasmo.

Coarelli, F. 1976. “Architettura e arti figurative in Roma, 150-50 a.C.” In *Hellenismus in Mittelitalien : Kolloquium in Göttingen vom 5. bis 9. Juni 1974*, edited by P. Zanker, 21–32. Göttingen: Vandenhoeck und Ruprecht.

Colonna, G. 1991. “Acqua Acetosa Laurentina, l’Ager Romanus antiquus e i santuari del I miglio.” *ScAnt* 5: 209–32.

Cooper, F.A. 1988. “The Quarries of Mount Taygetos in the Peloponnesos.” In *Classical Marble: Geochemistry, Technology, Trade,* edited by N. Herz and M. Waelkens, 65-76. Dordrecht; Boston; London: Kluwer Academic Publishers.

Corsi, F. 1845. *Delle pietre antiche : trattato*. Rome: Tip. di G. Puccinelli.

Del Bufalo, D. 2012. *Porphyry : red imperial porphyry : power and religion*. Turin: U. Allemandi & C.

Delbrueck, R. 1932. *Antike Porphyrwerke*. Berlin, Leipzig: De Gruyter.

Dolci, E. 1980. *Carrara, cave antiche*. Carrara : Comune, Assessorato alla cultura, Assessorato al marmo.

Dubois, C. 1908. *Étude sur l’administration et l’exploitation des carrières marbres, porphyre, granit, etc. dans le monde romaine*. Paris: Fontemoing.

Fant, J.C. 1987. “Preliminary Report of the Teos/Karagöl Survey.” *Arastirma Sonuclari Toplantisi* 5, 1: 389–401.

———. 1989. “Poikiloi Lithoi: the anomalous Economics of the Roman Imperial Marble Quarry at Teos.” In *The Greek renaissance in the Roman Empire: papers from the tenth British Museum Classical Colloquium,* edited by S. Walker and A. Cameron, 206–18. Bulletin supplement (University of London. Institute of Classical Studies) no. 55. London: University of London, Institute of Classical Studies.

Fornaseri, M., L. Lazzarini, P. Pensabene, M. Preite Martinez, and B. Turi. 1995. “‘Lapis Niger’ and other black limestones used in antiquity.” In *The study of marble and other stones used in antiquity,* edited by Y. Maniatis, N. Herz, and I. Basiakos, 235–9. London: Archetype.

Gates-Foster, J. 2012a. “The Eastern Desert and the Red Sea Ports.” In *The Oxford handbook of Roman Egypt*, edited by C. Riggs, 736–48. 1st ed. Oxford handbooks in archaeology. Oxford: Oxford University Press.

———. 2012b. “The Well-Remembered Path: Roadways and Cultural Memory in Ptolemaic and Roman Egypt.” In *Highways, Byways, and Road Systems in the Pre-Modern World*, edited by S.E. Alcock, J. Bodel, and R. Talbert, 202–21. Malden, MA: Wiley-Blackwell.

Giacchero, M. 1974. *Edictum Diocletiani et collegarum de pretiis rerum venalium : in integrum fere restitutum e latinis graecisque fragmentis*. Genoa: Istituto di storia antica e scienze ausiliarie.

Gnoli, R. 1971. *Marmora romana*. Rome: Edizioni dell’Elefante.

Goette, H.G., K. Polikreti, T. Vacoulis, and Y. Maniatis. 1999. “Investigation of the Greyish-blue marble of Pentelikon and Hymettus.” In *Archéomatériaux: marbres et autres roches : Asmosia IV Bordeaux - Talence, 9-13 octobre 1995 : actes de la IVe Conférence internationale de l’Association pour l’étude des marbres et autres roches utilisés dans le passé*, edited by M. Schvoerer 83–90. Bordeaux: Université Michel de Montaige

Gorgoni, C., I. Kokkinakis, L. Lazzarini, and M. Mariottini. 1992. “Geochemical and petrographic characterisation of ‘Rosso Antico’ and other white-grey marbles of Mani (Greece).” *In Ancient stones : quarrying, trade and provenance : interdisciplinary studies on stones and stone technology in Europe and Near East from the prehistoric to the early Christian period*, edited by M. Waelkens, N. Herz and L. Moens, 155–65. Leuven, Belgium: Leuven University Press.

Gorgoni, C., L. Lazzarini, and B. Pallante. 2002. “New archaeometric data on ‘Rosso Antico’ and other red marbles used in antiquity.” In *ASMOSIA VI : Interdisciplinary studies on ancient stone : proceedings of the sixth international conference of the Association for the study of marble and other stones in antiquity : Venice, June 15-18 2000*, edited by L. Lazzarini, 199–206. Padua: Bottega d’Erasmo.

Gregarek, H. 1999. “Untersuchungen zur kaiserzeitlichen Idealplastik aus Buntmarmor.” *KölnJb* 32: 33–284.

Harrell, J.A., and T. Bown. 1995. “An Old Kingdom Basalt Quarry at Widan el-Faras and the Quarry Road to Lake Moeris.” *JARCE* 32: 71–91.

Hikade, T. 2006. “Expeditions to the Wadi Hammamat During the New Kingdom.” 92: 153–68.

Hirt, A.M. 2010. *Imperial mines and quarries in the roman world : organizational aspects, 27 BC-AD 235*. Oxford classical monographs. Oxford: Oxford University Press.

Hölscher, T. 1980. “Römische Siegesdenkmäler der späten Republik” In *Tainia : Roland Hampe zum 70. Geburtstag am 2. Dezember 1978*, edited by H. Cahn and E. Simon, 357–71. Mainz am Rhein: Von Zabern.

Klemm, R., and D. Klemm. 2008. *Stones and quarries in Ancient Egypt*. London: the Trustees of the British Museum press.

Kuttner, A. 2013. “Representing Hellenistic Numidia, in Africa and at Rome.” In *The Hellenistic West. Rethinking the Mediterranean*, edited by J. Prag and J. Quinn, 216–72. Cambridge: Cambridge University Press.

La Rocca, E. 1990. “Linguaggio artistico e ideologia politica a Roma in eta’ repubblicana.” In *Roma e l’Italia*, edited by C. Ampolo, 289–495. Antica madre 13. Milan: Libri Scheiwiller.

La Rocca, E., and C. Parisi Presicce, eds. 2010. *I giorni di Roma : l’età della conquista*. Milan: Skira.

Lazzarini, L. 1990. “Rosso Antico and Other Red Marbles Used in Antiquity: a Characterization Study.” In *Marble: Art Historical and Scientific Perspectives on Ancient Sculpture*, edited by M. True and Podany, 237–52. Malibu: J. Paul Getty Museum.

———. 2001. “La scoperta dell’origine chiota della breccia di Aleppo e di un nero antico.” *Galileo* 13: 4–10.

———. 2003. “La scoperta dell’origine chiota della Breccia di Aleppo e di un Nero antico, con un primo loro studio petrografico.” In *Eternità e nobiltà di materia : itinerario artistico fra le pietre policrome*, edited by A. Giusti, 139–68. Florence: Polistampa.

———. 2007. *Poikiloi lithoi, versiculores maculae: i marmi colorati della Grecia antica : storia, uso, diffusione, cave, geologia, caratterizzazione scientifica, archeometria, deterioramento*. Pisa: F. Serra.

———. 2010a. “Review: Quarries in the region of Aphrodisias: the black and white marbles of Göktepe (Muğla), by D. Attanasio, M. Bruon, A. Yavuk.” *Marmora* 6: 169–71.

———. 2010b. “Considerazioni sul prezzo dei marmi bianchi e colorati in età imperiale.” In *Arqueologia de la construccion II. Los procesos constructivos en el mundo romano: Italia y provincias orientales, Certosa di Pontignano (Siena), 13-15 nov. 2008*, edited by S. Camporeale, H. Dessales, and A. Pizzo, 485–90. Madrid-Merida: Consejo Superior de Investigaciones Científicas, Instituto de Arqueología.

———. 2011. “Controreplica alla replica della mia recensione a ‘La realtà del marmo afrodisiense di Göktepe.’” *Marmora* 7: 123–4.

———. 2013. “A First Characterization of a New Bigio Antico Marble from a Hitherto Unknown Ancient Quarry at Aghios Petros (Tripolis-Peloponnesus).” In *Exempli gratia: Sagalassos, Marc Waelkens and interdisciplinary archaeology*, edited by J. Poblome, 141–52. Leuven: Leuven University Press.

Lazzarini, L., M. Agus, and S. Cara. 2006. “The ancient quarries of the Neri Antichi (black limestones) from Zeugitania (Tunisia).” *Marmora* 2: 58–70.

Lazzarini, L., P. Pensabene, and B. Turi. 1999. “Isotopic and petrographic characterization of Marmor Lesbium, island of Lesbos, Greece.” In *Archéomatériaux: marbres et autres roches : Asmosia IV Bordeaux - Talence, 9-13 octobre 1995 : actes de la IVe Conférence internationale de l’Association pour l’étude des marbres et autres roches utilisés dans le passé*, edited by M. Schvoerer, 125–9. Bordeaux: Université Michel de Montaige.

Lembke, K. 1994. *Das Iseum Campense in Rom*. Archaologie und Geschichte Band 3. Heidelberg: Verlag Archäologie und Geschichte.

Liverani, P. 1989. "L'antiquarium di Villa Barberini a Castel Gandolfo." *AttiPontAcc* 61: 103–30.

Maniatis, Y., D. Tambakopoulos, E. Dotsika, B.D. Westcoat, and D. Matsas. 2012. "The sanctuary of the great gods on Samothrace, Greece: an extended marble provenance study." In *Interdisciplinary studies on ancient stone : proceedings of the IX Association for the Study of Marbles and Other Stones in Antiquity (ASMOSIA) Conference (Tarragona 2009)*, edited by Anna Gutierrez Garcia-Moreno, P. Lapuente Mercadal, and I. Rodà de Llanza, 263–78. Tarragona: Institut Català d'Arqueologia Clàssica.

Marinos, G.P. 1948. "Notes on the structure of Greek marbles." *JAS* 246: 386–89.

Maxfield, V.A., and D. Peacock, eds. 2001. *The Roman imperial quarries : survey and excavation at Mons Porphyrites 1994-1998*. 2 vols. London: Egypt Exploration Society.

Mielsch, H. 1985. *Buntmarmore aus Rom im Antikenmuseum Berlin*. Berlin: Staatliche Museen Preussischer Kulturbesitz.

Millar, R., and H. Williams. 1993. "The roman quarry at Moria, Mytilene." *EchCl* 27: 211–24.

Moltesen, M. 1985. "Dødens triumf. (Dän.m.engl.Res.) The Triumph of Death." *Meddelelser fra Ny Carlsberg Glyptotek*, 41.

Mottana, A., and M. Napolitano. 1997. "Il libro 'Sulle Pietre' di Teofrasto." *Rendiconti Lincei Scienze Fisiche e Naturali* 8, 5: 151–234.

Palagia, O. 2010. "The victory of Samothrace and the aftermath of the Battle of Pydna." In *Samothracian Connections. Essays in Honor of James R. McCredie*, edited by O. Palagia and B.D. Westcoat, 154–64. Oxford: Oxbow Books.

Papavasiliou, E. 2004. "Περί Λάρτιου Λίθου, «Θωρά- κειο»." In Τόμος στην μνήμη Παύλου Λαζαρίδη, 129–36. Athens.

Peacock, D.P.S., and V.A. Maxfield, eds. 1997. *Mons Claudianus : survey and excavation, 1987-1993*. 3 vols. Cairo: Institut français d'archéologie orientale.

Pensabene, P. 1991. "Il tempio della Vittoria sul Palatino." *Bollettino d'Archeologia* 11–12: 11–51.

———. 1994. *Le vie del marmo: i blocchi di cava di Roma e di Ostia: il fenomeno del marmo nella Roma antica.* Itinerari ostiensi 7. Rome: Ministero per i beni culturali e ambientali, Soprintendenza archeologica di Ostia.

———. 2013. *I marmi nella Roma antica.* Rome: Carocci.

Pensabene, P., and M. Bruno. 1998. "Aggiornamenti, nuove acquisizioni e riordino dei marmi di cava del Canale di Fiumicino." In *Marmi antichi. II, Cave e tecnica di lavorazione, provenienze e distribuzione*, edited by P. Pensabene and A. Alvarez i Pérez, 1–22. Studi miscellanei 31. Rome: L'Erma di Bretschneider.

Pensabene, P., and L. Lazzarini. 1998. “Il problema del bigio antico e del bigio morato: contributo allo studio delle cave di Teos e di Chios.” In *Marmi antichi II: cave e tecnica di lavorazione, provenienze e distribuzione*, edited by P. Pensabene and A. Alvarez i Pérez. Rome: L’Erma di Bretschneider.

Rakob, F., ed. 1993. *Simitthus*. Mainz am Rhein: P. von Zabern.

Richter, G.M.A. 1954. *Catalogue of Greek sculptures in the Metropolitan Museum of Art*. Cambridge: Published for the Museum by Harvard University Press.

Ridgway, B.S. 1990. *Hellenistic sculpture I: The Styles of ca. 331-200 B.C.* Madison, WI: University of Wisconsin Press.

Rockwell, P. 1993. *The art of stoneworking : a reference guide*. New York: Cambridge University Press.

Roullet, A. 1972. *The Egyptian and Egyptianizing monuments of imperial Rome.* Etudes préliminaires aux religions orientales dans l’Empire romain 20. Leiden: Brill.

Russell, B. 2013. *The economics of the Roman stone trade*. Oxford: Oxford University Press.

Schäfer, T. 1979. “Das Siegesdenkmal vom Kapitol.“ In *Die Numider : Reiter und Könige nördlich der Sahara : ein Jugendführer*, edited by Günther Walzik, 243–50. Bonn: R. Habelt.

Sethe, K. 1933. “Die Bau- und Denkmalsteine der alten Aegypter und ihre Namen.” *Sitzungsberichte der preussischen Akademie der Wissenschaften*: 864–912.

Sidebotham, S.E. 2008. *The red land : the illustrated archaeology of Egypt’s Eastern Desert*. New York: American University in Cairo Press.

Storemyr, P., and T. Heldal. 2009. “Ancient Stone Quarries: Vulnerable Archaeological Sites Threatened by Modern Development.” In *ASMOSIA VII: Interdisciplinary Studies on Ancient Stone, Thasos 2003*, edited by Y. Maniatis, 257–71. Athens: Ecole française d’Athènes.

Storemyr, P., T. Heldal, E.G. Bloxam, and J.A. Harrell. 2009. “New evidence of small-scale Roman basalt quarrying in Egypt: Widan el-Faras in the northern Faiyum Desert and Tilal sawda by El-Minya.” In *ASMOSIA VII: Interdisciplinary Studies on Ancient Stone, Thasos 2003*, edited by Y. Maniatis, 243–56. Athens: Ecole française d’Athènes.

Tomei, M.A., ed. 2014. *Museo Palatino : le collezioni*. Milan: Electa.

Ward-Perkins, J.B. 1951. “Tripolitania and the Marble Trade.” *JRS* 41: 89–104.

Winckelmann, J.J. 1784. *Storia delle arti del disegno presso gli antichi*. Translated by C. Fea. Rome: Dalla stamperia Pagliarini.

Yavuz, A.B., D. Attanasio, H. Elçi, M. Brilli, and M. Bruno. 2011. “Discovery and preliminary investigation of Göktepe marble quarries (Muğla, Turkey): an alternative source of Aphrodisias marbles.” In *Leukos lithos: marbres et autres roches de la Méditerranée antique : études interdisciplinaires : actes du VIIIe colloque ASMOSIA, Aix-en-Provence 2006*, edited by Ph. Jockey, 93-109. Aix-en-Provence: Maison méditerranéenne des sciences de l’homme.

Yavuz, A.B., M. Bruno, and D. Attanasio. 2012. “A new source of bigio antico marble: the ancient quarries of Iznik (Turkey).” In *Interdisciplinary studies on ancient stone : proceedings of the IX Association for the Study of Marbles and Other Stones in Antiquity (ASMOSIA) Conference (Tarragona 2009)*, edited by A. Gutierrez Garcia-Moreno, P. Lapuente Mercadal, and I. Rodà de Llanza, 255–62. Tarragona: Institut Català d’Arqueologia Clàssica.

Zevi, F. 2002. “Statua di Iside.” In *I marmi colorati della Roma imperiale*, edited by M. De Nuccio and L. Ungaro, 304. Venice: Marsilio.

Appendix C: Polychromy and Superficial Adornment of Roman Stone Sculpture

The polychrome appearance of ancient sculpture in white marbles has been recognized for centuries, even if the extent of the coloring and its significance have been the subject of enduring scholarly debates.[1] Opinions have fluctuated widely, dependent upon a scholar's personal experience or taste, in response to contemporary ideals, or as the result of new technological capabilities. The last of these has been perhaps the most revolutionary. Whereas previous eras based their evaluations on the remnants of paint visible to the human eye or a microscope, many non- or minimally invasive methods now make it possible to scientifically test the chemical traces of pigment left on ancient sculpture.[2] Information about ancient sculptures' colors can be recovered from tiny flakes of paint, residue shadows, and even remains of pigment that have been discolored by deterioration or exposure to the environment. These projects, however, are expensive and time-consuming, and while extraordinary objects have been the focus of sustained attention, surveys with a broad sampling of scientifically tested works are only now becoming possible. So far, the Ny Carlsberg Glyptothek is the only museum to even attempt a full survey of the traces of pigment remaining on their entire collection of white marble sculptures.[3] Communicating the findings of such projects to both scholars and the public has been one of their priorities and promises to draw additional interest and, hopefully, funding for further projects. The Copenhagen project has made significant contributions to the study of Roman period sculptures, while previous research, especially by

[1] Primavesi 2010; Brinkmann 2014.

[2] Liverani and Santamaria 2014.

[3] The "Tracking Colour" project, organized by the Copenhagen Polychromy Network (CPN) and focusing on the collections of the Ny Carlsberg Glyptothek, aims to collect as much information as possible about the polychromy of ancient sculpture. Their findings have been published in annual reports (Preliminary Reports 1-5), available for download on the project's website (www.trackingcolour.com), which also contains a database of individual objects that have been studied. An exhibitions and its associated catalog, *Transformation. Classical Sculpture in Color* (Østergaard 2014) and has additionally presented the product of this research for scholarly and public audiences. The 2004 *ClassiColor. Farven I antik skulptur* exhibition at the Glyptothek preceded and laid the groundwork for the CPN.

the team led by Vinzenz Brinkmann, has tended to focus on the classical and archaic periods.[4] Clarissa Blume's study on the polychromy of Hellenistic statues marks a foundational survey of the intervening period.[5]

The field is beginning to reach a critical mass of information, where scholars can not only identify the polychromy of an individual sculpture, but can also compare it against several other examples across a wide range of subjects, locations, and time periods. Scholars have now documented change over time in preferred colors, amount and style of decoration, addition of other materials, and more.[6] They have addressed developments in painting technique, from, for example, the application of a single hue of flesh color to the addition of contouring undercoats and overlays.[7] There are still innumerable questions to be answered, but there is a wealth of information with which art historians must engage. Studies of replication and copying, for instance, must account for the potential differentiation – or assimilation – by means of polychromy or lack thereof. Jan Østergaard has shown that different replicas of the Sciarra Amazon displayed different ornamentation.[8] Meanwhile, Clarissa Blüme's identification of preferred border ornamentation in different periods documents the way that polychromy can be classicizing, adding an old-fashioned color edging to a Hellenistic marble sculpture whose pose and drapery are likewise classical in origin.[9] In the same way that the artificial black patinas applied to bronze imitated the aged appearance of antique bronzes (see Appendix D), the polychromy of a white marble statue could be classicizing, archaizing, or even modernizing – the peplos of the classicizing Hellenistic marble goddess just described

[4] Brinkmann 2003; Brinkmann and Wünsche 2007. For a survey of Roman adornament applied to white marble: Liverani 2014; Abbe 2015, 277-80.

[5] Blüme 2015.

[6] Brinkmann 2003; Blüme 2014.

[7] Compare, e.g. the single color adorning the skin of the archaic statue of Phrasikleia (Brinkmann 2003, cat. no. 174A) with the possible modelling of the Treu head with the application of madder beneath the skin color of the eyelids, the nostrils, and the area between the nose and upper lip (Koch-Brinkmann et al. 2014a).

[8] Østergaard et al. 2014; Østergaard 2015;.

[9] Blüme 2014, 182-5.

is colored bright pink in a nod to contemporary fashion[10] that counters the other retrospective aspects of her dress. The Hellenistic period initiated several types of "antiquing" sculptures by superficial means – patina, pigmentation – even if these were sometimes paired with older forms and styles.

Given the retrospective nature of Roman sculpture, it is to be expected that classicizing or archaizing color trends may have continued on from the Hellenistic period. Such tendencies are identifiable in the reconstructed appearance of the archaistic Artemis from Pompeii. Sculpted in the first century AD, the statue's garments and their colors refer directly to the palette of late Archaic kore.[11] Bright red, Egyptian blue, orange yellow ochre, and white delineate the two-piece dress and cloak, furthering the antique aims of the style. How extensive such retrospective coloration may have been is not yet clear, since only a small portion of extant sculptures have been scientifically studied and few preserve such clear and comprehensive indications of superficial adornment. However, enough remains to illustrate that several methods of ornamentation were common, including: paint (either tempera or wax-based)[12]; gilding[13] (which may also have been painted for subtle modelling[14]); and coats of protective wax, usually called *ganosis*, which was often reapplied over time[15]. These varied approaches indicate that there is much more to be learned regarding the differentiation of white marble sculptures on the superficial level[16]; how these practices related to different marbles or sculptural workshops remains an open question.

The current state of the evidence, moreover, contradicts the still common opinion that the very highly polished skin portions of much Roman figural sculpture indicate that these areas of sculptures were

[10] Blüme 2014, 171-2.

[11] Koch-Brinkmann et al. 2014b.

[12] Koch 2000.

[13] Bourgeois and Jockey 2005; Abbe 2010.

[14] Abbe 2011.

[15] Liverani 2003, 132-3; Abbe 2010.

[16] Abbe 2015, 180; Østergaard 2015.

not painted.[17] While it may sometimes have been the case that skin was left the color of the marble and coated with *ganosis*, this was likely the exception rather than the norm. Even the highest-quality marbles were given a glossy finish specifically as a preparation for the application of paint. Especially popular in second and third centuries AD, this process was costly and time-consuming. Contrasting with the more roughly carved hair and other elements, the seductively smooth shine of these surfaces seems, in fact, to have been prized for the effect it produced on the paint applied on top of it.[18] The glossy finish endowed a well-painted sculpture with the ability to glow with a luminosity that could not be achieved without a well-polished surface. One portrait of a young Roman man, dating to c. AD 235, was painted with such a thin layer of flesh tone that the investigators propose there was no need to add white pigments – a common component of flesh tones – because the color of the marble provided the necessary hue.[19] They further highlight the many ways that the different types of sculptural 'finishing' applied to the marble were really preparations for anticipated polychromy. Chiseled grooves for eyebrows and hair, the intense smoothing of the skin versus the rougher hair, and more were part of a "symbiosis" between marble and paint. In lieu of preserved pigment, cataloging these details may provide one means of accessing now lost pigments.

Such an approach is followed in Chapter 4, for example, in an attempt to survey the possible polychrome additions to the surface of Roman sculptures in *lapis basanites*. Of course, this is no real substitute for scientific testing, which remains underutilized for sculpture in colored stones.[20] One of the few colored stone sculptures to have received a full study is the recently discovered red marble Hanging Marsyas from the Villa delle Vignacce south of Rome.[21] This statue was adorned with inlaid eyes that utilized a setting of bronze eyelashes filled with glass and limestone. Vermilion spotlighted the mouth and

[17] Poulsen 1921, 89-94; Reuterswärd 1960, 220-27; Pfanner 1989, 228-29.

[18] Skovmøller and Therkildsen 2014.

[19] Skovmøller and Therkildsen 2014, 260.

[20] Abbe 2015, 180-2.

[21] Angoli 2014, cf. esp. 25, on the remaining polychromy, and 77-81 (C. Gratziu and A. Moscato) for an analysis of the red and white stones.

the corners of his eyes. The rich red hue of the stone was even augmented, since the lighter areas were darkened with red ocher to produce a more uniformly dark appearance. The statue, moreover, may have eventually been treated with punic wax to prevent a recurrence of superficial encrustation removed in an ancient restoration. H. Gregarek's survey of colored stone ideal sculpture indicates that these patterns of coloration should likely be considered the norm, since she documents instances of inlaid eyes and preserved pigment on hair, drapery, and more.[22] Other coloristic adornments were likewise added in a composite fashion, like the white marble hands and possibly feet of the Marsyas that visually 'preserved' the skin above and below the ropes tying the satyr in place for his flaying. Gregarek's survey, moreover, includes statues that employ metal elements or stone and glass inlay, and gilding was likely also applied to some statues. Still, at present, the field remains largely ignorant of how extensive and variable the polychromy applied to Roman colored statuary was, even for imperial portraits and other sculptures in porphyry.[23]

Bibliography:

Abbe, M. 2010. "Recent Researh on the Painting and Gilding of Roman Marble Statuary at Aphrodisias." In *Circumlitio : the polychromy of antique and medieval sculpture*, edited by V. Brinkmann, O. Primavesi, and M. Hollein, 277–89. Frankfurt am Main: Schriftenreihe der Liebieghaus Skulpturensammlung.

———. 2015. "Polychromy." In *The Oxford Handbook of Roman Sculpture*, edited by E. Friedland and M. Grunow Sobocinski, 173–88. Oxford: Oxford University Press.

Abbe, M.B. 2011. "A Roman marble replica of the 'South Slope Head': Polychromy and Identification." *Source: Notes in the History of* Art 30 3: 18–24.

Angoli, N. 2014. *Marsia. La superbia punita*. Rome: De Luca.

Baratte, F. 2001. "Exotism et Décor a Aphrodisias: la statue de jeune noir de l'ancienne collection Gaudin." MonPiot 80: 57–80.

Blüme, C. 2014. "Bright Pink, Blue and Other Preferences." In *Transformations. Classical Sculpture in Colour,* edited by J. Stubbe Østergaard and A.M. Nielsen, 166–89. Odder, Denmark: Production, Narayana Press.

[22] Gregarek 1999, 45-7. See also Baratte 2001.

[23] Delbrueck 1932, 6; Laubscher 1999, 242-4; von Bülow and Wulf-Rheidt 2009, 17.

———. 2015. *Polychromie hellenistischer Skulptur: Ausführung, Instandhaltung und Botschaften*. 2 2. Petersberg: Imhof.

Bourgeois, B., and P. Jockey. 2005. “La dorure des marbres grecques. Nouvelle enquête sur la sculpture hellénistique de Délos.” *JSav*: 253–315.

Brinkmann, V. 2003. *Die Polychromie der archaischen und frühklassischen Skulptur*. Munich: Biering & Brinkmann.

———. 2014. “Research History.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 22–47. Odder, Denmark: Production, Narayana Press.

Brinkmann, V., and R. Wünsche, eds. 2007. *Gods in color : painted sculpture of classical antiquity*. Munich: Stiftung Archäologie.

von Bülow, G., and U. Wulf-Rheidt. 2009. *Felix Romuliana: der Palast des Kaisers Galerius und sein Umfeld ; eine serbisch-deutsche Kooperation = Felix Romuliana : palata imperatora Galerija i njena okolina ; srpsko-nemačka saradnja.* Berlin: Deutsches Archäologisches Institut.

Delbrueck, R. 1932. *Antike Porphyrwerke*. Berlin, Leipzig: De Gruyter.

Gregarek, H. 1999. “Untersuchungen zur kaiserzeitlichen Idealplastik aus Buntmarmor.” *KölnJb* 32: 33–284.

Koch, N.J. 2000. *Techne und Erfindung in der klassischen Malerei : eine terminologische Untersuchung*. Munich: Biering & Brinkmann.

Koch-Brinkmann, U., H. Piening, and V. Brinkmann. 2014a. “On the Rendering of Human Skin in Ancient Marble Sculpture.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 140–51. Odder, Denmark: Production, Narayana Press.

———. 2014b. “Girls and Goddesses.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 116–39. Odder, Denmark: Production, Narayana Press.

Laubscher, H.P. 1999. “Beobachtungen zu tetrarchischen Kaiserbildnissen aus Porphyr.” *JdI* 114: 207–52.

Liverani, P. 2003. “Die Polychromie des Augustus von Prima Portra: Vorläufiger Bericht.” In *Neue Forschungen zur hellenistischen Plastik : Kolloquium zum 70. Geburtstag von G. Daltrop*, edited by G. Zimmer, 121–40. Eichstätt-Ingolstadt: Katholische Universität Eichstätt-Ingolstadt.

———. 2014. “Per una ‘Storia del colore’. La scultura policroma romana, un bilancio e qualche prospettiva.” In *Diversamente bianco: la policromia della scultura romana*, edited by P. Liverani and U. Santamaria, 9–32. Rome: Quasar.

Liverani, P., and U. Santamaria, eds. 2014. *Diversamente bianco: la policromia della scultura romana*. Rome: Edizioni Quasar.

Østergaard, J.S. 2014. “Transformations. Classical Sculpture in Colour.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 12–21. Odder, Denmark: Production, Narayana Press.

———. 2015. “Identical Roman copies? Diversification through color.” In *Serial/portable classic : the Greek canon and its mutations*, edited by S. Settis and A. Anguissola, 113–17. Milan: Fondazione Prada.

Østergaard, J.S., M.L. Sargent, and R.H. Therkildsen. 2014. “The polychromy of Roman ‘ideal’ marble sculpture of the 2nd century CE.” In *Diversamente bianco: la policromia della scultura romana*, edited by P. Liverani and U. Santamaria, 51–69. Rome: Edizioni Quasar.

Pfanner, M. 1989. “Über das Herstellen von Porträts. Ein Beitrag zu Rationalisierungsmaßnahmen und Produktionsmechanismen von Massenware im späten Hellenismus und in der römischen Kaiserzeit.” *JdI* 104: 157.

Poulsen, F. 1921. *Ikonographische Miscellen.* Historisk-filologiske meddelelser IV. Copenhagen: A.F. Høst.

Primavesi, O. 2010. “Artemis, her shrine, and her smile. Winckelmann’s discovery of ancient Greek polychromy.” In *Circumlitio : the polychromy of antique and medieval sculpture*, edited by V. Brinkmann, O. Primavesi, and M. Hollein, 24–77. Frankfurt am Main: Schriftenreihe der Liebieghaus Skulpturensammlung.

Reuterswärd, P. 1960. *Studien zur Polychromie der Plastik*. Stockholm: Almqvist & Wiksell.

Skovmøller, A., and R. Therkildsen. 2014. “A Reconstruction Portrait of a Young Roman Man.” In *Transformations. Classical Sculpture in Colour*, edited by J. Stubbe Østergaard and A.M. Nielsen, 256–67. Odder, Denmark: Production, Narayana Press.

Appendix D. Polychromy and Superficial Adornment of Sculpture in Copper Alloys

The modern world conceives of "bronze" as a color that refers to a range of shades, somewhat in the same family – the brown of sun-tanned skin, the dark brown of third-place medals or fixtures in a house, or the black, dark brown or dark green of statues in a museum. For the study of ancient art, it is crucial to consider the much wider range of colors that could be exhibited by a statue made in "bronze" or, more properly, copper alloys. A normal bronze alloy of the Greco-Roman period contains 89-95% copper and 5-11% tin, which gives the polished metal a shiny, yellow color that strongly resembles that of gold.[1] The reconstruction of the Kassel Apollo, whose gleaming surface is intended to illustrate the original color of bronze, creates a striking contrast with the modern world's idea of the darker shades of burnished bronze.[2] However, while correct, this reconstruction presents one extreme of the picture; its overall gold tone is far from a reflection of the total or normal appearance of bronze statuary in antiquity. From the moment the metals were alloyed through the production and finishing process, there were several opportunities to alter the color of the entire surface, or small portions of it, and archaeological evidence is increasingly proving that ancient artists made elaborate, creative use of these opportunities.[3]

At the very beginning of the process, increasing or decreasing the proportion of each element in the alloy could alter its color.[4] The bronze of the Derveni krater, for example, contains a higher than normal proportion of tin (15%)[5], which increases the likeness with gold so much that the modern eye is easily fooled; even recent literature mistakenly refers to it as gilded.[6] Delicate and small shifts in alloys during the

[1] According to recent research, Greek statuary bronze contains 9-11% tin (but occasionally as low as 5%) and 0-5% lead (but as much as 25%), while Roman is less regular, with 5-7% tin and a higher percentage of lead, even up to 50% (Giumlia-Mair 2015, with bibliography). Statues in arsenical copper and other alloys are less common in the Roman period (cf. Boucher 1990).

[2] Rolley 1994, p. 13, fig. 9; Wünsche 2007.

[3] Cf. Zimmer 2012.

[4] Formigli 2013a; Descamps-Lequime 2015, 152-54.

[5] Descamps-Lequime 2015, 152.

[6] Ekserdijian 2012, p. 22, fig. 9.

casting and finishing of different elements of the sculpture are now archaeologically attested, as the recent restoration of the Riace Warriors has revealed. The bronze skin of Warrior A was accented with copper-rouged lips with an unpolished surface and, in turn, the lips are partially hidden behind a beard and mustache whose tin-rich alloy sets them off from the more typical alloy that forms the skin of the face.[7] The reconstruction of the Munich Youth, which pairs remarkably preserved evidence with informed speculation, might indeed provide a good guide to the kind of polychromy one should expect of Greek bronze sculpture when it was first dedicated.[8] Certainly, the Munich Youth's palette suggests the kind of dramatic transformation in coloring that a statue might undergo after its alloy had been cast; in the final appearance, the color of the alloy may, in some cases, have been completely irrelevant. Such superficial treatments range from the mechanical or chemical removal of the secondary copper alloys produced during annealing or casting to the chemical patination of the entire surface of the statue, and from patching blemishes to the inlay of precious materials or surface painting.[9]

Moreover, corrosion could significantly alter the color of a statue to green or even cobalt blue, although the ancient debate about the origin of the latter color on some statues from Delphi in Plutarch's *Moralia* should indicate that this color, at least, was a rare situation.[10] A dark green color could arise simply through surface corrosion, the result of a chemical interaction between the metal alloy and ambient moisture, which could not always be avoided. For example, the twenty-five statues mentioned in an inventory related to the reorganization of the acropolis by the orator Lycourgos are in such bad condition – missing pieces or in a poor state of conservation – that they were melted down for the casting of new works

[7] Donati 2013, p. 273.

[8] Wünsche 2007.

[9] Formigli (2013b) and Descamps-Lequime (2015) provide the most recent surveys of the polychromy of bronze. Cf. also the details of the reconstruction of the Munich Youth (Wünsche 2007). Secondary copper alloys: Born 1990, 184; Painting identified on e.g. a bronze helm: Born 1985, 79, fig. 11 and 12.

[10] Plutarch, *Mor.* VI, 395B. Cf. Craddock and Giumlia-Mair 1993a, 34-36 (however, their adjoining discussion of archaeological evidence for polychromy is dated).

to be dedicated in their place.[11] Dealing with corroded, unidentifiable statues of earlier emperors was an issue worthy of the emperor's attention in the second century AD, when Marcus Aurelius and Lucius Verus respond to a letter from Ulpius Eurycles, the *curator* of Ephesus, and advise him to keep whatever sculptures can be identified and to melt down only those whose name cannot be restored to them by features or inscriptions.[12] Both ancient texts and statues provide evidence that antiquity attempted to avoid this destructive corrosion if possible, which required that at least one coat of a preservative be applied immediately after production followed by periodic maintenance throughout the sculpture's life.[13] These preservatives, however, whether a chemical patina or applications of oil, wax, or bitumen, could be responsible for a significant change in the superficial appearance of the sculpture. These constitute one of the ways in which a bronze might take on a dark brown to black color.[14]

Pliny the Elder describes coating statues with olive oil or bitumen during his discussion of bronze: "It is said that the best way of preserving [bronze works] is to give them a coating of liquid vegetable pitch." (*NH* 34.99; and on bitumen again at *NH* 35.178-82). This use for olive oil is also mentioned by Plutarch (*Mor.* VI, 395B), while Pausanias documents the use of bitumen to preserve bronze shields in the Stoa Poikile (I, 15,4). Both substances form a protective layer that insulates the metal alloy from its environment, but their repeated application significantly darkens the golden color of the alloy.[15] A reconstruction of the Doryphoros shows the dark, shiny results of rubbing several coats of bitumen onto a bronze surface, even

[11] Harris 1992, cf. esp. 644-5.

[12] The letter is recorded in an inscription of 163 or 164 AD (Johnson et al. 1961, no. 259; Oliver 1989, no. 170).

[13] Formigli 2013c; Descamps-Lequime 2014, 52-53.

[14] Formigli 2013c; Descamps-Lequime 2015, 159-60. Collection and discussion of the ancient sources: Craddock and Giumlia-Mair 1993a, 36-37. On bronze statue production generally: Zimmer 1985.

[15] There are further sources, like the papyrus recording an AD 215 inventory for the Temple of Jupiter Capitolinus at Arsinoë that includes paying for the polishing of all its bronze statues with oil and wages for the bronze worker (chalchourgos) who would do it (Hunt and Edgar 2014, p. 527-31, Nr. 404; see also Zimmer 1985).

if the laboratory climate fails to reflect the environment of ancient display.[16] The production of a similar effect in an outdoor environment was achieved in a 19th century experiment in Berlin, in which a committee sought to test the effects of applying oil to outdoor sculptures in three different manners while a fourth sculpture was left without patina or maintenance as a control.[17] Their report suggested that a monthly application of oil was sufficient to produce a "beautiful" patina, but noted that it was necessary to avoid an excess of oil, which would attract dirt and other substances and pollute the surface. This admonition suggests that practices of taking casts of standing sculptures may also have contributed to the darkening of a sculpture's patina, given the description in Lucian's *Iuppiter Trageodus* of the continual covering of the *Hermes Agoraios* with bitumen in order to allow sculptors to make casts (681f). Even if the cast-takers attempted to remove most of the bitumen from the sculpture when they had finished, several layers of even a thin application could still have an effect.

Repeated application and the passage of time only further darkens the color of this maintenance-acquired patina. Both bitumen and oil contain sulfur, which reacts with the metal alloy and produces a black compound on the surface.[18] After centuries, these bronzes may have appeared quite black, although the color and shine must have depended on the regularity and age of the maintenance. A highly prized sculpture like the Apoxyomenos might have, at its origin, been covered only with a light coat of bitumen that would slightly darken but mostly preserve its golden appearance and other possible polychrome additions. By the time it reached the Baths of Agrippa, however, it might have been quite dark brown, black, or slightly greenish black with corrosion. Intensive scientific testing of sculptures is drawing an ever more certain picture of a Hellenistic world in which the bronzes inherited from classical Greece exhibited a dark green, brown or black hue. Moreover, this fact seems to be reflected in Hellenistic and Roman production

[16] Reconstructed between 1910-12 by the sculptor Georg Römer and held in the Ludwigs-Maximilian Universiteit in Munich. See also the reconstructions of the Idolino di Pesaro: Formigli 2013c, fig. 3.

[17] Hiorns 1892; Craddock and Giumlia-Mair 1993a, 36-37.

[18] Formigli 2013c, 53.

practices, like the creation of an artificial, copper sulfide patina that was applied to some new sculptures by the Hellenistic period.[19] Recently, two scholars have argued that this patina was developed in response to the dark coloring of old bronzes.[20] In other words, artists were creating a kind of *a l'antique* palette for contemporary production and consumption. While it is the sulfur that, in both cases, creates the black coating on the bronze surface, the two processes of production – repeated coats of bitumen or oil versus a single application of a copper sulfide patina – leave quite distinct traces on the object and produce two different types of copper sulfide. The former, cold process creates CuS_2 while the latter, heated patina produces CuS.[21] By these differences, then, it is possible to archaeologically distinguish the black surface darkened through maintenance those given an artificial sulfur-based patina shortly after casting.

Lastly, bronze could also be made multi-color by the method of manufacture the Romans referred to as Corinthian bronze. An alloy of copper with silver and/or gold, the material is much admired in the texts of Pliny the Elder (*NH* 34.1 and 9.139), Plutarch (*Mor.* VI, 395B-C), and Cicero (*Tusc.* IV, 14, 32), but its origin in the sack of Corinth in 146BC was acknowledged to be fable even by some of these authors. The research of recent decades has recovered both objects and texts that augment our understanding of this material and its history, which began long before the mid 2nd century BC.[22] Part of its mystery, for the Greeks and Romans, it seems, is that the color was black because of its combination of the richest, brightest

[19] Eggert (1994) is skeptical that it is possible to discern an intentional, ancient copper sulfide patina from one produced on bronzes submerged in marine environments, which, as Willer (1994) describes, often contain sulfur-fixing bacteria. Contra: Formigli 2013c, 53.

[20] Formigli 2013b; Descamps-Lequime 2015.

[21] These results, cited in Formigli (2013c, 53), were obtained during experiments undertaken as part of the thesis of B. De Filippo ("Sapienza" University of Rome, Dept. of Chemistry, Corso di Laurea Specialistica in Scienze Applicate alla Diagnostica dei Beni Culturali).

[22] To name only the most important: Giumlia-Mair and Craddock 1993a; Craddock and Giumlia-Mair 1993b; Hunter 2002; Descamps-Lequime 2005. The research has identified Corinthian bronze as the same technique employed in, e.g. the black panels of the Mycenean daggers from shaft graves (often called *niello*, a silver or copper sulfide), and as the Egyptian *ḥśmn-km*, Chinese *wu tong*, and Japanese *shakudo* alloys (Craddock and Giumlia-Mair 1993b).

materials of gold and silver with bronze.[23] Since such alloys have only recently been identified in Roman works, it was long thought that all Corinthian bronze from the Roman period was lost.[24] Only a few have so far been securely identified, but they are principally small-scale, very finely crafted works of the first century AD. However, they present two different ways of employing the black bronze. Two statuettes of young men styled as philosophers, from Augst and Avignon, utilize the Corinthian alloy for the skin and must have displayed a largely black surface. [25] The other two, an inkpot from Vaison-la-Romaine and a statuette in the British Museum, perhaps depicting Nero, utilize the black bronze as one of several materials inlaid into a regular, golden-colored bronze background. S. Descamps-Lequime interprets this use of a four-color palette as a kind of painting with bronze that harkens to the famous techniques of tetrachrome painting of the fourth century BC.[26]

These examples provide a glimpse of the versatility of bronze polychromy under the Roman Empire, which continued well into the third century AD and is attested both in literary and archaeological evidence. Philostratus' *Life of Apollonius of Tyana* describes a kind of painting in bronze that corresponds well with the fragmentary *paludamentum* of Caracalla from Volubilis, whose palette included patinas of purplish-black, orange-yellow and olive-brown.[27] Perhaps this vibrant cloak was set against the shining golden bronze of Caracalla's skin, of which, unfortunately, no fragments are preserved. In any case, the current state of the evidence suggests that, by the Roman period, most of the bronzes imported to the city from the Greek East must have appeared darkened, while Hellenistic bronzes might still have preserved

[23] For example, it has been proposed that the Iliad's description of the cultivated soil on the shield of Achilles as turning black behind the plowers, "although it was of gold" (Homer, *Iliad*, XVIII, 548-49) should be understood as an inlay of the "Corinthian bronze" alloy (most recently: Descamps-Lequime 2015, 163). Such techniques of polychromy have been proposed for armor by Born 1985).

[24] The loss of Roman Corinthian bronze works: Mattusch 2003.

[25] Augst: Kauffmann-Heinimann and Liebel 1994; the Avignon statuette (in the Musée d'Archéologie Nationale di Saint-Germain-en-Laye) was studied in Paris, but although the results are unpublished they are described by Descamps-Lequime (2015, 163, n.73).

[26] Descamps-Lequime 2005; Descamps-Lequime 2015, 163.

[27] Boube-Piccot 1969, n. 9, p. 30, 51, 55-63, 87-103, pl. 16-37; Boube-Piccot 2014.

some of their original colors and Roman new productions displayed either the typically bright shine of new bronze, a variety of subtle polychrome effects, or the affected age of a sulfur patina. Further research will of course refine this picture – for example, investigating whether polychrome details like silver eyes darkened over time alongside the copper alloy – but this data provides at least a suggestive picture of bronze materiality in the Roman period. This reconstructed bronze mediascape, in turn, provides a foundation against which this dissertation evaluates the often-discussed material allusion or imitation of bronze by another material.

Bibliography:

Born, H. 1985. "Polychromie auf praehistorischen und antiken Kleinbronzen." In *Archäologische Bronzen, antike Kunst, moderne Technik*, edited by H. Börn, 71–83. Berlin: D. Reimer.

———. 1990. "Painted and patinated bronzes: exotic technique or ancient tradition." In *Small bronze sculpture from the ancient world*, 179–96. Malibu, CA: J. Paul Getty Museum.

Boube-Piccot, C. 1969. *Les bronzes antiques du Maroc*. Rabat: Royaume du Maroc. Ministère d'État chargé des affaires culturelles et de l'enseignement originel. Direction des monuments historiques et des antiquités.

———. 2014. "Les bronzes antiques du Maroc." In *Splendeurs de Volubilis : bronzes antiques du Maroc et de Méditerranée*, edited by M. Morel-Deledalle, 32–37. Arles: Actes Sud.

Boucher, S. 1990. "Surface Working, Chiseling, Inlays, Plating, Silvering, and Gilding." In *Small bronze sculpture from the ancient world*, 161–78. Malibu, CA: J. Paul Getty Museum.

Craddock, P., and A. Giumlia-Mair. 1993a. "3 - Beauty is skin deep: evidence for the original appearance of classical statuary." In *Metal Plating and Patination*, edited by S. La Niece and P. Craddock, 30–38. London: Butterworth.

Craddock, P.T., and A. Giumlia-Mair. 1993b. "Hsmn km Corinthium aes, Shadkudo: Black-Patinated Bronze in the Ancient World." In *Metal Plating and Patination*, edited by S. La Niece and P. Craddock, 101–27. London: Butterworth.

Descamps-Lequime, S. 2005. "L'encrier de Vaison-la-Romaine et la patine volontaire des bronzes antiques." *MonPiot* 84 1: 5–30.

———. 2014. "La polychromie des bronzes grecs et romaines." In *Splendeurs de Volubilis: bronzes antiques du Maroc et de Méditerranée*, edited by M. Morel-Deledalle, 52–53. Arles: Actes Sud.

———. 2015. "Il colore del bronzo: Policromia ed estetica delle superfici di bronzo." In *Potere e Pathos: Bronzi del mondo ellenistico*, edited by J. Daehner and K. Lapatin, 151–65. Florence: Giunti Editore, S.p.A.

Donati, P. 2013. “Die Gesichter der Bronzen von Riace. Technologische Aspekte, Untersuchungen une neue Ergebnisse.” In *Zurück zur Klassik : ein neuer Blick auf das Alte Griechenland : eine Ausstellung der Liebieghaus Skulpturensammlung, Frankfurt am Main, 8. Februar bis 26. Mai 2013*, edited by V. Brinkmann, 268–73. Frankfurt am Main: Liebieghaus Skulpturensammlung.

Eggert, G. 1994. “Schwarzfärbung oder Korrosion? Das Rätsel der schwarzen Bronzen aus chemischer Sichtmore.” In *Das Wrack: der antike Schiffsfund von Mahdia*, edited by G. Hellenkemper Salies, 1033–9. Cologne: Rheinland-Verlag.

Ekserdijian, D., ed. 2012. *Bronze*. Exhibition catalog (London, Royal Academy of Arts, September 15 - December 19, 2012). London.

Formigli, E. 2013a. “Le tecniche del colore nella statuaria antica in bronzo.” In *Colore e luce nella statuaria antica in bronzo*, edited by E. Formigli, 1–23. Rome: L’Erma di Bretschneider.

———, ed. 2013b. *Colore e luce nella statuaria antica in bronzo*. Rome: L’Erma di Bretschneider.

———. 2013c. “Le patine ‘naturali’ greche e le patine ‘artificiali’ romane.” In *Colore e luce nella statuaria antica in bronzo*, edited by E. Formigli, 49–54. Rome: L’Erma di Bretschneider.

Giumlia-Mair, A. 2015. “Tecnocronologia? La composizione delle leghe e l’impiego di caratteristiche tecniche per la datazione di bronzi antichi.” In *Potere e Pathos: Bronzi del mondo ellenistico*, edited by J. Daehner and Kenneth Lapatin, 167–81. Florence: Giunti Editore, S.p.A.

Giumlia-Mair, A., and P.T. Craddock. 1993. “Corinthian aes. Das schwarze Gold des Alchimisten.” *AntW* 24: 1-62.

Harris, D. 1992. “Bronze Statues on the Athenian Acropolis: The Evidence of a Lycurgan Inventory.” *AJA* 96: 637–52.

Hiorns, A.H. 1892. *Metal-colouring and Bronzing*. London: Macmillan.

Hunt, A.S., and C.C. Edgar. 2014. *Select papyri, II*. Cambridge, MA: Harvard University Press

Hunter, E. 2002. “Beautiful black bronzes: Zosimo’s treatises in Cam. Mm.6.29.” In *I bronzi antichi: Produzione e tecnologia: Atti del XV Congresso internazionale sui bronzi antichi (Grado-Aquileia, 22-26 maggio 2001)*, edited by A. Giumlia-Mair, 655–60. Monagraphies instrumentum 21. Montagnac : Monique Mergoil.

Johnson, A.C., P.R. Coleman-Norton, and F.C. Bourne. 1961. *Ancient Roman Statutes: A Translation with Introduction, Commentary, Glossary, and Index*. Austin: University of Texas Press.

Kauffmann-Heinimann, A., and D. Liebel. 1994. “Legierungen figürlicher Bronzen aus der Colonia Raurica.” *Jahresberichte aus Augst und Kaiseraugst* 25: 225–37.

Mattusch, C. 2003. “Corinthian Bronze. Famous, but Elusive.” In *Corinth, the Centenary: 1896-1996*, edited by Charles Williams and Nancy Bookidis, 20:. Princeton.

Oliver, J.H. 1989. *Greek constitutions of early Roman emperors from inscriptions and papyri*. Memoirs of the American Philosophical Society 178. Philadelphia: American Philosophical Society.

Rolley, C. 1994. *La sculpture grecque, 1. Des origines au milieu du Ve siecle*. Les manuels d'art et d'archeologie antiques. Paris: Picard.

Willer, F. 1994. "Fragen zur intentionellen Schwarzpatina an den Mahdiabronzen." *In Das Wrack: der antike Schiffsfund von Mahdia*, edited by G. Hellenkemper Salies, 1023–31. Kataloge des Rheinischen Landesmuseums Bonn Bd. 2. Cologne: Rheinland Verlag.

Wünsche, R. 2007. "On the Coloring of the Munich Bronze Head with Victor's Fillet." In *Gods in color : painted sculpture of classical antiquity*, edited by V. Brinkmann and R. Wünsche, 119–31. Munich: Stiftung Archäologie.

Zimmer, G. 1985. "Schriftquellen zum antiken Bronzeguss." In *Archäologische Bronzen, antike Kunst, moderne Technik*, edited by H. Börn, 38–49. Berlin: D. Reimer.

———. 2012. "Die Farbe des Metalls. Möglichkeiten der Farbgestaltung bei Großbronzen." In *Collections électroniques de l'INHA.* Actes de colloques et livres en ligne de l'Institut national d'histoire de l'art. INHA. http://journals.openedition.org/inha/3986.

Index

Table 2.1 Survey of Sculptural Types by Extant Materials

Sculptural Type	Materials	Date of Original	Material of Original
Herakles of Polykleitos	White Marbles; Bronze	c. 450 BC	Bronze
Spinario	White Marbles; Bronze	c. 100 BC	uncertain
Apollo Sauroktonos	White Marbles; Bronze	350 BC	Bronze
Doryphoros	White Marbles; Bronze; Lapis Basanites	c. 450 BC	Bronze
Diadoumenos	White Marbles; Bronze; Lapis Basanites	c. 450 BC	Bronze
Ephesos Scraper	White Marbles; Bronze; Lapis Basanites	c. 300BC	Bronze (?)
Idolino	White Marbles; Bronze; Lapis Basanites	Augustan (after mid 5th cen. style)	uncertain
Barberini Faun	White Marbles; Bronze; Lapis Basanites	150-125 BC	uncertain
Diskophoros	White Marbles; Lapis Basanites	c. 450 BC	Bronze
Munich Orpheus	White Marbles; Lapis Basanites	c. 460 BC (or Augustan variant of 460BC work)	uncertain
Aphrodite Kallipygos	White Marbles; Lapis Basanites	Hellenistic (dates proposed from late 4th to 1st cen. BC	uncertain
Apollo of Timarchides	White Marbles; Lapis Basanites	179 BC	Marble
Herakles Albertini	White Marbles; Lapis Basanites	mid 4th cen. BC	Terracotta (?)
Mattei Amazon	White Marbles; Lapis Basanites; Plaster Cast	late 5th cen. BC OR late 4th cen BC	Bronze
Venus de Medici	White Marbles; Black Granodiorite	late 4th to early 1st cen. BC (derived from Knidian Aphrodite, c. 350-25 BC)	Bronze (?) (derived from marble)
Asklepios of Kos (Umbildung)	White Marbles; Black Marbles and Limestones	c. 330 BC (the Umbildung)	uncertain
Anzio Athlete	White Marbles; Black Marbles and Limestones	first half of the 1st cen. AD	uncertain
Schwanzhaschende Pan	White Marbles; Black Marbles and Limestones	late 3rd / early 2nd cen. BC	uncertain
Ares Borghese	White Marbles; Black Marbles and Limestones	mid-1st cen. AD (Neronian?)	uncertain

Table 2.1 Survey of Extant Materials of Sculptural Types (Continued)

Sculptural Type	Materials	Date of Original	Material of Original
Perge Dancer	White Marbles; Composite Black and White Marbles or Limestones	Late Hellenistic	uncertain
Iphigenia of the Artemis, Iphigenia and the Hind group	White Marbles; Composite Black and White Marbles or Limestones	Late Hellenistic	uncertain
Mother and Daughter (Niobid)	White Marbles; Composite Black and White Marbles or Limestones	320s BC to 1st century BC	Marble
Pedagogue (of the Niobid cycle)	White Marbles; Composite Black and White Marbles or Limestones	320s BC to 1st century BC	Marble
So-called Pscyhe (Niobid)	White Marbles; Composite Black and White Marbles or Limestones	320s BC to 1st century BC	Marble
Chiaramonti Niobid	White Marbles; Composite Black and White Marbles or Limestones	320s BC to 1st century BC	Marble
Serapis of Bryaxis	White Marbles; Lapis Basanites; Black Stones; Colored Stones	late 4th cen. BC	uncertain
Capitoline Aphrodite	White Marbles; Lapis Basanites; Dark Granite with Red Flecks	late 4th to 2nd cen. BC (derived from Cnidian Aphrodite, c. 350-25 BC)	uncertain (derived from marble)
Old Centaur	White Marbles; Black Limestones and Marbles; Other Colored Stones	c. 150 - 100 BC	Bronze(?)
Young Centaur	White Marbles; Black Limestones and Marbles; Other Colored Stones	c. 150 - 100 BC	Bronze(?)
Danaids (Palatine Canephorae)	Black Limestone; Red Marble	36-28 BC (related to but not replicas of an earlier Caenphorae type)	Black limestone, Red Marble
18th Dynasty Sphinx	Black Granodiorite; Green Porphyry	1478-1426 BC	Black Granodiorite
Red Marsyas	White Marbles; Colored Stones	mid 2nd cen. AD	Bronze(?)
Kybele Enthroned	White Marbles; Composite White and Colored Stones, possibly bronze	c. 150-100 BC	uncertain
Artemis of Ephesos	White Marbles; Composite White and Colored Stones, possibly bronze	3.50 BC (after archaic original)	(Archaic: wood)
Artemis Colonna	White Marble; Terracotta	second half of the 4th cen. BC or Hellenistic	Bronze(?)
Capitoline Charioteer	White Marble; Terracotta	1st century BC (variant of type dating to 470-460BC)	
Hera Borghese	White Marble; Terracotta; Plaster Cast	430-410 BC	Marble(?)

Table 2.1 Survey of Extant Materials of Sculptural Types (Continued)

Sculptural Type	Materials	Date of Original	Material of Original
Harmodius	White Marble; Plaster Cast	477/476 BC	Bronze
Aristogeiton	White Marble; Plaster Cast	477/476 BC	Bronze
Westmacott Ephebe	White Marble; Plaster Cast	460-400 BC	Bronze (?)
Narcissus	White Marble; Plaster Cast	410-400 BC	Bronze (?)
Sosikles Amazon	White Marble; Plaster Cast	c. 440-430 BC	Bronze
Corinth/Mocenigo Persephone	White Marble; Plaster Cast	c. 450 BC	uncertain
Athena Velletri	White Marble; Plaster Cast	440-400 BC	Bronze (?)
Ploutos (of the Eirene and Ploutos group)	White Marble; Plaster Cast	359/60 BC	Bronze (?)
Apollo Belvedere	White Marble; Plaster Cast	c. 330 BC	Bronze (?)
Sciarra/Lansdowne Amazon	White Marbe; Plaster Cast; Bronze(?)	late 5th cen. BC OR 1st cen BC	Bronze

Table 2.2 Survey of Sculptural Types by Date of Original

Sculptural Type	Materials	Date of Original	Material of Original
18th Dynasty Sphinx	Black Granodiorite; Green Porphyry	1478-1426 BC	Black Granodiorite
Harmodius	White Marble; Plaster Cast	477/476 BC	Bronze
Aristogeiton	White Marble; Plaster Cast	477/476 BC	Bronze
Munich Orpheus	White Marbles; Lapis Basanites	c. 460 BC (or Augustan variant of 460BC work)	uncertain
Diskophoros	White Marbles; Lapis Basanites	c. 450-25 BC	Bronze
Herakles of Polykleitos	White Marbles; Bronze	c. 450-25 BC	Bronze
Doryphoros	White Marbles; Bronze; Lapis Basanites	c. 450-25 BC	Bronze
Diadoumenos	White Marbles; Bronze; Lapis Basanites	c. 450-25 BC	Bronze
Westmacott Ephebe	White Marble; Plaster Cast	460-400 BC	Bronze (?)
Corinth/Mocenigo Persephone	White Marble; Plaster Cast	c. 450 BC	uncertain
Athena Velletri	White Marble; Plaster Cast	440-400 BC	Bronze (?)
Sosikles Amazon	White Marble; Plaster Cast	c. 440-430 BC	Bronze
Hera Borghese	White Marble; Terracotta; Plaster Cast	430-410 BC	Marble(?)
Narcissus	White Marble; Plaster Cast	410-400 BC	Bronze (?)
Mattei Amazon	White Marbles; Lapis Basanites; Plaster Cast	late 5th cen. BC OR late 4th cen BC	Bronze
Sciarra/Lansdowne Amazon	White Marbe; Plaster Cast; Bronze(?)	late 5th cen. BC OR 1st cen BC	Bronze
Ploutos (of the Eirene and Ploutos group)	White Marble; Plaster Cast	359/60 BC	Bronze (?)
Apollo Sauroktonos	White Marbles; Bronze	350 BC	Bronze
Artemis of Ephesos	White Marbles; Composite White and Colored Stones, possibly bronze	c. 350 (after archaic original)	(Archaic: wood)
Herakles Albertini	White Marbles; Lapis Basanites	mid 4th cen. BC	Terracotta (?)

Table 2.2 Survey of Sculptural Types by Date of Original (Continued)

Sculptural Type	Materials	Date of Original	Material of Original
Artemis Colonna	White Marble; Terracotta	second half of the 4th cen. BC or Hellenistic	Bronze(?)
Apollo Belvedere	White Marble; Plaster Cast	c. 330 BC	Bronze (?)
Asklepios of Kos (Umbildung)	White Marbles; Black Marbles and Limestones	c. 330 BC (the Umbildung)	uncertain
Serapis of Bryaxis	White Marbles; Lapis Basanites; Black Stones; Colored Stones	late 4th cen. BC	uncertain
Ephesos Scraper	White Marbles; Bronze; Lapis Basanites	c. 300 BC	Bronze (?)
Aphrodite Kallipygos	White Marbles; Lapis Basanites	Hellenistic (dates proposed from late 4th to 1st cen. BC	uncertain
Capitoline Aphrodite	White Marbles; Lapis Basanites; Dark Granite with Red Flecks	late 4th to 2nd cen. BC (derived from Cnidian Aphrodite, c. 350-25 BC)	uncertain (derived from marble)
Venus de Medici	White Marbles; Black Granodiorite	late 4th to early 1st cen. BC (derived from Knidian Aphrodite, c. 350-25 BC)	Bronze (?) (derived from marble)
Pedagogue (of the Niobid cycle)	White Marbles; Composite Black and White Marbles or Limestones	320s BC to 1st century BC	Marble
Mother and Daughter (Niobid)	White Marbles; Composite Black and White Marbles or Limestones	320s BC to 1st century BC	Marble
So-called Pscyhe (Niobid)	White Marbles; Composite Black and White Marbles or Limestones	320s BC to 1st century BC	Marble
Chiaramonti Niobid	White Marbles; Composite Black and White Marbles or Limestones	320s BC to 1st century BC	Marble
Schwanzhaschende Pan	White Marbles; Black Marbles and Limestones	late 3rd / early 2nd cen. BC	uncertain
Apollo of Timarchides	White Marbles; Lapis Basanites	179 BC	Marble
Red Marsyas	White Marbles; Colored Stones	mid 2nd cen. AD	Bronze(?)

Table 2.2 Survey of Sculptural Types by Date of Original (Continued)

Sculptural Type	Materials	Date of Original	Material of Original
Barberini Faun	White Marbles; Bronze; Lapis Basanites	150-125 BC	uncertain
Old Centaur	White Marbles; Black Limestones and Marbles; Other Colored Stones	c. 150 - 100 BC	Bronze(?)
Young Centaur	White Marbles; Black Limestones and Marbles; Other Colored Stones	c. 150 - 100 BC	Bronze(?)
Kybele Enthroned	White Marbles; Composite White and Colored Stones, possibly bronze	c. 150-100 BC	uncertain
Perge Dancer	White Marbles; Composite Black and White Marbles or Limestones	Late Hellenistic	uncertain
Iphigenia of the Artemis, Iphigenia and the Hind group	White Marbles; Composite Black and White Marbles or Limestones	Late Hellenistic	uncertain
Spinario	White Marbles; Bronze	c. 100 BC	uncertain
Capitoline Charioteer	White Marble; Terracotta	1st century BC (variant of type dating to 470-460BC)	
Danaids (Palatine Canephorae)	Black Limestone; Red Marble	36-28 BC (related to but not replicas of an earlier Caenphorae type)	Black limestone, Red Marble
Idolino	White Marbles; Bronze; Lapis Basanites	Augustan (after mid 5th cen. style)	uncertain
Anzio Athlete	White Marbles; Black Marbles and Limestones	first half of the 1st cen. AD	uncertain
Ares Borghese	White Marbles; Black Marbles and Limestones	mid-1st cen. AD (Neronian?)	uncertain

Table 4.1: Sculpted vs. Inlaid Eyes in *Lapis Basanites* Sculptures

Table 6.1 Egyptian Sculptures in Egyptian Stones from Hadrian's Villa (18 total)

Roullet no.	Subject	Material	Period	Findspot (if known)	Museum
104	Apis	Dark granite with red veins	Late Period, 26-30th Dynasty		Rome, Mus. Greg. Egizio, no. 69
123	Isis restored with male head	Isis: Black granite; head: Diorite	Isis: Ptolemaic or Roman; head: Ptolemaic		Munich, Glyptothek, Gl. WAF 26a (head) and 26b (Isis)
127	Isis torso	Black "basalt"	Ptolemaic		Rome, Mus. Greg. Egizio, no. 85
132	Isis	Black granite	Ptolemaic		Rome, Museo Torlonia, no. 19 (cat. Visconti)
166	Pharoah (Ptolemaic)	Grey granite	Ptolemaic		Berlin, Egyptian Museum, no. 14764
167a-b	Pharoah, Nectanebo I (167a), restored with Roman head (167b)	Pharoah: Black granite; head: black stone; modern restorations in other stones	30th Dynasty		Madrid, Mus. del Prado, no. 412 (displayed in the Mus. Nac. Arque., Madrid)
170	Pharoah (late Ptolemaic), restored with Roman head	Red granite (both)	late-Ptolemaic or Roman		Munich, Glyptothek, Gl. WAF 27
171	Pharoah (Ptolemaic)	Black granite	Ptolemaic		Stockholm, National Museum, no. E67
196	Naophoros	Dark granite with reddish patches	26th Dynasty (time of Psammetichus II)		Rome, Mus. Greg. Egizio, no. 140
197	Naophoros, restored with 18th cen. head	Green "basalt" (probably greywacke)	26th Dynasty		Rome, Mus. Greg. Egizio, no. 167
198	Naophoros, previously restored with 17th cen. Head	Green "basalt" (probably greywacke)	26th Dynasty (time of Darius)		Rome, Mus. Greg. Egizio, no. 196
214	Priest	Green "basalt" (probably greywacke)	30th Dynasty		Rome, Mus. Greg. Egizio, no. 163
232	Kneeling statuette	Black stone (unidentified)	Ptolemaic		Brussels, Mus. Royaux du Cinquantenaire, no. E 4340
261	Falcon	Black granite	Late Period (26th-30th Dynasty) or Ptolemaic		Rome, Capitoline Museums, Sala dei monumenti dell'Iseo Campense, no. I

Table 6.1 Egyptian Sculptures in Egyptian Stones from Hadrian's Villa (18 total) (Continued)

Roullet no.	Subject	Material	Period	Findspot (if known)	Museum
301a	Sphinx	Amphibolite (from Wadi Hammamat)	Late Period (26th Dynasty)		Munich, Museum of Egyptian Art, no. Gl. WAF 16
302	Sphinx	Chlorite (from Wadi Hammamat)	12th Dynasty		Brooklyn, Brooklyn Museum, no. 5685
n/a	Block statue of a Governor	Greywacke	Late Period (26th-30th Dynastay)		New York, Metropolitan Museum of Art, no. 1982.318
n/a	Fragmentary Statue of Rameses II	Grey granite	19th Dynasty	So-called Antinoeion (pub. 2002)	Tivoli, Hadrian's Villa Antiquarium

Table 6.2 Egyptianizing Sculptures in Egyptian Stones from Hadrian's Villa (19 total)

Roullet no.	Subject	Material	Period	Findspot (if known)	Museum
101	Antinous Telamones	Red granite	Hadrianic		Rome, Vatican Museums, Sala a Croce Greca, no. 196
102	Antinous Telamones	Red granite	Hadrianic		Rome, Vatican Museums, Sala a Croce Greca, no. 197
124	Isis suckling Horus	Grey granite	Hadrianic		Rome, Mus. Greg. Egizio, no. 57
130	Isis	Black "basalt"	Hadrianic	Canopus (1740-58)	Rome, Mus. Greg. Egizio, no. 107
131	Isis - Fortuna	Black "basalt"	Hadrianic		Rome, Mus. Greg. Egizio, no. 114 (inv. 22799)
133	Isis (fragment of feet)	Dark Granite	Hadrianic		Rome, Villa Albani-Torlonia, no. 546 (cat. Visconti)
146	Osiris Canopus	Grey "basalt"	Hadrianic	Canopus (1740-58)	Rome, Mus. Greg. Egizio, no. 39 (inv. 22852)
147	Osiris Canopus	Green "basalt"	Hadrianic		Location unknown (formerly in the Museo Borgiano in 1814)
184	Queen	Green "basalt"	Hadrianic		Location unknown (formerly in the Villa Aticchiero near Padua)
204	Offering statue	Black granite	Hadrianic		Rome, Mus. Greg. Egizio, no. 38
252	Baboon	"Basalt"	Hadrianic		Rome, Mus. Greg. Egizio, no. 112
262	Falcon	Black "basalt"	Hadrianic		Location unknown
300	Sphinx	Red granite	Hadrianic		Copenhagen, Ny Carlsberg Glyptothek, no.AEIN 651
301b	Sphinx	Dark "basalt"	Ptolemaic or Roman		Munich, Museum of Egyptian Art, no. Gl. WAF 17
305	Sphinx (perhaps paired with 308)	Grey "basalt"	Hadrianic		Rome, Villa Albani-Torlonia, no. 550 (cat. Visconti)
306	Sphinx	"Basalt"	Hadrianic		Rome, Villa Albani-Torlonia, no. 552 (cat. Visconti)

Table 6.2 Egyptianizing Sculptures in Egyptian Stones from Hadrian's Villa (19 total) (Continued)

Roullet no.	Subject	Material	Period	Findspot (if known)	Museum
307	Sphinx	Black granite	Hadrianic		Rome, Villa Albani-Torlonia, no. 560 (cat. Visconti)
308	Sphinx (perhaps paired with 305)	Grey granite	Hadrianic		Rome, Villa Albani-Torlonia, no. 563 (cat. Visconti)
n/a	Elephant	Grey Diorite from Gebel Nagug	late 1st - early 2nd cen. AD		Rome, Villa Albani Coffehouse, inv. 559

Table 6.3 Egyptianizing Sculptures in Non-Egyptian Stones from Hadrian's Villa (45 known plus 4 unknown material)

Roullet no.	Subject	Material	Period	Findspot (if known)	Museum
96	Antinous	White marble	Hadrianic		England, Private Collection
97	Antinous	White marble	Hadrianic		England, Deepdene Collection, no. 28 (cat. Michaelis)
98	Antinous	Red marble	Hadrianic		Munich, Museum of Egyptian Art, no. Gl. WAF 24
99	Antinous (bust)	White marble	Hadrianic		Paris, Louvre, no. MA 433; MR 16
100	Antinous as Osiris (of same replica series as Red marble 99?)	Parian marble	Hadrianic	Discovered 1740, Casino Michili	Rome, Mus. Greg. Egizio, no. 99 or 22795.
119	Isis	White marble	Hadrianic	Pantanello	Paris, Louvre, no. MA 359
122	Isis	Black marble	Hadrianic		Berlin, Egyptian Museum, no. 7996
125	Isis colossal bust	White marble	Hadrianic	Palestra (16th century?)	Rome, Mus. Greg. Egizio, no. 73 (inv. 22804)
126	Isis-Apis double-faced herm	Göktepe marble	Hadrianic	Canopus OR near Antinoeion	Rome, Mus. Greg. Egizio no. 78 (inv. 22807)
128	Isis	Göktepe marble	Hadrianic	Canopus OR near Antinoeion	Rome, Mus. Greg. Egizio no. 92 (inv. 22801)
129	Isis	Göktepe marble	Hadrianic	Canopus OR near Antinoeion	Rome, Mus. Greg. Egizio no.106 (inv. 22802)
139	Min	Black marble	Hadrianic		Munich, Museum of Egyptian Art, no. Gl. WAF 32
149	Ptah	Göktepe marble	Hadrianic	Canopus OR near Antinoeion (1740-58)	Rome, Mus. Greg. Egizio, no. 45 (inv. 22815)
168	Pharoah (paired with 169)	Possibly Göktepe marble	Hadrianic		Munich, Museum of Egyptian Art, no. Gl. WAF 14
169	Pharoah (paired with 168)	Possibly Göktepe marble	Hadrianic		Munich, Museum of Egyptian Art, no. Gl. WAF 15

Table 6.3 Egyptianizing Sculptures in Non-Egyptian Stones from Hadrian's Villa (45 known plus 4 unknown material)
(Continued)

Roullet no.	Subject	Material	Period	Findspot (if known)	Museum
205	Offering statue	Göktepe marble	Hadrianic	Canopus OR near Antinoeion (1740-58)	Rome, Mus. Greg. Egizio, no. 75 (inv. 22817)
211	Priest / pharoah (2 statues combined in restoration)	Black torso; lower legs in Göktepe?	Hadrianic		Madrid, Museo del Prado, inv. 414E
212	Standing figure "Offering statue" (only torso ancient)	Black stone	Hadrianic		Madrid, Museo del Prado, inv. 415E
213	Priest / Nefertem	Göktepe marble	Hadrianic	Canopus (1740-58)	Rome, Mus. Greg. Egizio, no. 59 (inv. 22816)
233	Statue (female)	Black marble	Hadrianic		England, Private Collection
234	Statue (male)	Black marble	Hadrianic		England, Private Collection
258	Crocodile	White marble	Hadrianic	Canopus (1740-53)	Rome, Mus. Greg. Egizio, no. 79
259	Crocodile	Cipollino (Euboean) marble	Hadrianic	Canopus 1955	Tivoli, Hadrian's Villa Antiquarium
303	Sphinx	White limestone	Hadrianic		Rome, Villa Albani-Torlonia, no. 537 (cat Visconti)
304	Sphinx	White limestone	Hadrianic		Rome, Villa Albani-Torlonia, no. 547
n/a	Statue with nemes headdress	Göktepe marble	Hadrianic	so-called Antinoeion (2002-4)	Tivoli, Hadrian's Villa Storage
n/a	Statue with uraeus	Iasos Red Marble	Hadrianic	so-called Antinoeion (2002-4)	Tivoli, Hadrian's Villa Storage
n/a	Sphinx	White marble	Hadrianic	Palestra (2003-4)	Tivoli, Hadrian's Villa Storage
n/a	Antinous-Osiris (headless)	White marble	Hadrianic		Rome, Mus. Greg. Egizio, no. 36464
n/a	Antinous-Osiris	White marble	Hadrianic	Pantanello	Bowood (Wiltshire), previously Lansdowne Collection
n/a	Nile River God	White marble	Hadrianic	Northern end of the Canopus	Tivoli, Hadrian's Villa Storage, Inv. 2259.2261

Table 6.3 Egyptianizing Sculptures in Non-Egyptian Stones from Hadrian's Villa (45 known plus 4 unknown material)
(Continued)

Roullet no.	Subject	Material	Period	Findspot (if known)	Museum
n/a	Isiac priest	Red marble and white marble (composite)	Hadrianic	Palestra (Pirro Ligorio)	Rome, Capitoline Museums, inv. 1214/S
n/a	Isiac priest	Red marble and white marble (composite)	Hadrianic	Palestra (Pirro Ligorio)	Venice, Archaeological Museum, no. 91
n/a	Isiac priest	Red marble and white marble (composite)	Hadrianic	Palestra (Pirro Ligorio)	Paris, Louvre, MA 1358
n/a	Ten statues from 17th century Jesuit excavations	dark stone	Hadrianic		Lost, known only from drawings
Additional sculptures of unknown material:					
134	Isis	unknown	Hadrianic		Location unknown already in 1704
172	Pharoah	unknown	Hadrianic		Location unknown already in 1704
206	Offering statue	unknown	Hadrianic		Lost, known only from drawings
n/a	Imhotep	unknown	?		Lost, known only from drawings

Table 6.4 Classicizing Sculptures in Egyptian Stones from Hadrian's Villa (1 total, and 1 known sculpture)

Roullet no.	Subject	Material	Period	Findspot (if known)	Museum
332	Neo-Attic Bell Krater with Egyptianizing scenes	Basalt	Hadrianic		Rome, Capitoline Museums, Sala dei monumenti dell'Iseo Campense, no. 6
n/a	Greywacke fragment of chiton-draped woman	Greywacke	Hadrianic	Library Courtyard (?) 1880	Tivoli, Hadrian's Villa Storage

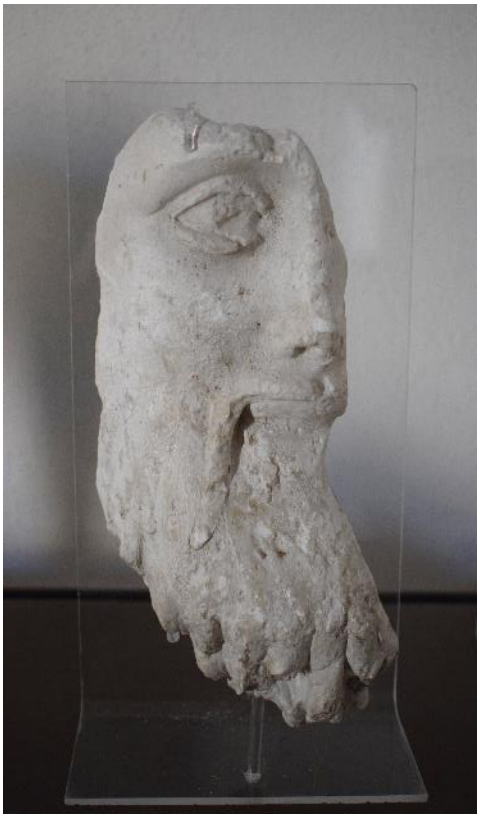


Figure 3.1a Plaster cast of the head of Aristogeiton. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174.479

Figure 3.1b Detail of eyelashes showing impression of clay encasement.

Figure 3.1c Detail of beard with incision of hairs.

Figure 3.2a Plaster cast of a male head with an archaizing hairstyle. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174.482.

Figure 3.2b Detail of holes for metal pins that attached separately cast hair curls.

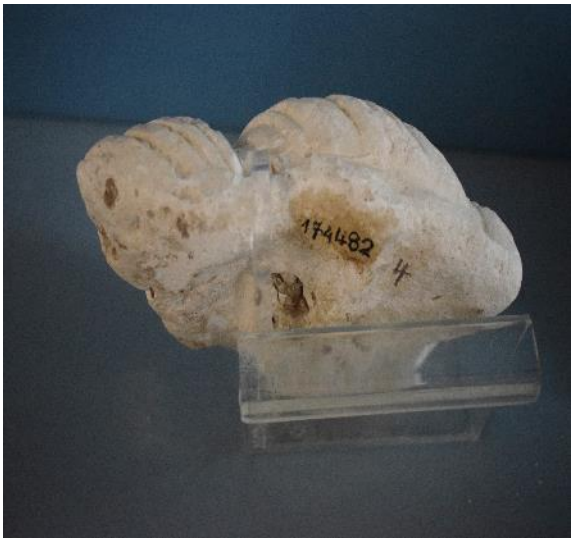


Figure 3.2c Detail of metal pin remaining on interior surface.

Figure 3.3 Plaster cast showing clay-filled in cavities of drapery. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174696.

Figure 3.4a Plaster cast of a foot, in two separate pieces. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174533a,b.

Figure 3.4b Detail, underside of inv. 174533a, showing sculpted bottom of toes.

Figure 3.5 Plaster casts of the Sciarra Amazon left foot and heel. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174541.

Figure 3.6b Plaster cast of the aegis of the Athena Velletri. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174758.

Figure 3.6a Plaster cast of the aegis of the Athena Velletri. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174757.

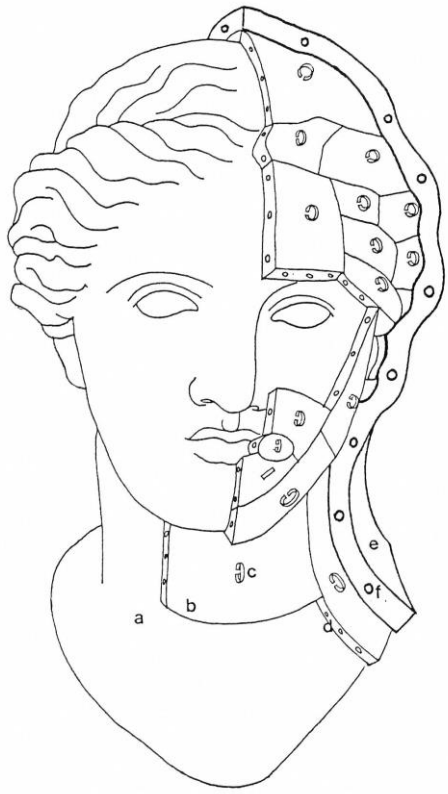


Fig. 2 - ''Forma a Tasselli''

a) modello originale (marmo, bronzo, etc.);
b) tassello;
c) anello metallico;
d) chiamata del tassello;
e) madreforma;
f) chiamata della madreforma.

Figure 3.7 Drawing of the method of taking piece-casts *a tasselli*. Drawing in D'Alessandro and Persegati 1987, fig. 2.

Figure 3.8 Funerary mask of Leo XII, cast in plaster. Copenhagen, Thorvaldsen Museum, inv. L. 663..

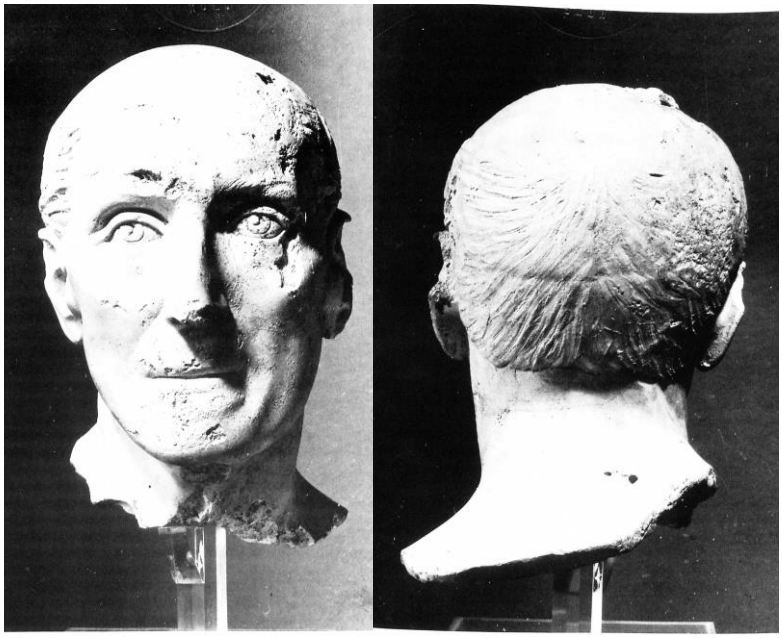


Figure 3.9 Male head cast in plaster, 3rd century AD. Rome, Antiquarium Comunale, inv. 16.247.

Figure 3.10 Plaster casts of the hair of the Athena Velletri type. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174487.

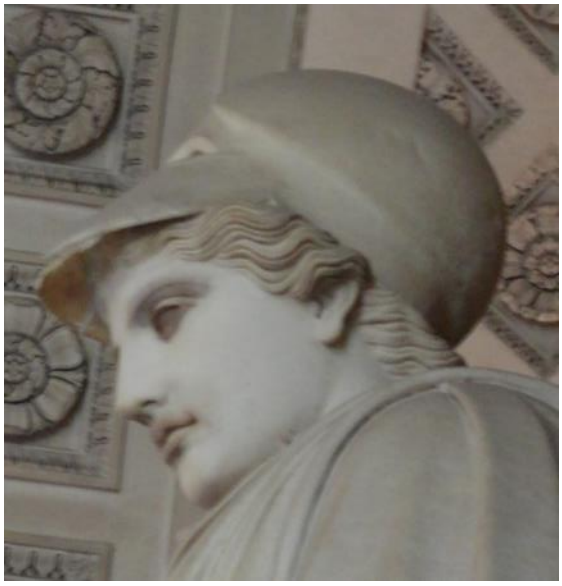


Figure 3.11 Eponymous Athena Velletri. Marble. Paris, Louvre, inv. 464.

Figure 3.12 Plaster cast of the upper torso of Ploutos of the Eirene and Ploutos group, with angled join between two portions of the torso. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174496.

Figure 3.13a (left) and b (right) Plaster casts of the garments of the Corinth-Mocenigo Persephone type. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174687(left); 174678 (right).

Figure 3.14 Plaster cast of a right hand, showing vertical join down the back of the hand. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174512.

Figure 3.15a Plaster cast of the Sciarra Amazon right forearm, elbow, and upper arm. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174504

Figure 3.15b Detail of the internal plaster, which filled the negative impression of finger swipes along the internal face of the plaster cast shell.

Figure 3.15c Detail of relatively flat edge indicating a join between two negative molds.

Figure 3.16a (left) and b (right) Plaster cast of the right arm of the so-called Narcissus. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, Inv. 174497.

Figure 3.16c Detail of the internal armature of bone now protruding from the internal side of the damaged forearm..

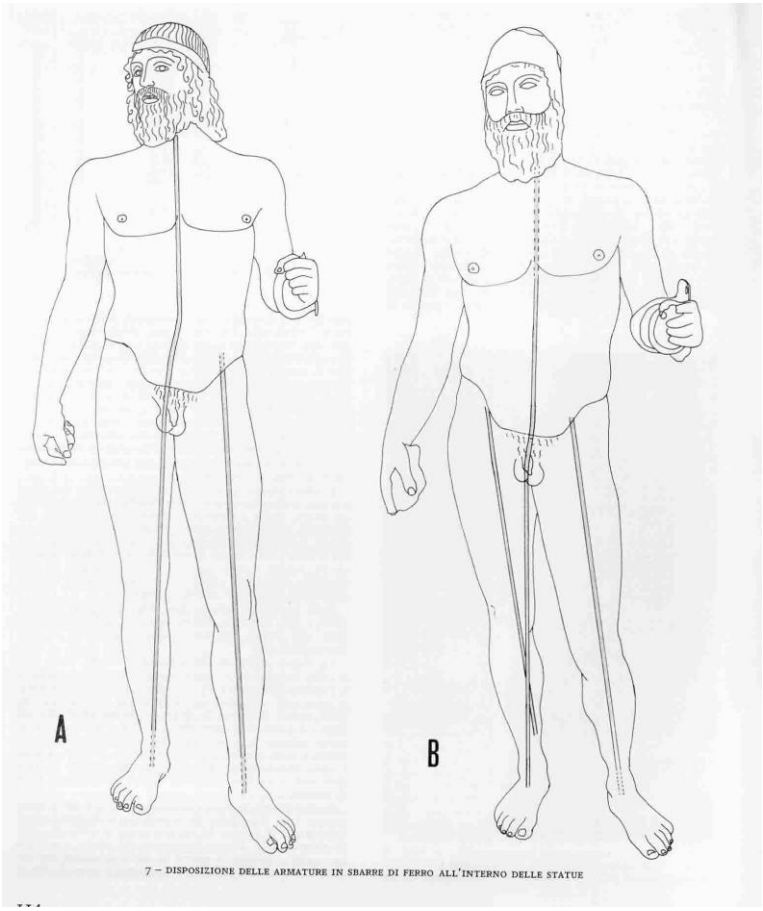


Figure 3.17 Drawing of the internal armature of the Riace bronze warriors (Formigli 1984, fig. 7).

Figure 3.18a (left) and b (right) Plaster cast of the pelvic area of the Westmacott Ephebe type, exterior (left) and interior (right). Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174492.

Figure 3.19a (left) and b (right) Plaster cast of Aristogeiton's right upper arm, with stepped join to the shoulder. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174501

Figure 3.20 Plaster cast of the neck of the Athena Velletri, showing a slanted and stepped join. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174757.

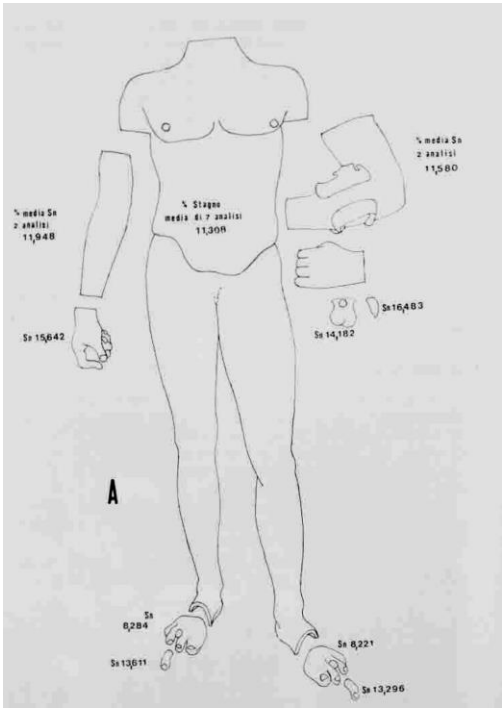


Figure 3.21 Drawing of the separately cast pieces of the Riace bronze warriors. (Formigli 1984, fig. 18).

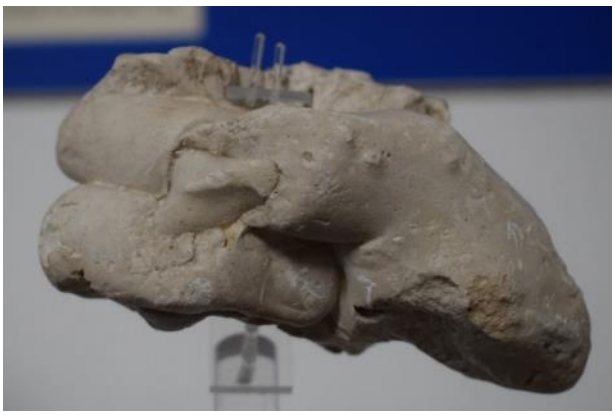


Figure 3.22a Plaster cast of a hand (of Aristogeiton?) grasping a sword. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174518.

Figure 3.22b Detail of the hand meeting sword hilt.

Figure 3.22c Detail of the interior view of the plaster cast of the hand showing tracks of insertion of 'sword' tenon.

Figure 3.23 Plaster cast showing the remnants of oil-wax emulsion as a slight darkening veneer on the external surface. Baia, Museo Archeologico dei Campi Flegrei nel Castello Aragonese, inv. 174658.

Figure 3.24a (left) and b (right) Terracotta head with a severe style face. Rome, Palatine Museum, inv. 375847.

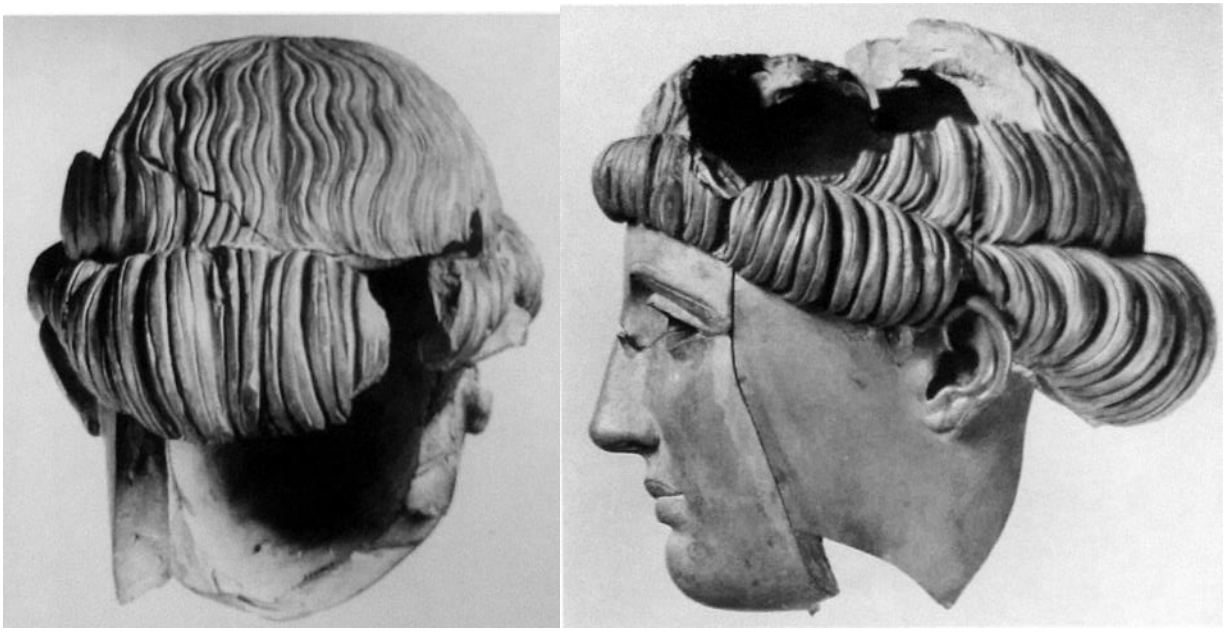


Figure 3.24c (left) and d (right). Detail of the back (left) and left (right) side of the head with a severe style face. Rome, Palatine Museum, inv. 375847. Photo: Fuchs 1999, pl. 64, 3-4.

Figure 3.25a. Terracotta head of the Capitoline Charioteer type. Rome, Palatine Museum, inv. 379560, 379564.

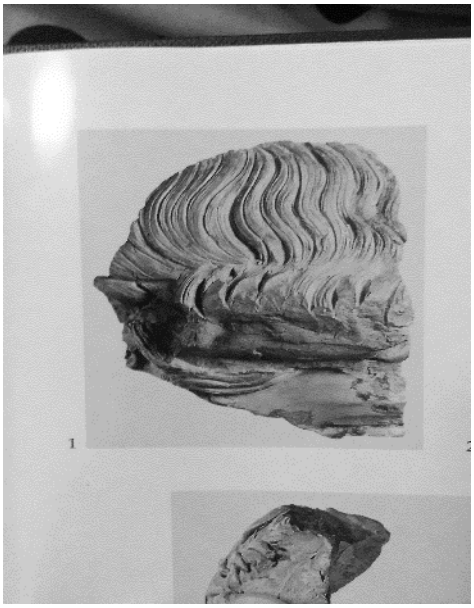


Figure 3.25b (left) and c (right) Detail of the Capitoline Charioteer head, including the fragment of the right side of the head (at left) and of the left back quarter of the head (at right).

Figure 3.25d Detail of Capitoline Charioteer type. Rome, Palatine Museum, inv. 379560, 379564.

Figure 3.26a Terracotta head in Late Classical style. Rome, Palatine Museum, inv. 379670.

Figure 3.26b, detail of the face and join down the right cheek.

Figure 3.26c Detail of the hair.

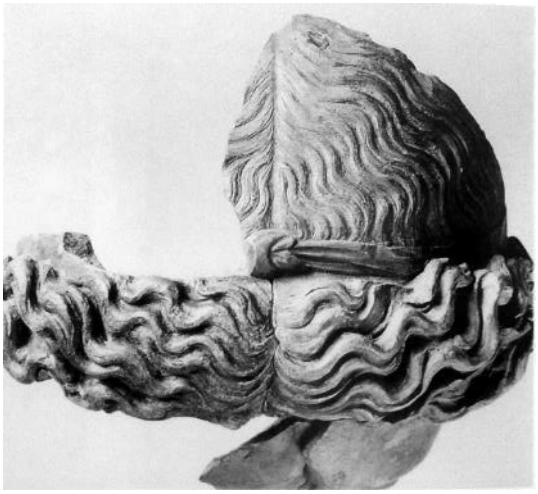


Figure 3.27a (left) and b (right) Terracotta head of the Hera Borghese type. Rome, Palatine Museum, inv. 379561.

Figure 3.27c Detail of the wavy joins in the hair over the forehead and left temple of the Hera Borghese.

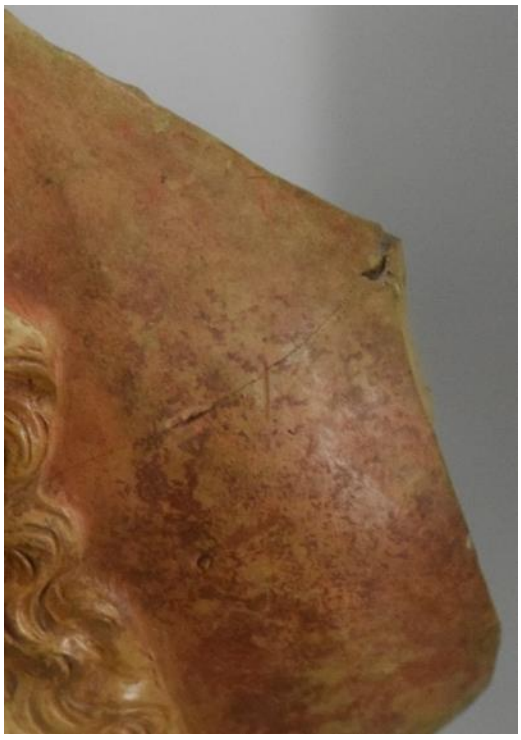


Figure 3.27d Detail of the relatively linearly join through the *sphendone* behind the ear.

Figure 3.28 Pediment of the Temple of Fortuna Respiciens, excavated in the Via San Gregorio. Rome, Capitoline Museums.

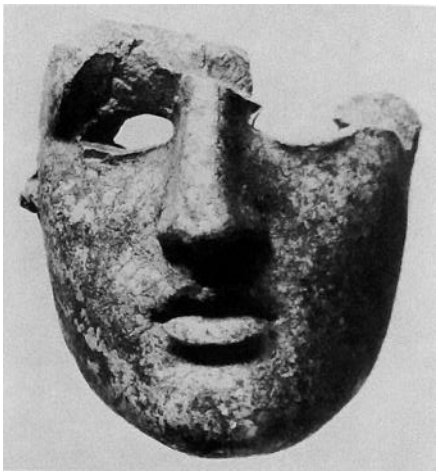


Figure 3.29 Severe style male head excavated in the Via Latina. Rome, Antiquario Comunale.

Figure 3.30. Bearded male head excavated in the Via Latina. Rome, Antiquario Comunale.

Figure 3.31. Male head with curls, excavated in the Via Latina. Antiquario Comunale.

Figure 3.32. Female head, excavated in the Via Latina. Antiquario Comunale.

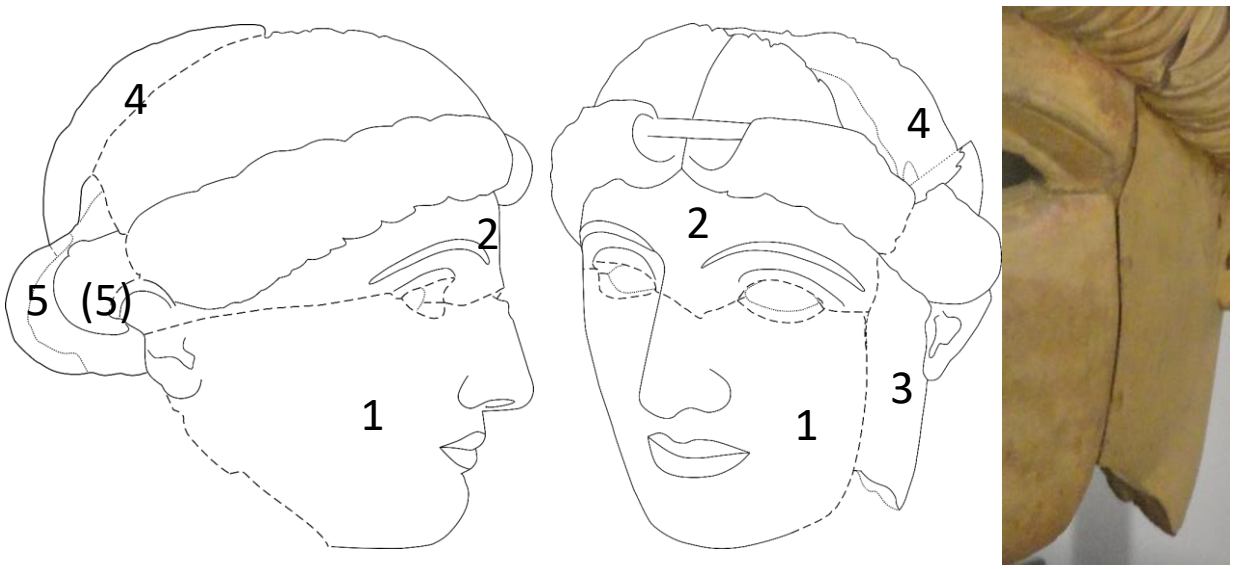


Figure 3.33a (left) and b (right). Drawing of the individually cast pieces of the terracotta head with a rolled hairstyle and severe style face. Rome, Palatine Museum, inv. 375847. Drawing by author after photograph by author.

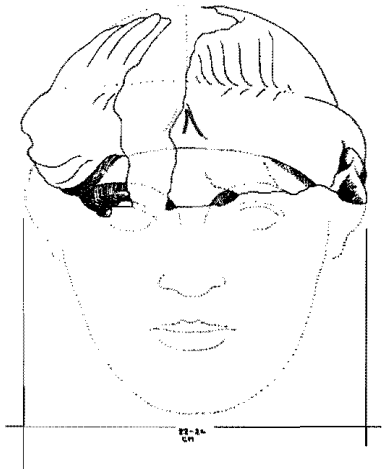


Figure 3.34a (above) Drawing of head of the terracotta Capitoline Charioteer type (Tomei 1992, fig. 2).

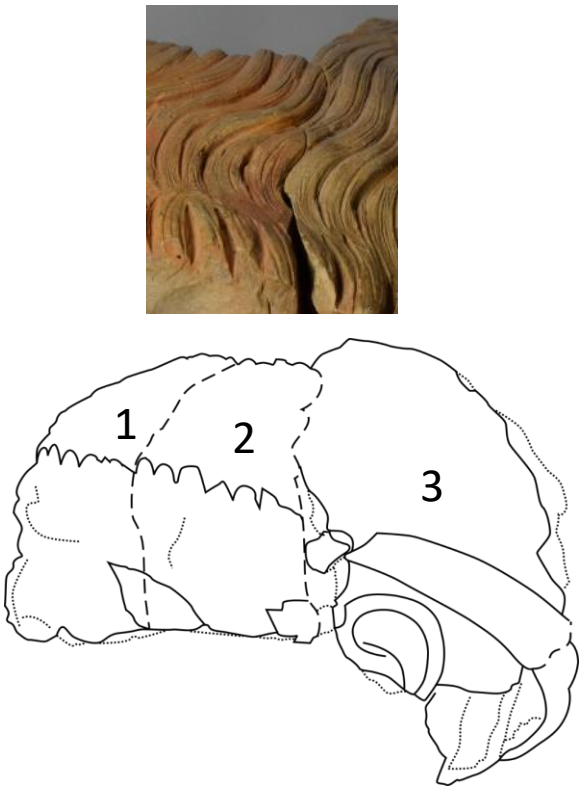


Figure 3.34b. Drawing of the individually cast pieces of the terracotta head of the Capitoline Charioteer type. Rome, Palatine Museum, inv. 379560, 379564. Drawing by author after photograph by author.

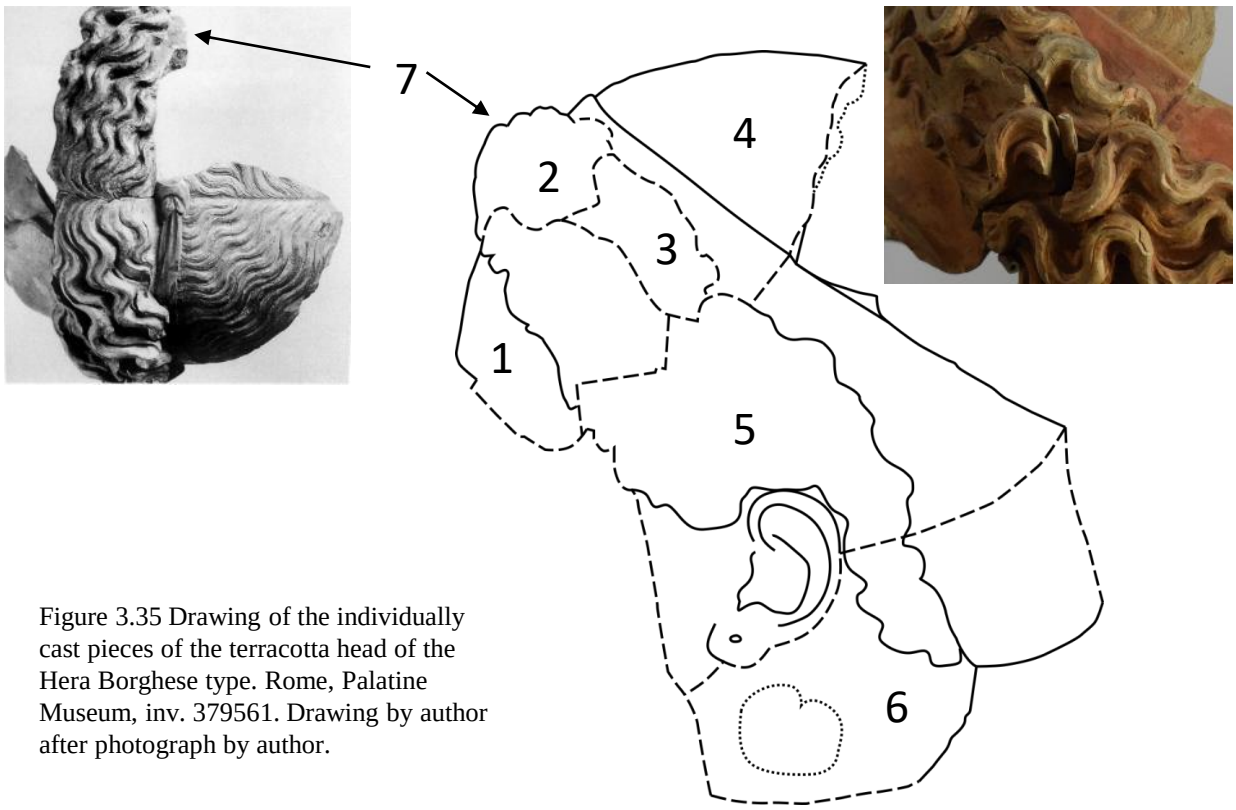


Figure 3.35 Drawing of the individually cast pieces of the terracotta head of the Hera Borghese type. Rome, Palatine Museum, inv. 379561. Drawing by author after photograph by author.

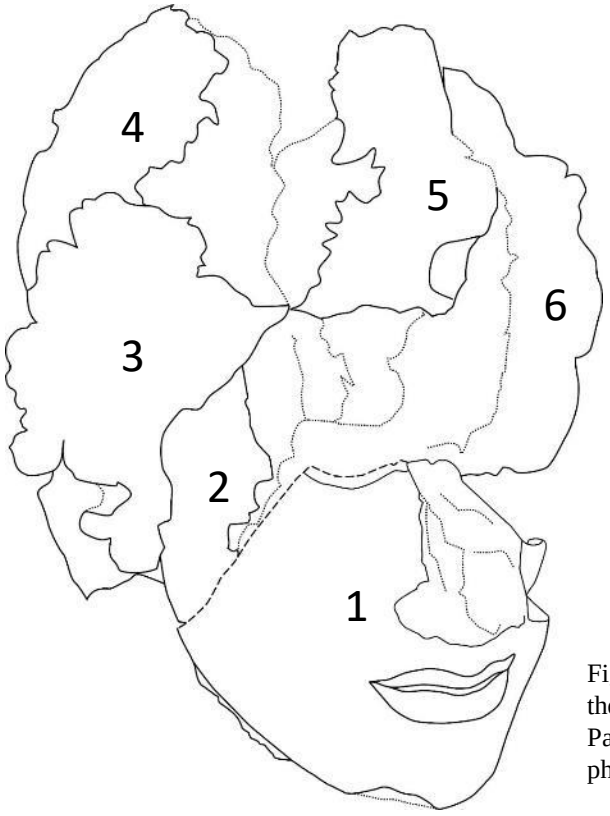


Figure 3.36 Drawing of the individually cast pieces of the terracotta head of a late classical type, Museo Palatino, inv. 379670. Drawing by author after photograph by author.

Figure 3.37 Interior of the Severe style male head with a rolled hairstyle, showing join. Rome, Palatine Museum, inv. 375847.

Figure 4.1. Hand grasping the Palladium, from the Odysseus and Diomedes group, excavated at the imperial grotto of Sperlonga. Sperlonga, National Archaeological Museum Grotta di Tiberio.

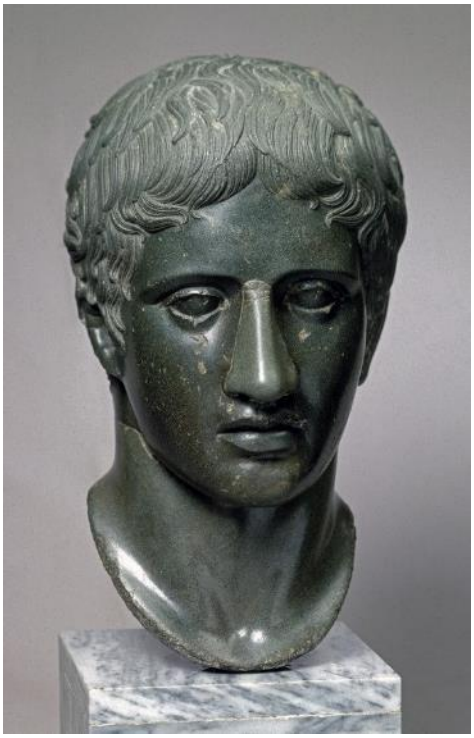



Figure 4.2a (left) and b (right). Fragmentary lapis basanites head of the Doryphoros type (with neck and nose restored). Augustan. Provenance unknown. St. Petersburg, Hermitage, inv. A.292/ГР-17.

Figure 4.3a (left) and b (bottom left). Lapis basanites torso of the Doryphoros type. 1st century AD, probably Julio-Claudian. Provenance unknown, formerly in the collections of the Villa Medici at Trinità dei Monti. Florence, Uffizi Galleries, inv. 308.


Figure 4.4a (left) and b (right). Lapis basanites hair of the Diadoumenos type. First century AD. Provenance unknown. Florence, Uffizi Galleries, inv. 1914, Nr. 356.

Figure 4.4c Detail of lapis basanites hair of the Diadoumenos type. First century AD. Provenance unknown. Florence, Uffizi Galleries, inv. 1914, Nr. 356.

Figure 4.5a (top left), b (top right), and c (bottom right). Lapis basanites torso of the Ephesos Scraper (Apoxyomenos) type, excavated in the gardens of the Villa of Domitian at Castelgandolfo. Castelgandolfo Antiquarium, inv. 36405.

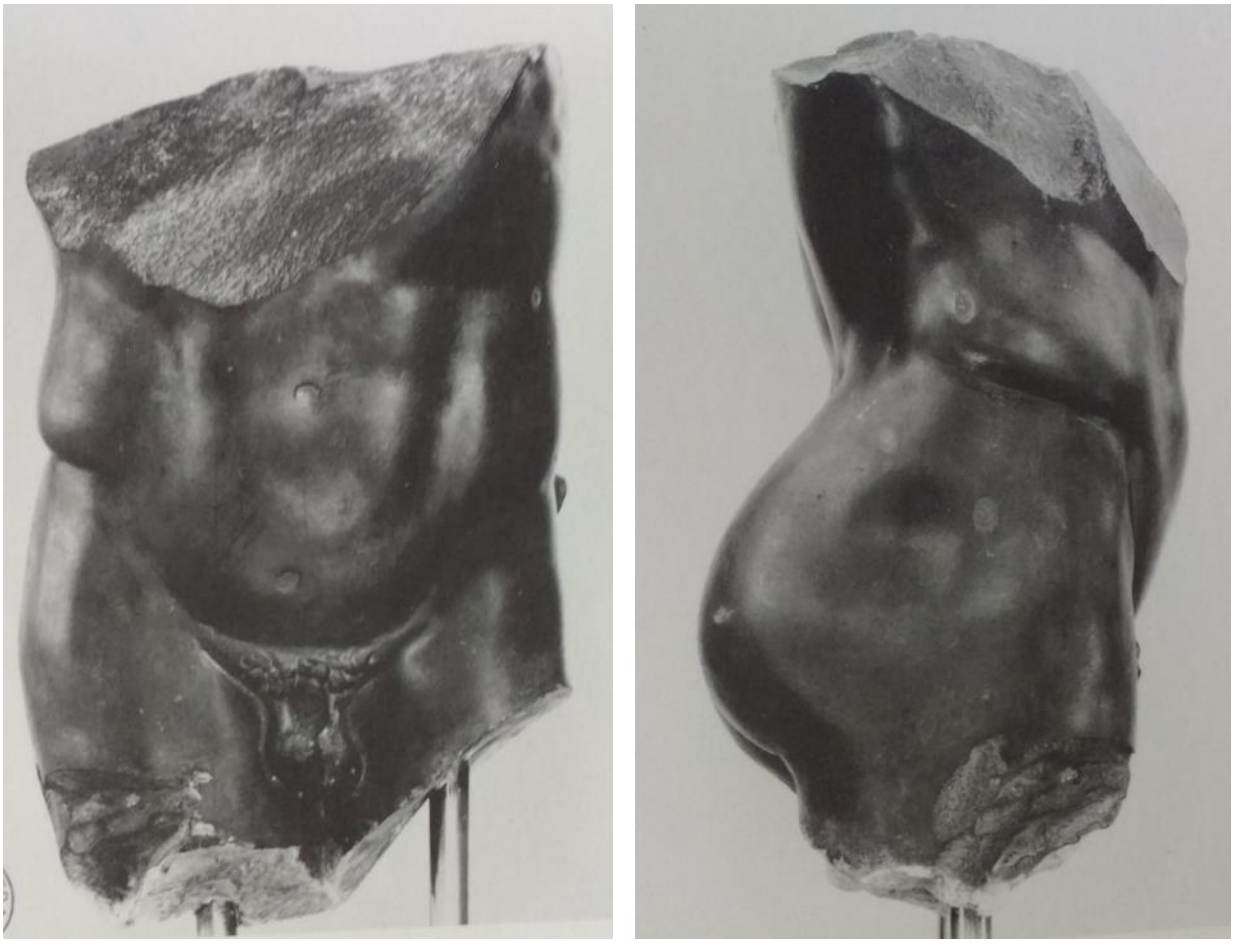


Figure 4.6. Lapis basanites torso of the Diskophoros type. First century AD, Flavian. Excavated in Beneventum, reused in Late Antique wall. Beneventum, Samnium Museum, inv. 1931.

Figure 4.7. Hanging Marsyas, excavated in the Villa delle Vignacce, near Rome, in 2009. Second century AD. Rome, Centrale Montemartini.

Figure 4.8. Gallery of Egyptian art in the Ny Carlsberg Glyptothek, primarily hard stone sculpture that has lost its pigmentation.

Figure 4.9a (left), b (center), and c (right). The varying colors of lapis basanites relative to the level of hematite in the sediment.

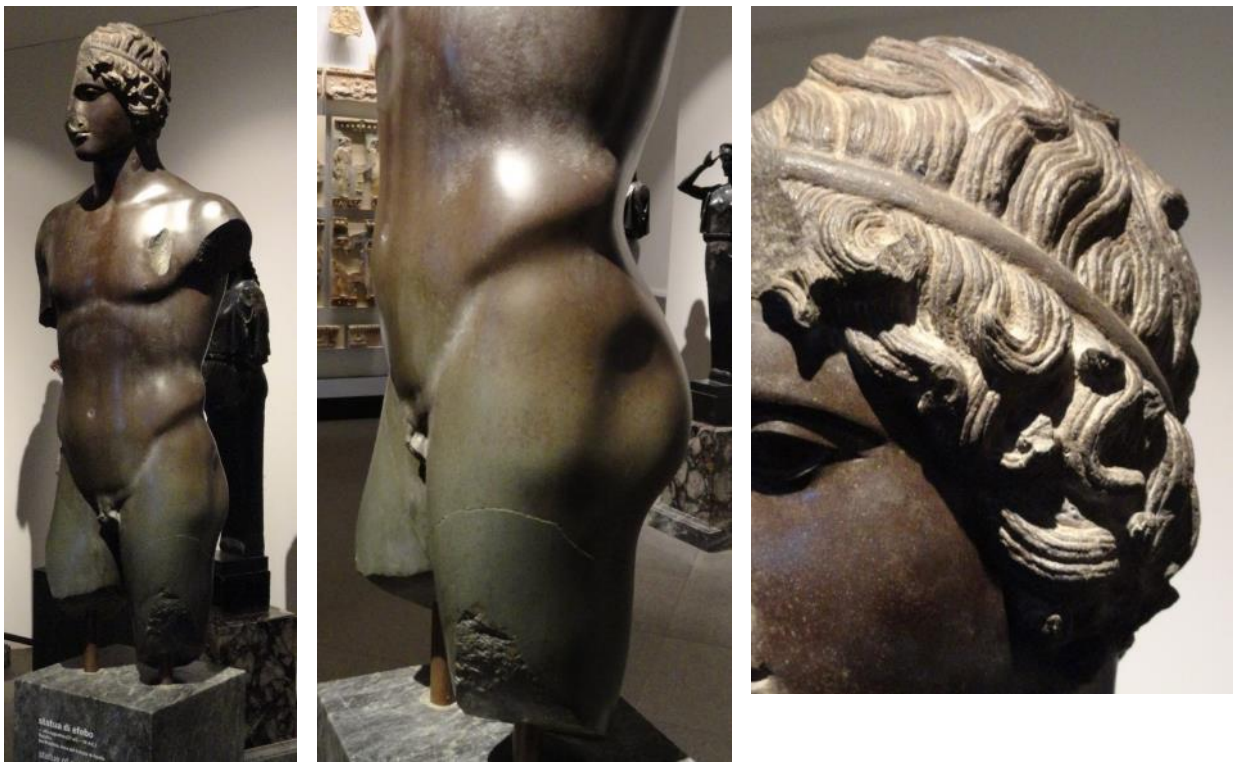


Figure 4.10a (left), b (center), and c (right). Palatine Ephebe. Augustan. Excavated in 1869 in a deposition context in the cryptoporticus east of the Palatine Temple of Apollo. Rome, Palatine Museum, inv. 115255 (formerly in the Museo Nazionale Romano alle Terme, inv. 1059).

Figure 4.12 (above). Munich Ephebe as conserved (right) and as restored (left) with bitumen patina added to the hair and polychrome eyes and lips. Early 1st century AD. Munich, Glyptothek.

Figure 4.11 (left). Reconstruction of the Kassel Apollo in polished bronze, without superficial patina or added polychromy by Peter Bercke and Heinrich Tylle. Original c. 450BC. Museumlandscharft, Hessen Kassel, Collection of Antiquities, inv. N137.

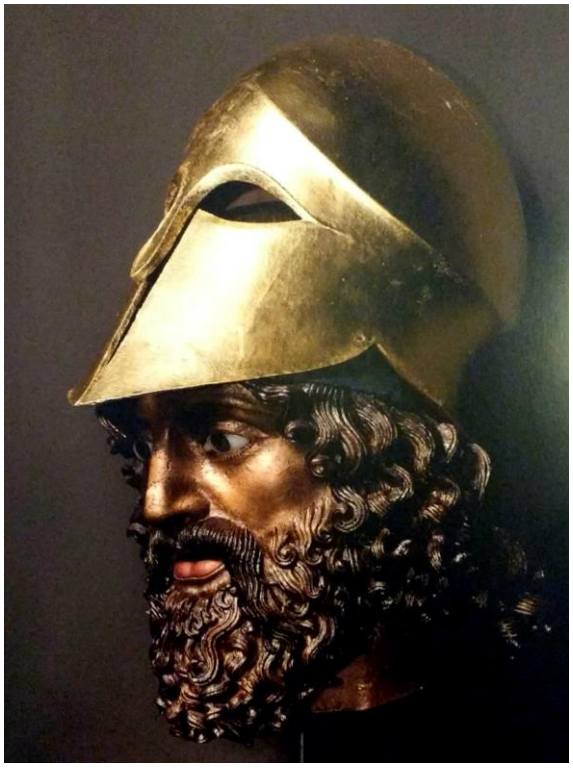


Figure 4.13. Reconstruction of the Riace Warrior A, colored with iron and liver of sulphur.

Figure 4.14. Reconstructed patinas on the so-called Idolino (left), the artificially black-patinated replica (middle), and the polished bronze replica (right). Reconstruction by: Formigli 2013b, fig. 3.

Figure 4.15. The black-patinated copy of the Idolino with brightly polychrome details. Reconstruction by Formigli 2013b, fig. 5.

Figure 4.16a (left), b (center) and c (right). The varying bronze patinas offered by the Chiurazzi foundation.

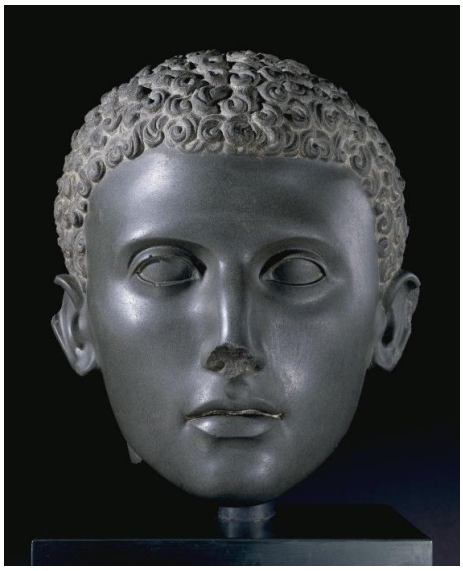


Figure 4.17. Head of a man carved in *lapis basanites*. London, British Museum, inv. EA55253.

Figure 4.18a (left) and b (right). Head of a young boy. Hamburg, Museum für Kunst und Gewerbe, inv. 1961.1.

Figure 4.19. Head of Agrippina. 1st century AD, reworked multiple times. Ny Carlsberg Glyptothek, Copenhagen, inv. 753.

Figure 4.20. Statue of Agrippina, excavated on the Caelian Hill in Rome and restored with a cast of the Copenhagen head. Rome, Centrale Montemartini, inv. 1882.

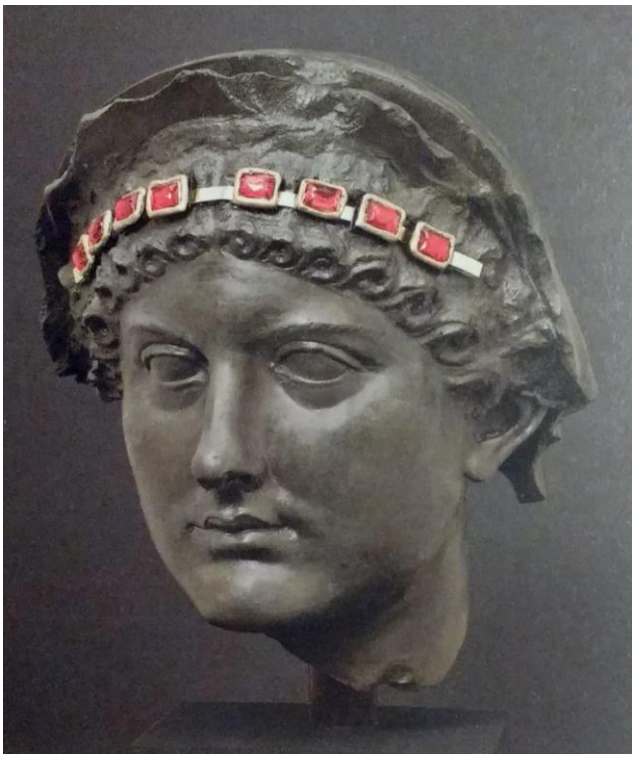


Figure 4.21. Plaster cast of the Copenhagen Agrippina head, with gem diadem. Reconstruction by Mette Moltesen 2007, fig. 13.

Figure 4.22. Statue of Fortuna/Isis from the 2nd century BC. Dark grey marble from the Mani peninsula (*lapis taenarius*). Excavated in the Sanctuary of Fortuna Primigenia in Palestrina. Palestrina, National Archaeological Museum of Palestrina.

Figure 4.23. Statue of Matidia Minor, excavated in Sessa Aurunca, skin in Parian marble and garments in two different dark grey stones (whose provenance remains debated), 2nd century AD. Sessa Aurunca, Castello Ducale.

Figure 4.24. Ashmolean Diadoumenos with inlaid meander pattern on the fillet. Oxford, Ashmolean.

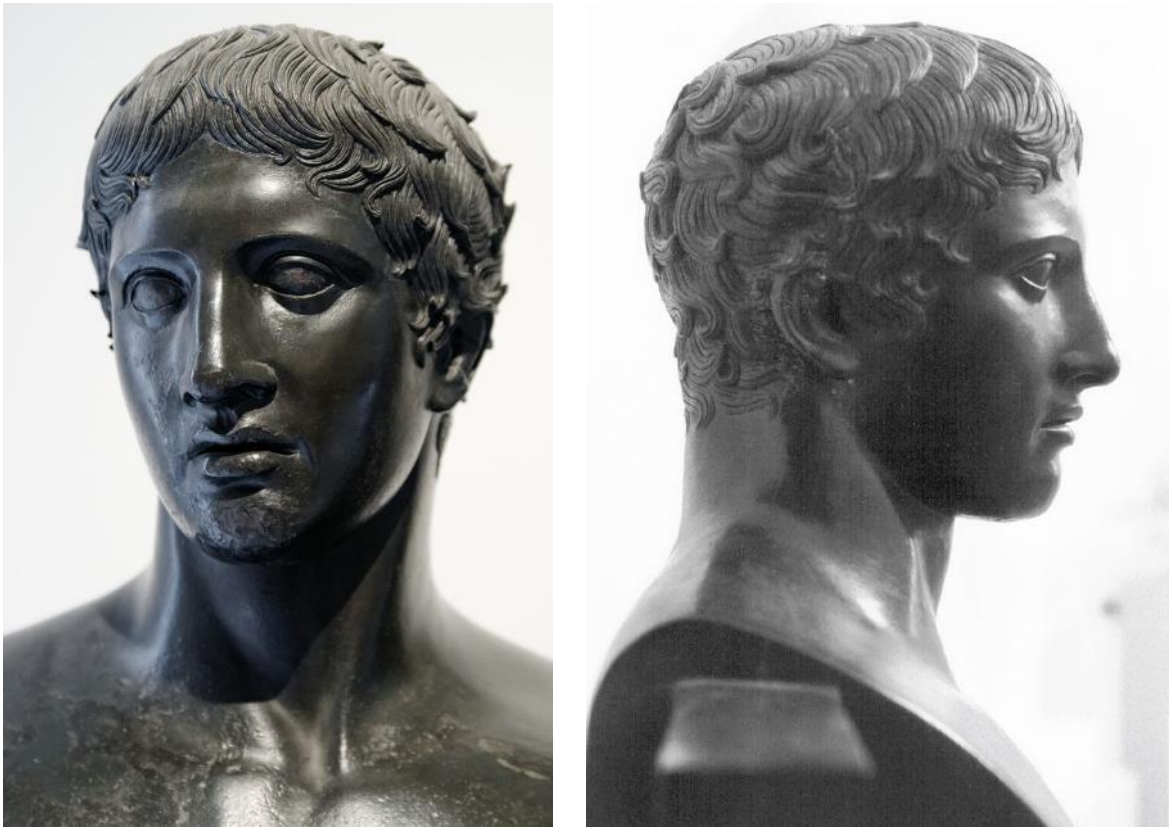


Figure 4.25. Bronze herm of the Doryphoros type, signed by Apollonios, excavated in the Villa dei Papiri, Herculaneum. 1st century AD. Naples, National Archaeological Museum, inv. 4885.

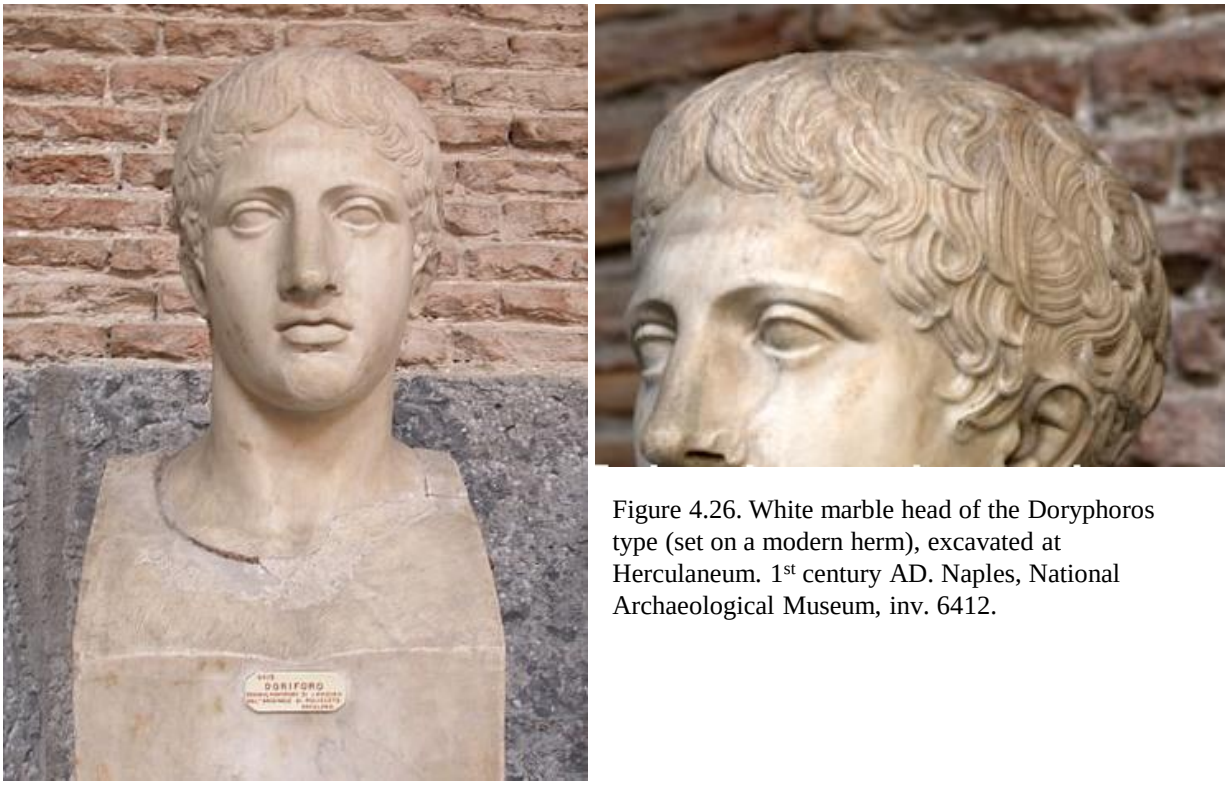


Figure 4.26. White marble head of the Doryphoros type (set on a modern herm), excavated at Herculaneum. 1st century AD. Naples, National Archaeological Museum, inv. 6412.

Figure 4.27. Statue of Sekhemka, excavated in Saqqara. Diorite. 2500-2350BC. Paris, Louvre, inv. A104, E3021, N110.

Figure 4.29. Portrait, possible of Ptolemy III (r. 247-222 BC) in diorite (considered lapis basanites by Belli Pasqua). Nose is a modern integration and at the forehead is heavily reworked. Copenhagen, Ny Carlsberg Glyptothek, inv. 933.

Figure 4.28. Hellenistic lapis basanites torso in classical style. 2nd century BC, Zurich, Kunsthaus inv. 4409.

Figure 4.30. Statue of Cybele enthroned. Giallo antico garments with Carrara marble skin; restored with cast of the head of Athena Carpegna, aegis, and black stone hair. Claudian. Rome, National Roman Museum Palazzo Massimo alle Terme. Photograph by author.

Figure 5.1. The Danaids from the Palatine. Marmor Taenarium (probably) and black limestone, probably from Ain El-Ksir. Rome, Palatine Museum. Left to right: inv. 1053; inv. 1048; inv. 486331; inv. 1056.

Figure 5.2 The Young Capitoline Centaur. Dark grey marble from Göktepe, near Aphrodisias. Rome, Capitoline Museums, inv. 656.

Figure 5.3 The Old Capitoline Centaur. Dark grey marble from Göktepe, near Aphrodisias. Rome, Capitoline Museums, inv. MC 658.

Figure 5.4. Red Faun, excavated in Hadrian's Villa at Tivoli. Marmor Taenarium. Rome, Capitoline Museums,inv. MC 657.

Figure 5.5. Doria Pamphilj Young Centaur. Red marble, probably Marmor Taenarium, and nero antico (unprovenanced black limestone or marble). Rome, Galleria Doria Pamphilj, no inv. number.

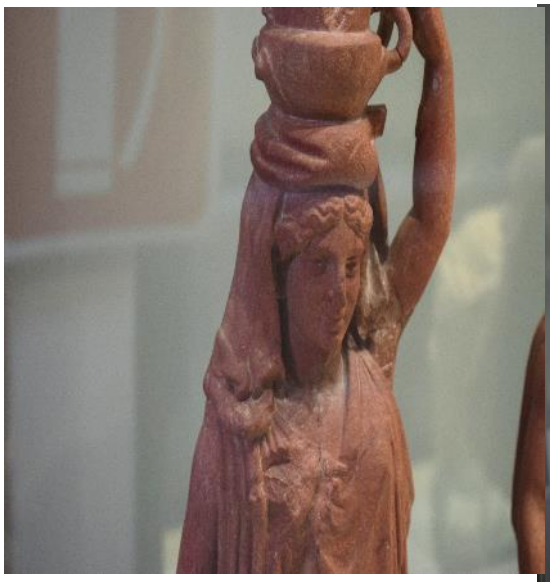


Figure 5.6. Two statuettes of canephorae from a sanctuary of Jupiter Liber at Sabina. Probably Marmor Taenarium. Rome, Museo Barracco, inv. 115 and 116.

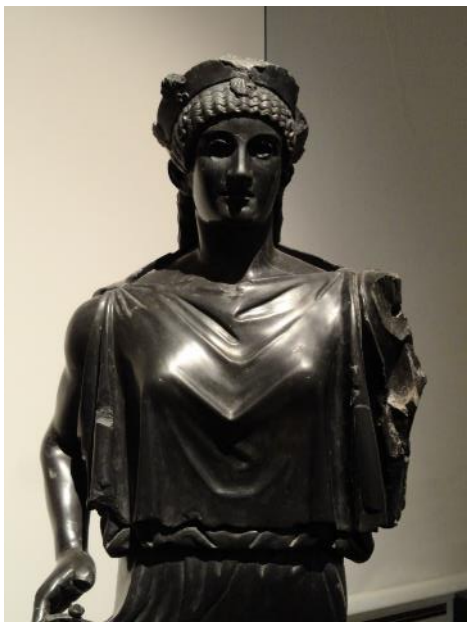


Figure 5.7a (left), b (center), and c (right). Palatine Danaid herm (inv. 1056) with lowered right arm. Black limestone probably from Ain El-Ksir. Rome, Palatine Museum inv. 1056.

Figure 5.8a (left) and b (right). Palatine Danaid herm with lowered right arm. Black limestone probably from Ain El-Ksir. Palatine Museum inv. 1053.

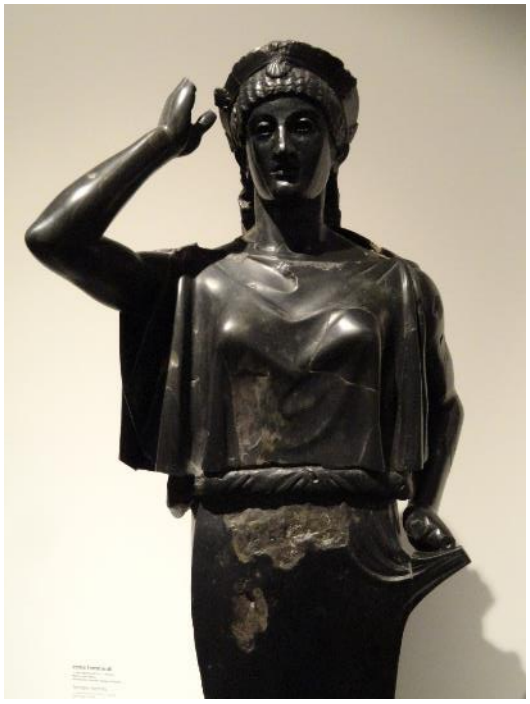


Figure 5.9a (left) and b (right). Palatine Danaid herm (inv. 1048) with lowered right arm. Black limestone probably from Ain El-Ksir. Palatine Museum inv. 1048.

Figure 5.10. Fragment of the raised right arm of a Palatine Danaid herm. Marmor Taenarium. Palatine Museum, inv. 486338.

Figure 5.11. Fragment of the raised right arm of a Palatine Danaid herm. Marmor Taenarium. Palatine Museum, inv. 486331.

Figure 5.12. Red-colored resin replica of the most complete black herm with lowered arm (Palatine Museum, inv. 1056), with integrated ancient fragment of the right, lowered arm in Marmor Taenarium (Palatine Museum, inv. 486331).

Figure 5.13. Herculaneum bronze ‘dancers’, National Archaeological Museum, Naples, National Archaeological Museum, inv. 5620, 5621, 5605, 5604, 5619.

Figure 5.14. Herculaneum bronze ‘dancer’ with upraised right arm, National Archaeological Museum, Naples, inv. NM 5604.

Figure 5.15. Terracotta ‘Campana’ plaques with figures similar to the Palatine half-herms. Palatine Museums, Rome.

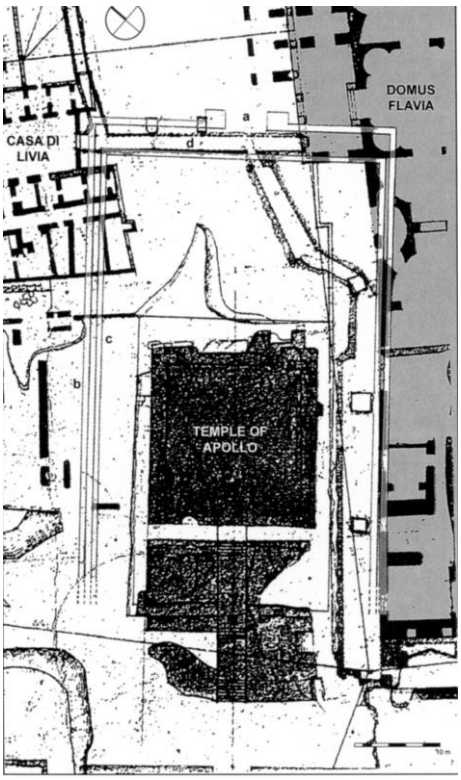


Figure 5.16 Reconstruction of the Portico of the Danaids proposed by Tomei (2000, fig. 12).

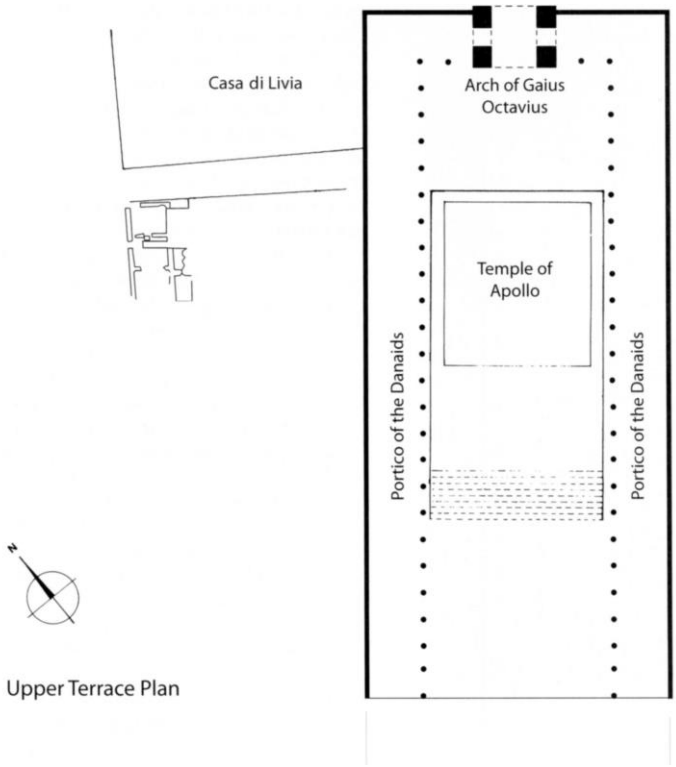


Figure 5.17. Reconstruction of the portico by Quenemoen (cropped adaptation of Quenemoen 2006, fig. 4).

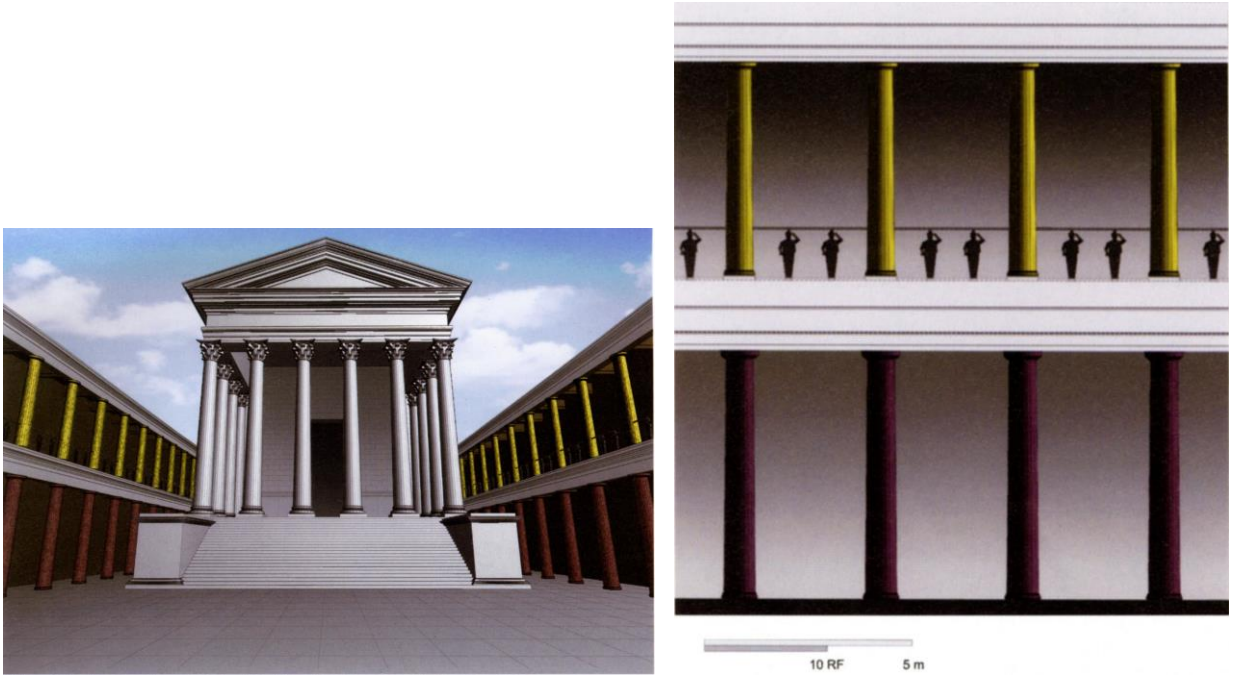


Figure 5.18a and b: Reconstruction of the Portico of the Danaids proposed by Quenemoen 2006.

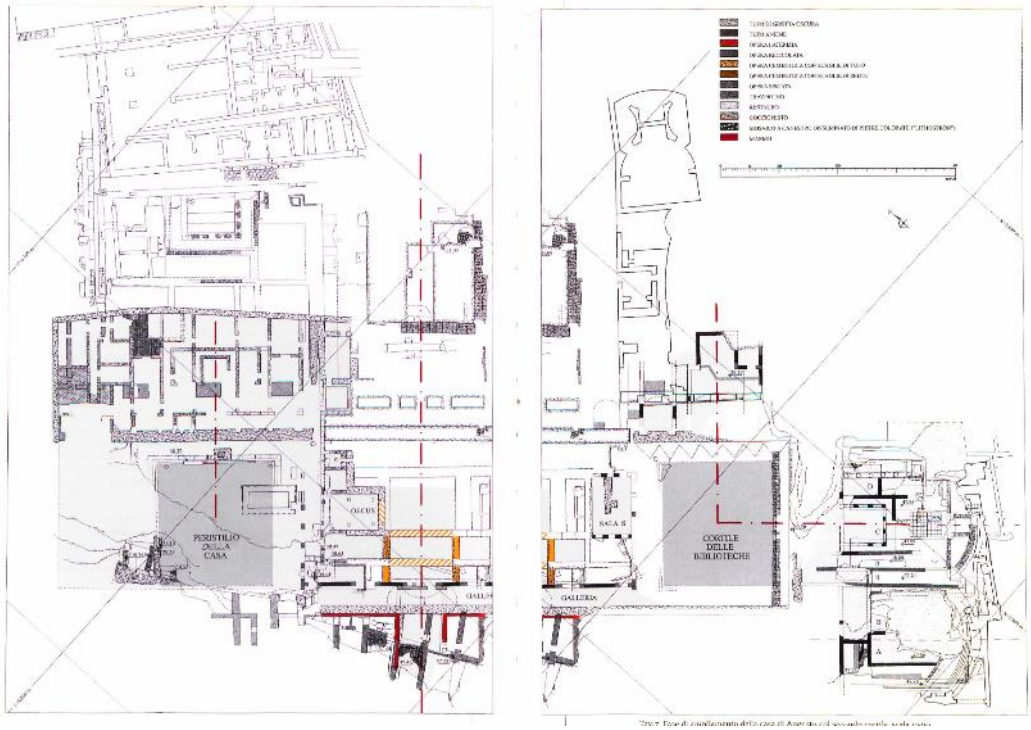


Figure 5.19. Reconstruction by Iacopi and Tedone (2006) of the renovation of houses on the Palatine begun in 36BC for Octavian's personal house and abandoned in 31BC in order to expand Apollo Palatinus temple precinct with a portico and libraries. (Iacopi and Tedone 2006, table 7).

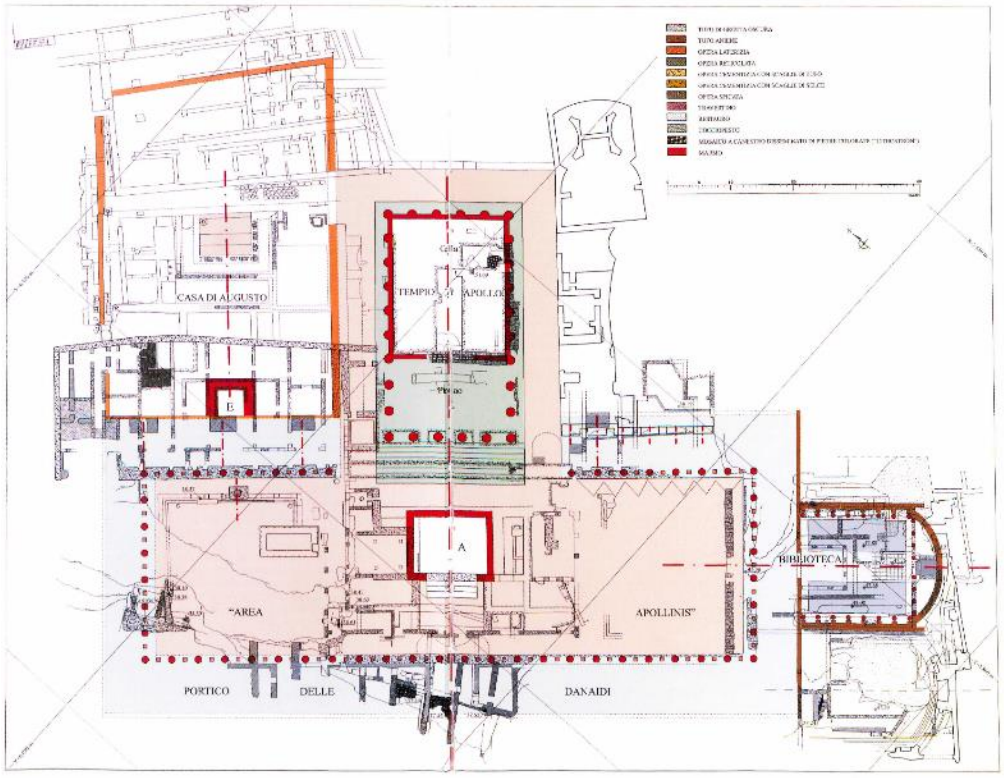


Figure 5.20. Reconstruction by Iacopi and Tedone (2006) of the temple complex of Apollo Palatinus including the Portico of the Danaids (Area Apollonis) and the libraries. (Iacopi and Tedone 2006, table 8).

Figure 5.21: Caryatid in the British Museum, of the Siracusa-Nemi type. London, British Museum

Figure 5.22: Inscription on the intact base of the Capitoline Old Centaur. Along the lateral face: "Aristeas kai Papias"; on the front "Aphrodeiseis". Rome, Capitoline Museums, inv. 658.

Figure 5.23: Inscription on the restored base of the Capitoline Old Centaur, with partially ancient inscriptions removed from fragmentary ancient base and integrated into the restoration: Along the lateral face: "Aristeas kai" "Papias" "Aphrodeiseis". Rome, Capitoline Museum, inv. 656.

Figure 5.24. Drawing of the Young Capitoline Centaur with shading to show Napolioni's restorations (drawing by O. Wright in Rockwell 2003, fig. 5)

Figure 5.25. Drawing suggesting the ancient appearance of the Young Capitoline Centaur (drawing by O. Wright in Rockwell 2003, fig. 6)

Figure 5.26. A Dacian prisoner in the courtyard of the Capitoline Museums, Rome. Dark grey marble from Göktepe, near Aphrodisias. Rome, Capitoline Museums, inv. 779.

Figure 5.27. Borghese Old Centaur. White marble. Louvre Museums, Paris, inv. MA 562.

Figure 5.28. Vatican Young Centaur. White marble. Vatican Museums, Rome, Sala degli Animali, inv. 404.

Figure 5.29. Metropolitan Young Centaur torso. Red marble, probably Marmor Taenarium. Metropolitan Museum of Art, New York, inv. 09.211.6.

Figure 6.1 Standing sculpture of a man. Late Ptolemaic (1st cen. BC) from the shoulders down; Possibly Roman head attached. Red Granite. Munich, Egyptian Museum, inv. Gl. WAF 27

Figure 6.2. Kneeling statue of Nectanebo I. Black granite; Roman head in black marble; modern restorations in multiple stones. Madrid, Prado (on display in the National Archaeological Museum), inv. 412

Figure 6.3 Late Ptolemaic (possibly Roman) statue of Isis. Black granite. Munich, Egyptian Museum, inv. Gl. WAF 26a.

Figure 6.4 Late-Ptolemaic head of a male priest. Diorite. Munich, Egyptian Museum, inv. Gl. WAF 26b.

Figure 6.5 Telamones, possibly representing Antinous, Hadrianic. Red Granite. Vatican Museums, Sala a croce greca, no. 196 and 197.

Figure 6.6a Statues of Ptolemy II and Arsinoë II, 3rd century BC. Excavated in the Horti Sallustiani; from Heliopolis. Red Granite. Vatican Museums, inv. 22682 and 22681.

Figure 6.6b Statue of Drusilla as Arsinoë II, 37-41 AD. Red Granite. Vatican Museums, inv. 22683.

Figure 6.6c Statue of Queen Tuya 18th or 19th Dynasty. Excavated in the Horti Sallustiani; from Thebes. Dark Granite. Vatican Museums, inv. 22682.

Figure 6.7a. Sculpture of Isis. Black Basalt. Rome, Museo Gregoriano Egizio no. 114, inv. 22799.

Figure 6.7b. Cleopatra VII, c. 170-60 BC. Marble. Metropolitan Museum of Art, inv. 89.2.660

Figure 6.8 Isis with a cornucopia, Hadrianic. Black Basalt. Vatican Museums, inv. 107.

Figure 6.9 Isis with a cornucopia. Hadrianic Black Basalt. Vatican Museums, inv. 107.

Figure 6.10a Fragmentary sphinx (head restored). Hadrianic. Basalt. Munich, GL WAF 17.

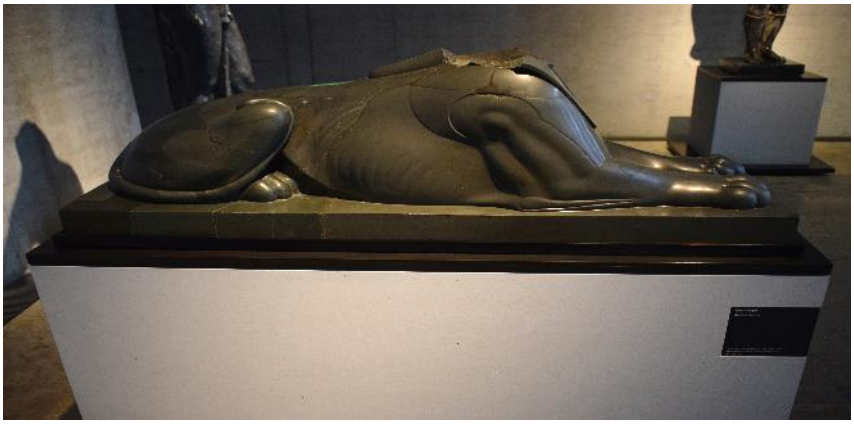


Figure 6.10b Fragmentary sphinx. 26th Dynasty (c. 600 BC). Amphibolite. Munich, GL WAF 16.

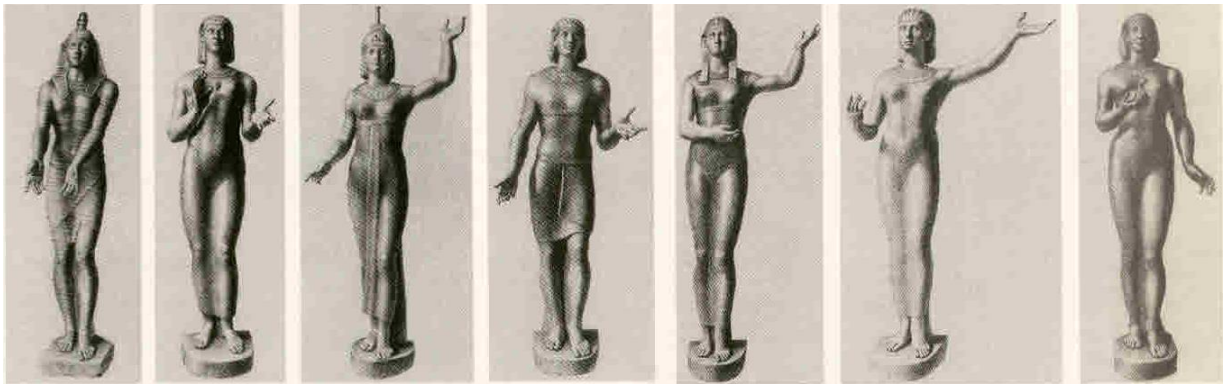


Figure. 6.11 Drawings of seven of the nine black stone sculptures restored from the 10 excavated at Hadrian's Villa in the 17th century. Drawings from the Album Ajello. The sculptures were last installed at the Spanish Palace of Arnajuez and lost during Napoleonic occupation.

Figure 6.12 (left) Head of a man wearing the *nemes* headdress with *uraeus*. Found in 2002-2004 excavations of the so-called Antinoeion at Hadrian's Villa. Göktepe marble(?). Hadrian's Villa storage.

Figure 6.13 (right and below) Six sculptures of Egyptian deities and offering figures, Hadrianic
Göktepe marble. Vatican Museums, Sala del Canopo.

Figure 6.14a (left) Statue restored from two non-pertinent statues: Fragmentary torso in black stone. Hadrianic. Black stone; Fragmentary lower legs, feet and base. Hadrianic. Grey marble. Madrid, Museo del Prado, inv. 414 E.

Figure 6.14b (right) Fragmentary torso in black stone, heavily restored. Hadrianic. Black stone. Madrid, Museo del Prado, inv. 415 E.

Figure 6.15a Statue of a pharaoh. Hadrianic. Dark grey, white-veined marble, (Göktepe?). Munich, Egyptian Museum, Gl. WAF 15.

Figure 6.15b Statue of a pharaoh. Hadrianic. Dark grey, white-veined marble, (Göktepe?). Munich, Egyptian Museum, Gl. WAF 14.

Figure 6.16 Head of a man wearing a headdress with *uraeus*. Found in 2002-2004 excavations of the so-called Antinoeion at Hadrian's Villa. Hadrian's Villa storage.

Figure 6.17a Statue of Isiac Priest. From the so-called Palestra at Hadrian's Villa. Hadrianc. Red Marble. Capitoline Museums, inv. MC 1214

Figure 6.17b Statue of Isiac Priest. From the so-called Palestra of Hadrian's Villa. Hadrianic. Red Marble. Venice Archaeological Museum, inv. 117

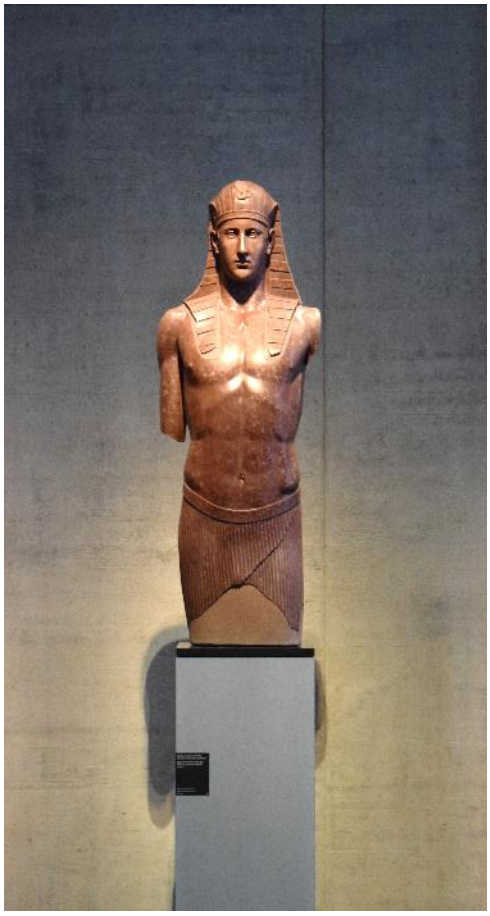


Figure 6.18a Statue of Antinous. Hadrianic. Red marble. Munich, Egyptian Museum, Gl. WAF 24.

Figure 6.18b Statue of Antinous. Hadrianic. White Marble. Vatican Museums, inv. 22795.

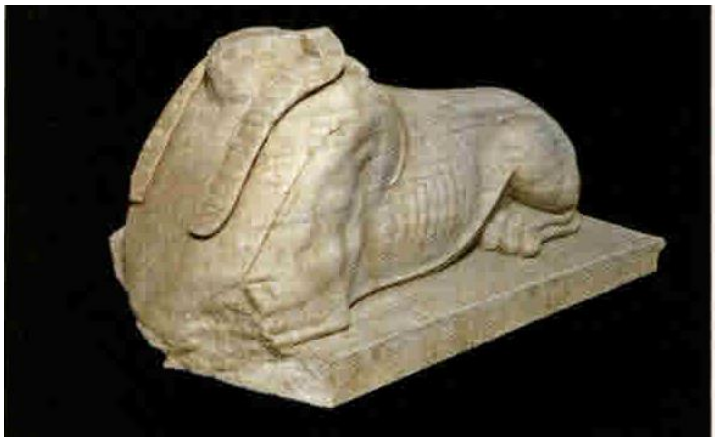
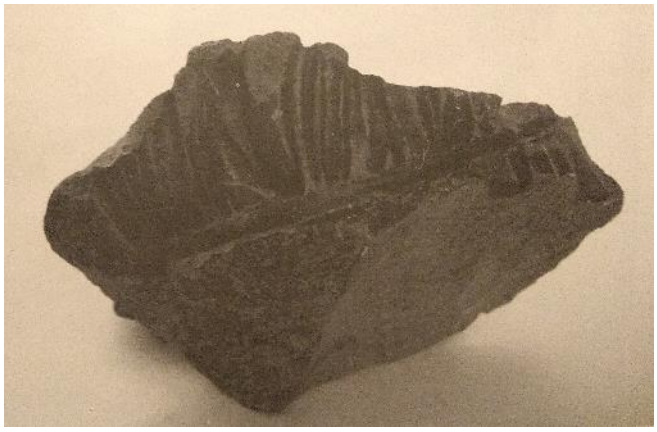


Figure 6.19 Fragmentary sphinx. Hadrianic. White Marble. Found in recent excavations of the Palestra. Hadrian's Villa storage.



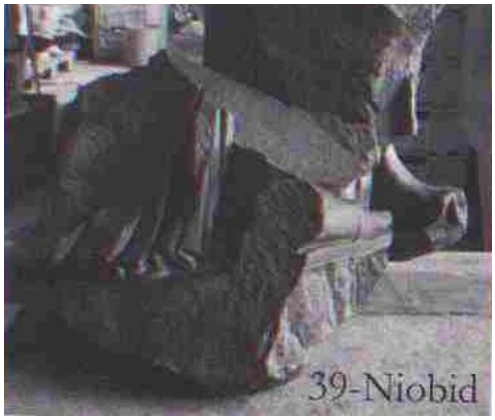


Figure 6.20a (above left) and b (above right). Two fragments of a statue of a female wearing a belted chiton, a: the bottom the drapery and preserved left foot; b: the belt and chiton gathered at the waist. Hadrianic. Greywacke. Hadrian's Villa storage.

Figure 6.20c (left) Fragment of the base, bottom of the drapery and foot (same as 6.20a) that was identified in Lapeute et. al (2012, fig. 1) as a greywacke Niobid. Greywacke. Hadrian's Villa storage

Figure 6.21a Fragmentary garments of two female Niobids lying on the ground. Hadrianic. Göktepe marble. From the Stadium at Hadrian's Villa. Hadrian's Villa storage.

Figure 6.21b Fragmentary garments of the Chiaramonti Niobid. Hadrianic. Göktepe marble. From the Stadium at Hadrian's Villa Hadrian's Villa storage.

Figure 6.22 Bell Krater with Egyptianizing scenes. Hadrianic. Dark grey granite. Rome, Capitoline Museums, inv, 29.