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THE QUARRY ORIGINS OF NINE ROMAN MARBLE SCULPTURES FROM 'AMMĀN/PHILADELPHIA AND GADARA/UMM QAYS

Elise A. Friedland and Robert H. Tykot

Introduction

Because there is no native source of marble anywhere in the Near East, all marble artifacts discovered in the region were imported from such marble-rich provinces as Turkey, Greece, and Italy. Over the past thirty years, scientists focusing on archaeometry have developed a multi-method approach involving chemical and petrographic tests for determining the quarry origins of marble artifacts. While extensive work has been conducted on architectural, funerary, and sculptural marbles discovered in Israel (Pearl 1989; Fischer 1998, 2002; Friedland 1999) and recently, a comprehensive research program to analyze the origins of marble sarcophagi and statuary discovered in Syria has been undertaken (Wielgosz 2000, 2001; Wielgosz *et al.* 2002), only a few studies have been conducted on marble artifacts from Roman period Jordan, and those have focused on architectural marble (Al-Bashaireh 2003). Because marble architectural elements and sarcophagi are known to have been quarried and shipped differently than marble sculptures, it is important to study all classes of marble artifacts discovered in a region. Understanding quarry origins can significantly enhance our understanding of trade routes, the economics of the use of marble, the goals of the patrons of these expensive, imported artifacts, and the role of Roman Arabia in the broader imperial marble trade. This study is the first in a series, designed to document and interpret the quarry origins of the three-dimensional marble statuary that was imported and installed in the public, monumental architectural of urban centers in Roman Arabia.

Sculptures Studied

Because previous studies had focused on

sourcing the sculptural remains from one hall of the East Baths at Gerasa/Jarash, this study was designed to broaden our knowledge of the quarry origins from the urban monuments of other major centers in Roman Jordan. The decision about which pieces to sample was also affected by logistical matters, such as which pieces were displayed or stored so that surfaces aesthetically- and scientifically-appropriate for sampling were accessible.

Samples were taken from all of the three-dimensional marble statuary associated with two major monuments in Philadelphia/'Ammān: the Roman Theater and the Great Temple. In addition, one piece possibly associated with the Agora in Amman was sampled. For preliminary comparative purposes, two pieces from Gadara/Umm Qays, the colossal Tyche from the West Theater and a statue of a Togate Man (exact findspot unknown), were also sampled. Before discussing the analytical methods employed, the results, and the interpretation of the data, I provide here a brief introduction to the pieces sampled and their archaeological contexts, especially because our understanding of the results should be rooted in use of these marble statues within the broader urban landscape of Arabia.

The large theater of Philadelphia/'Ammān was built into the side of the hill to the south of the Roman Forum, probably during the middle of the 2nd century AD (Hadidi 1970: 61-67; El Fakharani 1975; Segal 1995: 82-85; Retzleff 2001: 47-48). The structure has been cleared, excavated, and restored from 1957 onward. An architrave of the *scaenae frons* bears an inscription that reads, "To...Titus Aelius Hadrianus Antoninus Caesar Augustus, Himself and His Entire House" (El Fakharani 1975: 400-403; Stemmer 1978: 25; Vermeule 1978: 104; Gergel

2004: 400). This inscription associates the date of renovation and decoration of the stage building with Antoninus Pius, though it does not provide a secure date for the construction of the theater itself or for the individual statues discovered within its ruins. Five statues were uncovered in the excavations of the theater (though their exact findspots are unknown): the torso and upper legs of a larger-than-life-size cuirassed Roman emperor (**Fig. 1**); the body of a larger-than-life-size draped female (**Fig. 2**); a larger-than-life-size torso of an Asklepios of the Florence Type (**Fig. 3**); the body of a miniature Athena Hephaisteia

(**Fig. 4**); and the base of a miniature Hermes, including the body of a sheep and the lower right leg and foot and the left foot of Hermes (**Fig. 5**).

The over-life-size statue of a cuirassed emperor (**Fig. 1**) stands 1.18 m tall, preserving the torso and upper legs of one of the Antonine emperors (El Fakharani 1975: 399-400; Stemmer 1978: 25, II 4a; Vermeule 1978: 104-105; Weber 2002: 509-510; Gergel 2004: 400). Though there is not enough evidence to determine whether the statue represented Hadrian or Antoninus Pius, the composition of the breastplate and the motifs on the lappets are best associated



1. Cuirassed Roman Emperor, late Hadrianic/early Trajanic period (125-150 AD), marble, Roman Theater, Amman (exact findspot unknown). Photograph by author; courtesy of the Department of Antiquities of Jordan.



2. Draped female, late Hadrianic/early Antonine period (125-175 AD), marble, Roman Theater, Amman (exact findspot unknown). Photograph by author; courtesy of the Department of Antiquities of Jordan.



3. *Asklepios of the Florence Type, Antonine period (150-200 AD), marble, Roman Theater, Amman (exact findspot unknown). Photograph by author; courtesy of the Department of Antiquities of Jordan.*

with eastern, Hadrianic breastplate types (Gergel 2004: 400). At the center of the breastplate Athena stands atop a nursing she-wolf and is flanked by a serpent (proper right) and an owl (proper left). The goddess is being crowned by two flanking Nike figures. Figures decorating the lappets (*pteryges*) include a head of Zeus-Ammon (center), heraldic eagles (on either side of center), and (moving outward on the proper right) a head of Medusa, an elephant protome, and two crossed shields (the figures on the lappets on the proper left are too damaged to read). The piece has been dated stylistically to the late Hadrianic or immediately post-Hadrianic period (Weber 2002: 510; Gergel 2004). In light of the inscription on the architrave of the *scaenae frons* (noted above), this piece was likely to have been part of a dynastic sculptural program that was installed in the niches of the *scaenae frons* to “honor Hadrian as the father of the current ruling family” (Gergel 2004: 400).

Also from the Theater in Amman and of comparable scale to the over-life-size statue of a cuirassed emperor is an over-life-size statue of a draped female (**Fig. 2**), which stands 1.46 m tall and preserves the torso, most of the legs, and portions of both arms of the figure (El Fakharani



4. *Athena Hephaisteia, 150-200 AD, marble, Roman Theater, Amman (exact findspot unknown). Photograph by author; courtesy of the Department of Antiquities of Jordan.*

1975: 400; Vermeule 1978: 104; Weber 2002: 510). The woman wears a tunic, pallium, and is heavily draped in a mantel. Though the figure’s identity is not knowable, the piece is likely to have represented one of the female members of the imperial family from the Trajanic, Hadrianic, or Antonine periods (El Fakharani 1975: 400; Vermeule 1978: 104). The piece is dated stylistically to the second or third quarter of the second century AD (late Hadrianic or early Antonine periods).

In addition to these two over-life-size portraits, three mythological figures were recovered from the theater. An over-life-size torso of



5. Base of a statue of Hermes, 150-200 AD, marble, Roman Theater, Amman (exact findspot unknown). Photograph by author; courtesy of the Department of Antiquities of Jordan.

Asklepios of the Florence type (**Fig. 3**) stands .76 m tall and preserves the torso from the base of the neck to just below the navel as well as the figure's left arm (Weber 2002: 505-506). The god wears a mantel that is pulled diagonally across the back, flows over the left shoulder and down the left side of the body, and crosses the front of the torso horizontally over the navel. Where the body is exposed, the musculature is modeled naturalistically. The piece has been dated stylistically to the second half of the second century AD (Antonine period) and has been identified as a replica of the cult statue of the Pergamene Asklepieion (Weber 2002: 505-506).

A small-scale statuette of Athena Hephaistea (**Fig. 4**: J.6384; El Fakharani 1975: 398-399; Weber 2002: 505) found in the Roman Theater stands 1.08 m tall and preserves the draped body of the standing goddess from the neck down (minus the arms from just above the elbows) as well as most of her base and a portion of her shield, which served as a support. The small scale of the piece sets it apart from the two over-life-size portrait statues and the over-life-size statue of Asklepios, and El Fakharani proposed that the piece, because of this distinction in scale and because of its subject matter, was meant to be displayed in the rectangular *exedra* that may have served as a miniature temple at the top center of the theater's auditorium, though there is no way to determine the statue's original display location within the theater (El Fakharani 1975: 398-399). The piece has been dated stylistically

to the second half of the second century AD (the middle imperial period) (Weber 2002: 505).

Finally, the base of a statuette of Hermes was also discovered in the Roman Theater (**Fig. 5**: J.8064; Weber 2002: 507). The oval base preserves only the right lower leg and both nude feet of the god as well as the tree trunk support and the body of his accompanying sheep (though its front right leg is broken away leaving only the hoof attached to the base). The now-missing head and neck of the sheep were made of a separate block of marble and pieced to the statuette, as shown by the large, square socket preserved in center of the neck. The piece measures .40 m at its highest-preserved point and .48 m at its greatest-preserved width. The statuette has been dated stylistically to the second half of the second century AD (Antonine period) (Weber 2002: 507).

Two other pieces associated with major architectural monuments of Philadelphia-Amman were also sampled: first, a larger-than-life-size statue of Herakles (probably a Farnese type) that was discovered in a river bed near the Philadelphia Hotel (demolished in 1987) and that may have originally been associated with the adjacent Agora (Weber 2002: 509); second, the elbow of a colossal statue discovered on the citadel and associated with the so-called Great Temple (Weber 2002: 511-512; Kanellopoulos 1994: 101-103). The Herakles Farnese (**Fig. 6**) stands 1.45m high and preserves the torso, left upper arm, and upper thighs of the god. The surface of the piece is extremely eroded and damaged due to its deposition in the river bed. The statue has been dated stylistically to the second or the third century AD (Weber 2002: 509). The colossal right elbow (**Fig. 7**) was found in excavations in the immediate area of the Great Temple on the Citadel of Amman (Weber 2002: 511-512; Kanellopoulos 1994: 101-103). The fragment preserves portions of the right upper and lower arm of a colossal statue (maximum diameter of upper arm: .78 m; maximum diameter of lower arm: .65 m). Two veins are depicted on the forearm. In addition, a large rectangular socket (.32 x .32 x .36 m deep) is carved into the side of the upper arm and was meant to attach this piece to the main portion of the statue. This socket may indicate that the colossal statue had limbs of marble, but was made of other mate-



6. *Herakles (probably Farnese Type), 2nd or 3rd century AD, marble, found in a river bed near now-demolished Philadelphia Hotel, Amman. Photograph by author; courtesy of the Department of Antiquities of Jordan.*



7. *Colossal elbow, 3rd century AD?, marble, immediate area of the Great Temple, Amman. Photograph by author; courtesy of the Department of Antiquities of Jordan.*

rial; alternately, it could be evidence of repairs in antiquity. The exact identity of the original piece remains unclear; some scholars have argued that the veins indicate that the piece depicted a male deity, while others argue that the slender, elongated nature of the fingers suggest a

female deity. One scholar has also noted that the location of the socket dictates that the right hand must have been raised in order to accommodate dowelling for the right forearm (Kanellopoulos 1994: 101-102). Based on scale, craftsmanship, and style, the elbow has been associated with another fragment of a colossal left fist, also reported to have been found in the same area around the Great Temple of Amman. The fragment of an elbow has been dated stylistically to the late Roman period, perhaps the third century AD (Weber 2002: 512).

To provide some comparative data regarding the marble provenience of statuary from another major urban center, two statues from Gadara/Umm Qays were sampled. The colossal seated statue of Tyche (**Fig. 8**), found in the orchestra of the West Theater, is approximately 22.45 m tall and 8.35 m wide on its back (Weber 2002: 397-398). The goddess wears a thin chiton, tied under her breast and buttoned on the shoulders, and has a heavier himation draped across the lower abdomen and lap, which spills over the left side of her body and hangs down onto the throne. She sits on a throne with back- and armrests, holding a cornucopia in her left arm, which she has leaned against her left shoulder. Her feet are shod in sandals and rest on a footstool, with the left foot extended forward and flat and the right foot pulled back, nearly even with the front leg of the throne, and her right heel pulled up, off of the footstool. Long strands of hair fall down both sides of the goddesses neck onto her shoulders, stopping just above her breasts. The backrest of the throne was lightened by carving out two rows, containing two square compartments each, from its backside; the statue was further lightened by hollowing out and removing marble from the area beneath the seat of the goddess. The statue has been dated to the second quarter of the second century AD based on style and arrangement of the drapery (Weber 2002: 398).

A fragment of a togate man (**Fig. 9**), also from Gadara/Umm Qays, discovered on the decumanus maximus on the north sidewalk near the Nymphaeum, preserves only a portion of the torso of the original statue, which once carried a portrait head of a private man (Weber 2002: 408-409). The preserved fragment of the originally life-size piece is approximately .81m high, .45m



8. Seated Tyche, 125-150 AD, marble, Orchestra of the West Theater, Gadara/Umm Qays. Photograph by author; courtesy of the Department of Antiquities of Jordan.

wide, and .31m deep. The piece may be dated to the late Flavian or early Trajanic period (last quarter of the first century AD), based on the nature and arrangement of its toga, from which the sinus and umbo are still well-preserved.

Analytical Methods

The quarry origins of the marble of a particular sculpture may be suggested by a variety of scientific methods. Beginning in the 1970s,



9. Fragment of a togate man, 75-100 AD, marble, Decumanus Maximus near Nymphaeum, Gadara/Umm Qays. Photograph by author; courtesy of the Department of Antiquities of Jordan.

isotopic analysis was developed as a viable scientific method for distinguishing marble types (Craig and Craig 1972; Manfra *et al.*; Herz and Wenner 1978; Coleman and Walker 1979; Herz and Wenner 1981; Herz 1987; Herz and Waelkens 1988; and Herz 1990). Because different marbles from different quarries have distinctive mixtures of oxygen and carbon isotopes due to their varying geological histories, the marble from each quarry may have its own unique “isotopic signature”. Isotopic analysis entails removing a pencil-point-sized amount of marble from an artifact and treating it with acid to produce carbon dioxide gas, which is then analyzed by mass spectrometry, which measures the ratios between oxygen-16 and oxygen-18, and between carbon-12 and carbon-13. The results, expressed as deviations (δ) in parts per thousand (per mil, ‰) from the VPDB isotopic standard, are plotted against each other. In theory, because each quarry has a unique “isotopic signature”, marbles from the same quarry tend to cluster together to form an “isotopic thumbprint” for each quarry. By analyzing marble samples collected from ancient quarry sites and compiling the results in databases, scientists have established standard “isotopic thumbprints” for many of the known ancient quarries. A Classical Marble Data Base was compiled by Dr. Norman Herz at the University of Georgia (Herz 1987), while Susan Walker of the British Museum also created the British Museum Database. Today, other scientists, many associated with the Association for the Study of Marbles and Other Stones in Antiquity, maintain updated and expanded versions of

these databases (see Gorgoni *et al.* 2002).

However, isotopic analysis has several limitations and thus does not offer a definitive solution to the question of the geological origins of white marbles. Most importantly, the “isotopic thumbprints” of different quarries often overlap, thus making it impossible to determine in which quarry a particular sample originated based on isotopic analyses alone (Germann *et al.* 1980: 99; Moens *et al.* 1990: 113), especially without also considering color, visual appearance, and the time period involved. Therefore, more recently, a multi-method approach has been developed that utilizes isotopic analysis in consort with other mineralogical and chemical studies such as petrographic analysis, and elemental analysis or X-ray diffraction to determine level of dolomitic content (Gorgoni *et al.* 2002; Lazarini *et al.* 2002; Pentia *et al.* 2002). The samples taken from the nine sculptures discovered at Philadelphia/Amman and Gadara/Umm Qays were analyzed by the Laboratory for Archaeo-

logical Science at the University of South Florida for maximum grain size (MGS) using a Jens optical microscope equipped with cross-polarized lenses; by X-ray fluorescence spectroscopy using a Bruker III-V portable XRF instrument with a vacuum generator attachment, specifically for testing the presence of magnesium; and by stable isotope ratio analysis using a Finnigan-MAT Delta Plus equipped with a Kiel III gas generating device using 100% phosphoric acid at 90° C. The precision of the isotope data is about ± 0.1‰.

Results and Interpretation

The XRF analysis indicated that none of the marble samples tested contained significant amounts of magnesium, thus eliminating possible dolomite marble sources. The results of the isotopic analyses and maximum grain size measurements are listed in **Table 1** and shown in figure 10. In general, the results demonstrate that the marble for the statues that were once

Table 1: Results of Chemical and Petrographic Analyses of Nine Marble Statues from Philadelphia/Amman and Gadara/Umm Qays.

Statue	Findspot	USF #	d18O	d13C	Isotopic Matches	MGS	Probable
Cuirassed Emperor	Roman Theater, Amman	10790	2.6	-6.3	Naxos; Pentelikon; Prokonnesos (Marmara)-2; Djebel Ichkeul (Tunisia); Doliana 1?	1.0	Pentelikon
Draped Female	Roman Theater, Amman	10791	4.0	-1.5	Prokonnesos (Marmara)-1; Thasos, Cape Vathy; Denizli-1	3.0	Prokonnesos (Marmara)-1
Asklepios	Roman Theater, Amman	10792	3.5	-3.6	Paros-1; Prokonnesos (Marmara)-1; Thasos, Cape Vathy	2.5	Prokonnesos (Marmara)-1
Athena	Roman Theater, Amman	10794	2.3	-3.7	Aphrodisias; Carrara?; Dokimeion (Afyon); Naxos; Paros-2; Pentelikon?; Prokonnesos (Marmara)-1; Mani?; Mylasa; Uşak; Heracleia	2.0	Aphrodisias; Naxos; Paros-2; Prokonnesos (Marmara)-1; Mylasa; Uşak; Heracleia
Herakles	Roman Theater, Amman	10793	0.7	-4.6	Aphrodisias; Dokimeion (Afyon); Naxos; Paros-4; Mani?; Ephesos 2	1.0	Aphrodisias; Dokimeion (Afyon)
Hermes/ Good Shepherd	Roman Theater, Amman	10795	1.1	-3.8	Aphrodisias; Dokimeion (Afyon); Naxos; Paros-2; Prokonnesos (Marmara)-1?; Ephesos 2; Mylasa	2.0	Aphrodisias; Paros-2; Prokonnesos (Marmara)-1?; Ephesos 2; Mylasa
Elbow of Colossal Statue	Temple on Citadel, Amman	10796	1.9	-4.0	Aphrodisias; Carrara?; Dokimeion (Afyon); Naxos; Paros-2; Pentelikon?; Prokonnesos (Marmara)-1?; Mylasa; Uşak; Heracleia	2.0	Aphrodisias; Paros-2; Prokonnesos (Marmara)-1?; Mylasa; Uşak; Heracleia
Torso of a Togate Man	Colonnaded Street, Gadara/ Umm Qays	10797	3.4	-2.1	Prokonnesos (Marmara)-1; Thasos; Cape Vathy; Mani?; Denizli-1	2.0	Prokonnesos (Marmara)-1; Denizli-1
Tyche	Orchestra, West Theater, Gadara/Umm Qays	10798	2.2	-3.5	Aphrodisias; Carrara?; Dokimeion (Afyon); Naxos; Paros-2; Pentelikon?; Prokonnesos (Marmara)-1; Mani?; Mylasa; Uşak; Heracleia	2.5	Aphrodisias; Paros-2; Prokonnesos (Marmara)-1; Mylasa; Uşak; Heracleia

displayed in several of the major monuments of Philadelphia/Amman and Gadara/Umm Qays originated in well-known quarries of Roman period Greece (Pentelikon and perhaps Naxos and Paros-2) and Turkey (possible quarries include Aphrodisias, Denizli, Dokimeion (Afyon), Ephesos, Mylasa; Prokonnesos (Marmara), Uşak; and Heracleia). Notably, none of the statues sampled and tested were made of marble from Italy. Therefore, this small study provides further specific data for connections between Roman Arabia and the provinces of Roman Greece and Turkey and continues to fill a void on the map of the broader imperial marble trade.

Marble for the nine pieces from Philadelphia/Amman and Gadara/Umm Qays came from some of the same quarries that supplied marble for a group of eleven statues from the North Hall of the East Baths at Gerasa: though in several cases it is not possible to determine a single quarry source, possible quarry sources for several of the pieces from Philadelphia/Amman, Gadara/Umm Qays, and Gerasa are Prokonnesos (Marmara), Denizli, Afyon, Ephesos, and Pentelikon (Friedland 2003: 417). However, seven of the eleven statues from the North Hall of the East Baths at Gerasa were carved of marble from Thassos/Cape Vathy (which is not represented in the probable quarry sources for the pieces sampled and reported here), so for the statue group displayed in at least one of the major monuments in Gerasa, the well-known, northern Greek quarries of Thassos seem to have been a more prominent supplier of marble. In general, though, the quarry origins for the nine pieces reported here are comparable with those determined for marble statuary from Roman period Syria (Wielgosz 2000, Wielgosz 2001; Wielgosz *et al.* 2002) and Palaestina (Pearl 1989; Pearl and Magaritz 1991; Fischer 1998, 2002), provinces which are both known to have imported marble statuary from Greece and Turkey as opposed to Italy. This small data set from Jordan (which hopefully will be augmented by future phases of this marble sourcing project) therefore expands our basis for understanding the trade networks between the major quarries of Greece and Turkey and the various regions of the Roman Near East.

The specific quarry origins for each piece are also important, because scholars have long tried

to identify the origins of the marble of some of these statues with the naked eye. For example, while El Fakharani identified the marble of the statue of a Cuirassed Emperor as coming from “Carrara” (1975: 399), Vermeule stated that he believed that the piece was made from “Greek marble, probably of a good mainland grade” (1978: 105); indeed, our chemical and petrographic tests reveal that the Cuirassed Emperor was made from marble quarried at Mt. Pentelikon. Similarly, El Fakharani states that the Athena Hephasteia was made from marble from Mt. Pentelikon (1975: 398), however our scientific analyses associate the marble of this statue with the island quarry of Paros-2 or with any of five common quarries in Asia Minor (Aphrodisias; Prokonnesos (Marmara)-1; Mylasa; Uşak; or Heracleia).

In addition, the results provide further data for considering the logistics of the production, import, and display of specific marble statues in Arabia. First, El Fakharani (and others following him) have proposed that, because of their similar scale and workmanship on their backs, the statue of a Cuirassed Emperor and the statue of a Draped Female were initially part of a pair or a group, perhaps installed in two of the niches that flank the central opening in the *scanae frons* (1975: 400; Vermeule 1978: 104; Gergel 2004: 400). While these two pieces certainly may have been displayed together (even side-by-side) as part of a sculptural program, it is interesting to note that they are carved of marble from two different quarries: the Cuirassed Emperor is made of marble quarried on Mt. Pentelikon, Greece, while the Draped Female is carved of marble from Prokonnesos (Marmara)-1 in Asia Minor. If the portraits were, in fact, originally meant to be displayed together (and not reused and combined after initial installations in other monuments), this difference in quarry origins reveals interesting scenarios for the logistics of commissioning, producing, and importing statuary to the marble-bereft region of Arabia: the patron was not concerned that the pair be made of the same marble, nor did the patron “order” the “group” from a single marble quarry (he or she could have ordered it from a marble yard, where blocks of marble suitable for over-life-size statuary were waiting to be carved).

Second, the quarry sources reveal interesting

information regarding the production of statues destined for this region. For example, the scientific tests support earlier stylistic analyses of the two pieces (published long before this quarry sourcing study was undertaken) that associated the Cuirassed Emperor with an Eastern, Greek sculptural workshop (Gergel 2004; Weber 2002: 510) and the Draped Female with a workshop in Asia Minor (Weber 2002: 510). In fact, if some scholars' claims that sculptors tended to work marble from their own regions are correct (Rockwell 1990: 221; Rockwell 1993: 2-5), then it could be that these pieces were carved by different sculptors and were not commissioned from one artist. Of course, this diversity of marble sources is seen not just in this pair of the Cuirassed Emperor and the Draped Female, but in all five of the statues recovered from the Theater, so that the same conclusions hold true for the sculptural embellishment of the entire monument: clearly there was no need for the statuary to come from the same quarry source, and the five statues discovered in the Roman Theater were not originally "ordered" from a single quarry or associated sculptural workshop as a group, though they may have been erected and displayed together.

This study is also interesting in that it samples two truly colossal pieces, the Elbow of a Colossal Statue from the Temple of Herakles on the Citadel in Amman and the Tyche from the Orchestra of the West Theater in Gadara/Umm Qays. Though this may be entirely coincidental, both pieces are associated with the same list of possible quarries: Paros-2 or five possible quarries in Turkey, Aphrodisias, Prokonnesos (Marmara)-1, Mylasa, Uşak, Heracleia.

Conclusions

Though finds of marble statuary in marble-poor regions such as Roman Arabia demonstrate that some patrons went to considerable expense and trouble to ship all scales (colossal to miniature) of statuary far inland to adorn Graeco-Roman building types, this study has provided specific data about quarry origins (or possible quarry origins) for nine statues from several major monuments in Philadelphia/Amman (the Roman Theater and the Great Temple) and Gadara/Umm Qays (the Western Theater and the Colonnaded Street). With this specific data at hand,

future studies will first and foremost continue to sample and source marble statues erected in public, urban contexts in Roman Jordan, but also focus on refining our understanding of trade networks and road systems that facilitated the transport of marble artifacts from the ports cities on the Levantine coast inland to such sites as Philadelphia/Amman, Gadara/Umm Qays, Gerasa/Jarash, and Petra.

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