

MARBLE SCULPTURES FROM THE RHODE ISLAND SCHOOL OF DESIGN: PROVENANCE STUDIES USING STABLE ISOTOPE AND OTHER ANALYSIS

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ABSTRACT

Seven marble sculptures from the Museum of Art, Rhode Island School of Design were analyzed in order to determine the source of the raw materials. Stable carbon and oxygen isotope mass spectrometry was used in conjunction with grain-size measurements and visual information to attribute each sample to possible and likely sources. One of the sculptures tested, a Male Figure in the Guise of Hermes, actually consists of at least six parts; each was tested to determine whether marble from one or more quarries was used for this one work.

KEYWORDS: RISD, MARBLE SCULPTURES, STABLE ISOTOPE ANALYSIS, GRAIN SIZE

INTRODUCTION

Seven marble sculptures from the Museum of Art, Rhode Island School of Design were analyzed in order to determine the source of the raw material used. The pieces chosen for sampling – two portraits, one sarcophagus, and four adaptations of Greek originals – represent major types of Roman sculptural output during the Imperial Period. Acquired during the first three decades of the twentieth century, the objects form the core of the Museum's collection of Roman art. One sculpture, the Male Figure in the Guise of Hermes, actually consists of at least seven parts that were tested to determine whether marble from one or more quarries was

used for this sculpture (RIDGWAY 1972, cat. no. 16). Similarly, both the lid and body of the Achilles Sarcophagus were also tested (RIDGWAY 1972, cat. no. 38). Stable carbon and oxygen isotope mass spectrometry was used in conjunction with grain-size measurements, marble color and art historical information to attribute each sample to possible and likely sources.

STABLE ISOTOPE AND OTHER ANALYSES

Small powder samples were removed in the Rhode Island School of Design Museum, using a clean steel masonry bit, with the powder from the first 2 mm or more of drilling discarded. Maximum grain size of the marble was measured using low power magnification. The samples were then analyzed at the University of South Florida, on a Finnigan MAT Delta Plus XL stable isotope ratio mass spectrometer equipped with a Kiel III individual acid bath carbonate system. Results are reported in parts per mil (‰) relative to the VPDB standard, with analytical precision of 0.1‰. The isotopic results were compared with published databases (GORGONI *et al.* 2002; MOENS *et al.* 1992; HERZ 1987 & unpublished) for Mediterranean quarries. In the case of overlapping isotopic fields, the most likely quarry source was identified through a combination of the isotopic data, and color and maximum grain size information.

MARBLE SCULPTURES TESTED

Each piece is described and discussed in detail in separate entries below. Isotope data, potential quarry matches, and overall assessment based on a combination of visual, grain size, and isotope results are provided in Table 1.

Male Figure in the Guise of Hermes (RISD 03.008, RIDGWAY 1972, cat. no. 16)

Roman, early second century AD. This figure, based on the Hermes Richelieu Type (fig. 1), actually consists of a torso and six larger and two smaller pieces cut and fit together to form the legs, self-base, and support. The legs and base were considered to be an eighteenth-century restoration at the time of their removal in 1953, but recent re-examination has shown that various ancient fragments were used for the restoration, as was commonly done in the eighteenth and nineteenth centuries. Carved of medium-fine grained (0.5-1.0 mm) marble the torso itself is sensitively rendered, suggesting Greek workmanship, perhaps one of the Greek islands. This is most strongly supported by its isotopic attribution to Paros.

For the six samples tested from the legs and self-base, there is a large spread in isotopic values, indicating that these parts are indeed a mixture of marble from several quarries. The first sample, from the lower half of the self-base, is the most distinct both visually (white with considerable gray veins and speckles, with medium-fine grain size 0.75-1.0 mm) and isotopically (probably Prokonessus/Marmara).



Fig. 1. — Male Figure in the Guise of Hermes (Museum of Art, RISD 03.008. Gift of Mrs. Gustav Radeke).

Samples from both the upper and lower parts of the left leg are evenly formed finer grained (0.5-0.75 mm) white marble, and their nearly identical isotopical values indicate that they are most likely not only both from Penteli, but probably from the same marble block.

The remaining three samples, from the right leg and adjacent part of the self-base, and an insert in the self-base in back of the left heel, are all white marble with evenly formed fine grains (0.5-1.0 mm). They are fairly similar isotopically and all consistent with both Dokimeion and Aphrodisias. While Dokimeion marble is characteristically fine-grained, Aphrodisias is also known to have produced fine-grained marble. The various marbles used in the “restoration” were all used in Greek and Roman times. In addition, the carving of the left leg and tree stump is consistent with ancient work, so they were likely fragments of another ancient statue that were reused to complete the torso when it was restored in the eighteenth century. The lower right leg, admittedly more crudely worked than the rest of the statue, could have been re-cut from an ancient fragment (BORROMEO 2006).

Portrait of a Julio-Claudian (RISD 22.211, RIDGWAY 1972, cat. no. 31)

Roman, early first century AD. Portrait head of a man, probably of Drusus Minor (**fig. 2**). Visually of creamy white marble with irregularly formed but fine grains (0.5-1.0 mm), it is isotopically consistent with only a few quarries, with Carrara clearly the most likely attribution. The treatment of the base of the neck indicates that the head was meant for insertion into a stock bust or body, a common practice for honorary or funerary portraits in Roman times. The ridge above the bottom row of locks on the back of the head perhaps was likely intended to support a wreath. The top of head is summarily carved, and drill marks around the ears appear rough, lending credence to the proposed presence of a wreath, which would have been hidden these unfinished effects. While the profile of the man portrayed recalls Drusus the Younger (died AD 23, son of the emperor Tiberius), his hairstyle suggests the young Germanicus (15 BC-AD 19, nephew of Tiberius). His identity cannot be determined with absolute certainty.

Achilles Sarcophagus (RISD 21.074, RIDGWAY 1972, cat. no. 38)

Roman, ca. AD 150-200. Achilles Sarcophagus (**fig. 3**). Said to be from Rome, it is visually creamy white, with some gray or brown streaks, suggesting that it may be made of marble from Asia Minor. Samples were taken both from the center of the lid, and from inside the body of the sarcophagus. Both produced very similar isotopic results, suggesting they came from the same quarry source. Despite a large number of potential isotopic quarry matches, the fine grained (0.25-1.0 mm) nature of the marble and its visual characteristics make Dokimeion the best match.

This is one of only a few sarcophagi bearing scenes of the Trojan War. On the front of the sarcophagus, the Greek hero Achilles fights the Trojan prince Hector, who is bearded. Immediately to the right is a scene that follows their battle: Achilles in his chariot drags Hector's dead body around the walls of Troy, while the goddess Athena, Hector's father King Priam, and Hector's wife Andromache (seated) look on. These scenes occur in Book 22 of Homer's *Iliad*.

Portrait of Augustus (RISD 26.160, RIDGWAY 1972, cat. no. 32)

Roman, late first century BC. Portrait of Augustus (**fig. 4**). Made of white, fine-grained marble (0.5-0.75 mm), it visually appears to be Parian in origin. This was confirmed by stable isotope testing done at the University of Georgia by Norman Herz (pers. comm.) This portrait of Augustus belongs to his principal early portrait type, the Alcudia type, which first appeared in 38/37 BC to balance his youthful inexperience with his authority. The top and back of this portrait head are unfinished, suggesting that it was originally covered by a part of his stone toga drawn up over his head. With head covered, the depiction of Augustus would refer to his role as *pontifex maximus* (BORRAMEO in BORRAMEO *et al.* 2001, pp. 24-25).



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Fig. 2. — Portrait of a Julio-Claudian (Museum of Art, RISD 22.211. Gift of Mrs. Gustav Radeke).

Fig. 3. — Achilles Sarcophagus (Museum of Art, RISD 21.074. Museum Appropriation Fund).

Fig. 4. — Portrait of Augustus (Museum of Art, RISD 26.160. Museum Appropriation Fund).

Headless Female Figure (RISD 23.351, RIDGWAY 1972, cat. no. 14)

Greek, Asia Minor, ca. AD 100. Headless statue, adaptation of Aphrodite Frejus type (fig. 5). Visually appears to be fine-grained creamy white marble with distinctive dark streaks and flecks in parallel lines. The figure isotopically matches a number of quarries, including many that are generally unlikely, but the grainsize (0.25-0.5 mm) and visual description strongly suggest a match with Dokimeion, which is finer grained than Proconnesus or Aphrodisias 2 marble.

The pose and garments of this headless figure are reminiscent of Venus Genetrix as the goddess appeared on Roman imperial coinage of the second century AD, along with the legend "Veneri Genetrici," celebrating her role as "universal mother." Venus was one of the most popular deities used in honorary portrait statues among women of both imperial and non-imperial rank in the first few centuries AD. She represented virtues beyond simple beauty, including chastity, piety, modesty, and loyalty, all of which were highly valued in the proper Roman matron in her role of ideal wife and mother. The Louvre-Naples type, used for the Providence piece, was particularly favored to represent these virtues (CORRADO GOULET in BORRAMEO *et al.* 2001, pp. 34-35).

Body types of Venus were quickly adopted into the funerary realm and became a favorite stock for funerary portrait statues, especially in the second and third centuries AD. The Providence piece may be an example of such a portrait, as indicated by the preparation of the neck to receive a fitted head. This use is also suggested by a slight adaptation in the figure's garment (*chiton*), which covers the left breast. In the Louvre-Naples prototype, the *chiton* slips off the shoulder, leaving the breast bared. Especially during the first two centuries AD, non-aristocratic women most often rejected in their private funerary statuary the heroic nudity employed in imperial circles (CORRADO GOULET in BORRAMEO *et al.* 2001, pp. 34-35).

Fighting Giant (RISD 25.064, RIDGWAY 1972, cat. no. 25)

Roman, AD 117-138. The Torso of a Fighting Giant (fig. 6) is a white-yellowish marble of medium and somewhat irregular grain size (1.0-2.0 mm) and stylistically of workmanship typical of the Aphrodisian School. The grain size and stylistic match with Aphrodisias is strongly supported by the isotopic results.

The engraved hair rosette on the chest of this torso may be found on sculptural examples of centaurs, giants, and satyrs (RIDGWAY 1972, cat. no. 25). An architectural example from an ancient Corinthian frieze matches the Providence figure in size, pose, and rosette ornament, suggesting a similar identification: that of a giant in battle. The most common battle legend about the mythical giants regarded their attempt to overturn the rule of the gods in an early and mighty struggle. From the fifth century BC, giants appeared often in all the arts, most especially in sculpture, but the Providence piece was probably not part of a frieze, nor of any other type of architectural sculpture, since the figure's back is almost as well defined as its front. The Providence torso was meant to be seen from all sides and may have been part of a battle scene in the round. The stump that juts out curiously from the figure's lower left back



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Fig. 5. — Headless Female Figure (Museum of Art, RISD 23.35. Museum Appropriation and Special Gift Fund).

Fig. 6. — Fighting Giant (Museum of Art, RISD 25.064. Museum Appropriation Fund).

may have been the strut that served to support and anchor the piece to the base supporting the sculptural group.

Male Torso (RISD 26.159, RIDGWAY 1972, cat. no. 13)

Roman, first century AD. This Male Torso (fig. 7) is made of a pale warm marble with parallel streaks of brownish gray and occasional macropores parallel and associated with streaks. It is quite homogeneously fine-grained (0.25-0.75 mm), and isotopically matches few quarries. While the original catalog description was white, possibly Italian marble, the grain-size and isotopic data strongly suggest that it is instead Pentelic (which is fine-grained like Carrara).

Until recently, this piece was considered an adaptation of the 5th-century BC statue of a youthful victor tying a fillet around his head (the *Diadoumenos*), credited to the Greek sculptor



Fig. 7. — Male Torso (Museum of Art, RISD 26.159. Museum Appropriation Fund).

Polykleitos. The Providence sculpture has now been remounted to correct the stance in accordance with the figure's actual anatomical features, encompassing a shift of weight-bearing leg to the figure's proper left limb. This change highlights other aspects of the work – such as the subtly carved musculature – that are at odds with the *Diadoumenos* and strengthens the suggestion that the torso was not in fact based on that prototype. The corrected body position indicates that he was moving forward in an active way. The cavity between the shoulders suggests that the statue's neck area was prepared to receive a portrait head (CORRADO GOULET in BORROMEO *et al.* 2001, pp. 28-29).

DISCUSSION AND CONCLUSION

The seven pieces discussed above represent major types of sculpture – portraits, sarcophagi, and adaptations of Greek originals – created during the Roman Imperial Period. The types of marbles used for these works attest to the Roman sculptors' familiarity with marbles from various quarries throughout the Mediterranean. The RISD pieces tested were carved of marbles from Greece or Asia Minor, with the exception of the Portrait of a Julio-Claudian, carved of Carrara marble. The stylistic features that link the Torso of a Fighting Giant to Aphrodisias is corroborated by the attribution of its marble to that site. The provenance determination of the marbles used in various parts of the Torso in the Guise of Hermes proves that eighteenth-century sculptors were incorporating ancient fragments into their restorations.

Table 1: List of RISD marble sculptures tested in this study, with isotope results and overall source attributions.

Cat. No.	Description	Sample Location	Lab No.	$\delta^{13}\text{C}$	$\delta^{18}\text{O}$	Quarry Matches	Attribution
3.008	Male Figure in the Guise of Hermes	Proper right leg of torso	4411	4.8	-3.0	Pa-1, E-1	Pa-1
3.008	Restoration for Male Figure	Lower half of the self-base	5454	2.7	-0.8	C, Pa-2, Pr, Th, U?	Pr
3.008	Restoration for Male Figure	Tree trunk support, upper half of left leg and self-base beneath	5455	2.6	-7.6	N, Pe	Pe
3.008	Restoration for Male Figure	Lower half and foot of left leg	5456	2.7	-7.4	N, Pe	Pe
3.008	Restoration for Male Figure	Right leg and foot	5457	1.9	-5.2	A, D, N, U	A or D
3.008	Restoration for Male Figure	Self-base below right leg	5458	1.3	-4.0	A, D, U	A or D
3.008	Restoration for Male Figure	Insert in self-base in back of left leg	5459	0.9	-4.6	A, D	A or D
21.074	Pamphylian Sarcophagus	Inside body, behind warrior mounting chariot	4414	1.5	-5.2	A2?, D, U?, N-M/A, Ch-1, E-2, M?	D
21.074	Pamphylian Sarcophagus	Center of lid	4413	1.9	-5.0	A2, D, U, N, Th?, Ch-1, E-2, M?	D
25.064	Fighting Giant	Proper left leg	4415	1.5	-4.0	A2, D, U, Pa-2, N-M, My, He, E-2, M	A2
22.211	Portrait of a Julio-Claudian	Bottom of piece	5460	2.1	-0.7	C, Pa-2, Th	C
23.351	Headless Female Figure	Under proper right foot	4410	2.0	-2.8	C, Pr, Pa-2, U, A2, D, N-M, Th?, My, He, Hy, M	D
26.159	Male Torso	Proper left leg	4412	2.3	-7.7	Pe, N, Sa, Iz, Do-1	Pe
26.160	Portrait of Augustus	Broken chip from the chin	5461	5.2	-3.5	Pa-1	Pa-1

A1 = Aphrodisias 1; A2 = Aphrodisias 2; C = Carrara; Ch-1 = Chemtou 1; Ch-2 = Chemtou 2; D = Dokimeion (Afyon); De-1 = Denizli 1; De-2 = Denizli 2; DI = Djebel Ichkeul; Dol-1 = Doliana 1; Dol-2 = Doliana 2; E-1 = Ephesos 1; E-2 = Ephesos 2; H = Hymettos; He = Heracleia; Ia = Iasos; Iz = Iznik; M = Mani; My = Mylasa; N = Naxos-Apollonas/Apir/Kin; N-M = Naxos-Melanes; Pa-1 = Paros 1; Pa-2 = Paros 2; Pe = Penteli; Pr = Prokonnesos (Marmara); Sa = Sardis; S = Sounion; Th-CV = Thasos, Cape Vathy; Th = Thasos (Cape Phaneri and Alik); U = Usak.

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