

Two Imperial Monuments in Puteoli: Use of Proconnesian Marble in the Domitianic and Trajanic Periods in Campania

Bald Romano, Irene; Goette, Hans Rupprecht; Attanasio, Donato; Prochaska, Walter

Source / Izvornik: **ASMOSIA XI, Interdisciplinary Studies on Ancient Stone, Proceedings of the XI International Conference of ASMOSIA, 2018, 267 - 273**

Conference paper / Rad u zborniku

Publication status / Verzija rada: **Published version / Objavljena verzija rada (izdavačev PDF)**

<https://doi.org/10.31534/XI.asmosia.2015/02.10>

Permanent link / Trajna poveznica: <https://um.nsk.hr/um:nbn:hr:123:385985>

Rights / Prava: [In copyright](#) / [Zaštićeno autorskim pravom.](#)

Download date / Datum preuzimanja: **2025-01-24**



Repository / Repozitorij:

[FCEAG Repository - Repository of the Faculty of Civil Engineering, Architecture and Geodesy, University of Split](#)



UNIVERSITY OF SPLIT

DIGITALNI AKADEMSKI ARHIVI I REPOZITORIJI



ASMOSIA XI

Interdisciplinary Studies on Ancient Stone

PROCEEDINGS

of the XI ASMOSIA Conference, Split 2015

Edited by Daniela Matetić Poljak and Katja Marasović



Interdisciplinary Studies on Ancient Stone
Proceedings of the XI ASMOSIA Conference (Split 2015)

Publishers:

ARTS ACADEMY IN SPLIT
UNIVERSITY OF SPLIT

and

UNIVERSITY OF SPLIT
FACULTY OF CIVIL ENGINEERING,
ARCHITECTURE AND GEODESY

Technical editor:
Kate Bošković

English language editor:
Graham McMaster

Computer pre-press:
Nikola Križanac

Cover design:
Mladen Čulić

Cover page:

Sigma shaped mensa of pavonazzetto marble from Diocletian's palace in Split

ISBN 978-953-6617-49-4 (Arts Academy in Split)

ISBN 978-953-6116-75-1 (Faculty of Civil Engineering, Architecture and Geodesy)

e-ISBN 978-953-6617-51-7 (Arts Academy in Split)

e-ISBN 978-953-6116-79-9 (Faculty of Civil Engineering, Architecture and Geodesy)

CIP available at the digital catalogue of the University Library in Split, no 170529005

Association for the Study of Marble & Other Stones in Antiquity

ASMOSIA XI

Interdisciplinary Studies of Ancient Stone

Proceedings of the Eleventh International Conference of ASMOSIA,
Split, 18–22 May 2015

Edited by
Daniela Matetić Poljak
Katja Marasović



Split, 2018

Nota bene

All papers are subjected to an international review.

The quality of the images relies on the quality of the originals provided by the authors.

CONTENT

PRESENTATION	15
NECROLOGY: NORMAN HERZ (1923-2013) by Susan Kane	17
1. APPLICATIONS TO SPECIFIC ARCHEOLOGICAL QUESTIONS – USE OF MARBLE	
Hermaphrodites and Sleeping or Reclining Maenads: Production Centres and Quarry Marks <i>Patrizio Pensabene</i>	25
First Remarks about the Pavement of the Newly Discovered Mithraeum of the Colored Marbles at Ostia and New Investigations on Roman and Late Roman White and Colored Marbles from Insula IV, IX <i>Massimiliano David, Stefano Succi and Marcello Turci</i>	33
Alabaster. Quarrying and Trade in the Roman World: Evidence from Pompeii and Herculaneum <i>Simon J. Barker and Simona Perna</i>	45
Recent Work on the Stone at the Villa Arianna and the Villa San Marco (Castellammare di Stabia) and Their Context within the Vesuvian Area <i>Simon J. Barker and J. Clayton Fant</i>	65
Marble Wall Decorations from the Imperial Mausoleum (4 th C.) and the Basilica of San Lorenzo (5 th C.) in Milan: an Update on Colored Marbles in Late Antique Milan <i>Elisabetta Neri, Roberto Bugini and Silvia Gazzoli</i>	79
Sarcophagus Lids Sawn from their Chests <i>Dorothy H. Abramitis and John J. Herrmann</i>	89
The Re-Use of Monolithic Columns in the Invention and Persistence of Roman Architecture <i>Peter D. De Staebler</i>	95
The Trade in Small-Size Statues in the Roman Mediterranean: a Case Study from Alexandria <i>Patrizio Pensabene and Eleonora Gasparini</i>	101
The Marble Dedication of Komon, Son of Asklepiades, from Egypt: Material, Provenance, and Reinforcement of Meaning <i>Patricia A. Butz</i>	109
Multiple Reuse of Imported Marble Pedestals at Caesarea Maritima in Israel <i>Barbara Burrell</i>	117
Iasos and Iasian Marble between the Late Antique and Early Byzantine Eras <i>Diego Peirano</i>	123

Thassos, Known Inscriptions with New Data <i>Tony Kozelj and Manuela Wurch-Kozelj</i>	131
The Value of Marble in Roman <i>Hispalis</i> : Contextual, Typological and Lithological Analysis of an Assemblage of Large Architectural Elements Recovered at N° 17 Goyeneta Street (Seville, Spain) <i>Ruth Taylor, Oliva Rodríguez, Esther Ontiveros, María Luisa Loza, José Beltrán and Araceli Rodríguez</i>	143
<i>Giallo Antico</i> in Context. Distribution, Use and Commercial Actors According to New Stratigraphic Data from the Western Mediterranean (2 nd C. Bc – Late 1 st C. Ad) <i>Stefan Ardeleanu</i>	155
<i>Amethystus</i> : Ancient Properties and Iconographic Selection <i>Luigi Pedroni</i>	167
2. PROVENANCE IDENTIFICATION I: (MARBLE)	
Unraveling the Carrara – Göktepe Entanglement <i>Walter Prochaska, Donato Attanasio and Matthias Bruno</i>	175
The Marble of Roman Imperial Portraits <i>Donato Attanasio, Matthias Bruno, Walter Prochaska and Ali Bahadır Yavuz</i>	185
Tracing Alabaster (Gypsum or Anhydrite) Artwork Using Trace Element Analysis and a Multi-Isotope Approach (Sr, S, O) <i>Lise Leroux, Wolfram Kloppmann, Philippe Bromblet, Catherine Guerrot, Anthony H. Cooper, Pierre-Yves Le Pogam, Dominique Vingtain and Noel Worley</i>	195
Roman Monolithic Fountains and Thasian Marble <i>Annewies van den Hoek, Donato Attanasio and John J. Herrmann</i>	207
Archaeometric Analysis of the Alabaster Thresholds of Villa A, Oplontis (Torre Annunziata, Italy) and New Sr and Pb Isotopic Data for <i>Alabastro Ghiaccione del Circeo</i> <i>Simon J. Barker, Simona Perna, J. Clayton Fant, Lorenzo Lazzarini and Igor M. Villa</i>	215
Roman Villas of Lake Garda and the Occurrence of Coloured Marbles in the Western Part of “Regio X Venetia et Histria” (Northern Italy) <i>Roberto Bugini, Luisa Folli and Elisabetta Roffia</i>	231
Calcitic Marble from Thasos in the North Adriatic Basin: Ravenna, Aquileia, and Milan <i>John J. Herrmann, Robert H. Tykot and Annewies van den Hoek</i>	239
Characterisation of White Marble Objects from the Temple of Apollo and the House of Augustus (Palatine Hill, Rome) <i>Francesca Giustini, Mauro Brilli, Enrico Gallochio and Patrizio Pensabene</i>	247
Study and Archeometric Analysis of the Marble Elements Found in the Roman Theater at Aeclanum (Mirabella Eclano, Avellino - Italy) <i>Antonio Mesisca, Lorenzo Lazzarini, Stefano Cancelliere and Monica Salvadori</i>	255

Two Imperial Monuments in Puteoli: Use of Proconnesian Marble in the Domitianic and Trajanic Periods in Campania <i>Irene Bald Romano, Hans Rupprecht Goette, Donato Attanasio and Walter Prochaska</i>	267
Coloured Marbles in the Neapolitan Pavements (16 th And 17 th Centuries): the Church of <i>Santi Severino e Sossio</i> <i>Roberto Bugini, Luisa Folli and Martino Solito</i>	275
Roman and Early Byzantine Sarcophagi of Calcitic Marble from Thasos in Italy: Ostia and Siracusa <i>Donato Attanasio, John J. Herrmann, Robert H. Tykot and Annewies van den Hoek</i>	281
Revisiting the Origin and Destination of the Late Antique Marzamemi 'Church Wreck' Cargo <i>Justin Leidwanger, Scott H. Pike and Andrew Donnelly</i>	291
The Marbles of the Sculptures of Felix Romuliana in Serbia <i>Walter Prochaska and Maja Živić</i>	301
Calcitic Marble from Thasos and Proconnesos in Nea Anchialos (Thessaly) and Thessaloniki (Macedonia) <i>Vincent Barbin, John J. Herrmann, Aristotle Mentzos and Annewies van den Hoek</i>	311
Architectural Decoration of the Imperial Agora's Porticoes at Iasos <i>Fulvia Bianchi, Donato Attanasio and Walter Prochaska</i>	321
The Winged Victory of Samothrace - New Data on the Different Marbles Used for the Monument from the Sanctuary of the Great Gods <i>Annie Blanc, Philippe Blanc and Ludovic Laugier</i>	331
Polychrome Marbles from the Theatre of the Sanctuary of Apollo Pythios in Gortyna (Crete) <i>Jacopo Bonetto, Nicolò Mareso and Michele Bueno</i>	337
Paul the Silentiary, Hagia Sophia, Onyx, Lydia, and Breccia Corallina <i>John J. Herrmann and Annewies van den Hoek</i>	345
Incrustations from Colonia Ulpia Traiana (Near Modern Xanten, Germany) <i>Vilma Ruppiniè and Ulrich Schüssler</i>	351
Stone Objects from Vindobona (Austria) – Petrological Characterization and Provenance of Local Stone in a Historico-Economical Setting <i>Andreas Rohatsch, Michaela Kronberger, Sophie Insulander, Martin Mosser and Barbara Hodits</i>	363
Marbles Discovered on the Site of the Forum of Vaison-la-Romaine (Vaucluse, France): Preliminary Results <i>Elsa Roux, Jean-Marc Mignon, Philippe Blanc and Annie Blanc</i>	373
Updated Characterisation of White Saint-Béat Marble. Discrimination Parameters from Classical Marbles <i>Hernando Royo Plumed, Pilar Lapeunte, José Antonio Cuchí, Mauro Brillì and Marie-Claire Savin</i>	379

Grey and Greyish Banded Marbles from the Estremoz Anticline in Lusitania <i>Pilar Lapuente, Trinidad Nogales-Basarrate, Hernando Royo Plumed, Mauro Brilli and Marie-Claire Savin</i>	391
New Data on Spanish Marbles: the Case of <i>Gallaecia</i> (NW Spain) <i>Anna Gutiérrez García-M., Hernando Royo Plumed and Silvia González Soutelo</i>	401
A New Roman Imperial Relief Said to Be from Southern Spain: Problems of Style, Iconography, and Marble Type in Determining Provenance <i>John Pollini, Pilar Lapuente, Trinidad Nogales-Basarrate and Jerry Podany</i>	413
Reuse of the <i>Marmorata</i> from the Late Roman Palatial Building at Carranque (Toledo, Spain) in the Visigothic Necropolis <i>Virginia García-Entero, Anna Gutiérrez García-M. and Sergio Vidal Álvarez</i>	427
Imperial Porphyry in Roman Britain <i>David F. Williams</i>	435
Recycling of Marble: Apollonia/Sozousa/Arsuf (Israel) as a Case Study <i>Moshe Fischer, Dimitris Tambakopoulos and Yannis Maniatis</i>	443
Thasian Connections Overseas: Sculpture in the Cyrene Museum (Libya) Made of Dolomitic Marble from Thasos <i>John J. Herrmann and Donato Attanasio</i>	457
Marble on Rome's Southwestern Frontier: Thamugadi and Lambaesis <i>Robert H. Tykot, Ouahiba Bouzidi, John J. Herrmann and Annewies van den Hoek</i>	467
Marble and Sculpture at Lepcis Magna (Tripolitania, Libya): a Preliminary Study Concerning Origin and Workshops <i>Luisa Musso, Laura Buccino, Matthias Bruno, Donato Attanasio and Walter Prochaska</i>	481
The Pentelic Marble in the Carnegie Museum of Art Hall of Sculpture, Pittsburgh, Pennsylvania <i>Albert D. Kollar</i>	491
Analysis of Classical Marble Sculptures in the Michael C. Carlos Museum, Emory University, Atlanta <i>Robert H. Tykot, John J. Herrmann, Renée Stein, Jasper Gaunt, Susan Blevins and Anne R. Skinner</i>	501
3. PROVENANCE IDENTIFICATION II: (OTHER STONES)	
Aphrodisias and the Regional Marble Trade. The <i>Scaenae Frons</i> of the Theatre at Nysa <i>Natalia Toma</i>	513
The Stones of Felix Romuliana (Gamzigrad, Serbia) <i>Bojan Djurić, Divna Jovanović, Stefan Pop Lazić and Walter Prochaska</i>	523
Aspects of Characterisation of Stone Monuments from Southern Pannonia <i>Branka Migotti</i>	537

The Budakalász Travertine Production <i>Bojan Djurić, Sándor Kele and Igor Rižnar</i>	545
Stone Monuments from Carnuntum and Surrounding Areas (Austria) – Petrological Characterization and Quarry Location in a Historical Context <i>Gabrielle Kremer, Isabella Kitz, Beatrix Moshhammer, Maria Heinrich and Erich Draganits</i>	557
Espejón Limestone and Conglomerate (Soria, Spain): Archaeometric Characterization, Quarrying and Use in Roman Times <i>Virginia García-Entero, Anna Gutiérrez García-M, Sergio Vidal Álvarez, María J. Peréx Agorreta and Eva Zarco Martínez</i>	567
The Use of Alcover Stone in Roman Times (<i>Tarraco, Hispania Citerior</i>). Contributions to the <i>Officina Lapidaria Tarraconensis</i> <i>Diana Gorostidi Pi, Jordi López Vilar and Anna Gutiérrez García-M.</i>	577
4. ADVANCES IN PROVENANCE TECHNIQUES, METHODOLOGIES AND DATABASES	
Grainautline – a Supervised Grain Boundary Extraction Tool Supported by Image Processing and Pattern Recognition <i>Kristóf Csorba, Lilla Barancsuk, Balázs Székely and Judit Zöldföldi</i>	587
A Database and GIS Project about Quarrying, Circulation and Use of Stone During the Roman Age in <i>Regio X - Venetia et Histria</i> . The Case Study of the Euganean Trachyte <i>Caterine Previato and Arturo Zara</i>	597
5. QUARRIES AND GEOLOGY	
The Distribution of Troad Granite Columns as Evidence for Reconstructing the Management of Their Production <i>Patrizio Pensabene, Javier Á. Domingo and Isabel Rodà</i>	613
Ancient Quarries and Stonemasonry in Northern Choria Considiana <i>Hale Güney</i>	621
Polychromy in Larisaeon Quarries and its Relation to Architectural Conception <i>Gizem Mater and Ertunç Denктаş</i>	633
Euromos of Caria: the Origin of an Hitherto Unknown Grey Veined Stepped Marble of Roman Antiquity <i>Matthias Bruno, Donato Attanasio, Walter Prochaska and Ali Bahadır Yavuz</i>	639
Unknown Painted Quarry Inscriptions from Bacakale at <i>Docimium</i> (Turkey) <i>Matthias Bruno</i>	651
The Green Schist Marble Stone of Jebel El Hairech (North West of Tunisia): a Multi-Analytical Approach and its Uses in Antiquity <i>Ameur Younès, Mohamed Gaied and Wissem Gallala</i>	659
Building Materials and the Ancient Quarries at <i>Thamugadi</i> (East of Algeria), Case Study: Sandstone and Limestone <i>Younès Rezkallah and Ramdane Marmi</i>	673

The Local Quarries of the Ancient Roman City of <i>Valeria</i> (Cuenca, Spain) <i>Javier Atienza Fuente</i>	683
The Stone and Ancient Quarries of Montjuïc Mountain (Barcelona, Spain) <i>Aureli Álvarez</i>	693
<i>Notae Lapidinarum</i> : Preliminary Considerations about the Quarry Marks from the Provincial Forum of <i>Tarraco</i> <i>Maria Serena Vinci</i>	699
The Different Steps of the Rough-Hewing on a Monumental Sculpture at the Greek Archaic Period: the Unfinished Kouros of Thasos <i>Danièle Braunstein</i>	711
A Review of Copying Techniques in Greco-Roman Sculpture <i>Séverine Moureaud</i>	717
Labour Forces at Imperial Quarries <i>Ben Russell</i>	733
Social Position of Craftsmen inside the Stone and Marble Processing Trades in the Light of Diocletian's Edict on Prices <i>Krešimir Bosnić and Branko Matulić</i>	741
6. STONE PROPERTIES, WEATHERING EFFECTS AND RESTORATION, AS RELATED TO DIAGNOSIS PROBLEMS, MATCHING OF STONE FRAGMENTS AND AUTHENTICITY	
Methods of Consolidation and Protection of Pentelic Marble <i>Maria Apostolopoulou, Elissavet Drakopoulou, Maria Karoglou and Asterios Bakolas</i>	749
7. PIGMENTS AND PAINTINGS ON MARBLE	
Painting and Sculpture Conservation in Two Gallo-Roman Temples in Picardy (France): Champlieu and Pont-Sainte-Maxence <i>Véronique Brunet-Gaston and Christophe Gaston</i>	763
The Use of Colour on Roman Marble Sarcophagi <i>Eliana Siotto</i>	773
New Evidence for Ancient Gilding and Historic Restorations on a Portrait of Antinous in the San Antonio Museum of Art <i>Jessica Powers, Mark Abbe, Michelle Bushey and Scott H. Pike</i>	783
Schists and Pigments from Ancient Swat (Khyber Pukhtunkhwa, Pakistan) <i>Francesco Mariottini, Gianluca Vignaroli, Maurizio Mariottini and Mauro Roma</i>	793
8. SPECIAL THEME SESSION: „THE USE OF MARBLE AND LIMESTONE IN THE ADRIATIC BASIN IN ANTIQUITY”	
Marble Sarcophagi of Roman Dalmatia Material – Provenance – Workmanship <i>Guntram Koch</i>	809

Funerary Monuments and Quarry Management in Middle Dalmatia <i>Nenad Cambi</i>	827
Marble Revetments of Diocletian's Palace <i>Katja Marasović and Vinka Marinković</i>	839
The Use of Limestones as Construction Materials for the Mosaics of Diocletian's Palace <i>Branko Matulić, Domagoj Mudronja and Krešimir Bosnić</i>	855
Restoration of the Peristyle of Diocletian's Palace in Split <i>Goran Nikšić</i>	863
Marble Slabs Used at the Archaeological Site of Sorna near Poreč Istria – Croatia <i>Đeni Gobić-Bravar</i>	871
Ancient Marbles from the Villa in Verige Bay, Brijuni Island, Croatia <i>Mira Pavletić and Đeni Gobić-Bravar</i>	879
Notes on Early Christian Ambos and Altars in the Light of some Fragments from the Islands of Pag and Rab <i>Mirja Jarak</i>	887
The Marbles in the Chapel of the Blessed John of Trogir in the Cathedral of St. Lawrence at Trogir <i>Đeni Gobić-Bravar and Daniela Matetić Poljak</i>	899
The Use of Limestone in the Roman Province of Dalmatia <i>Edisa Lozić and Igor Rižnar</i>	915
The Extraction and Use of Limestone in Istria in Antiquity <i>Klara Buršić-Matijašić and Robert Matijašić</i>	925
Aurisina Limestone in the Roman Age: from Karst Quarries to the Cities of the Adriatic Basin <i>Caterina Previato</i>	933
The Remains of Infrastructural Facilities of the Ancient Quarries on Zadar Islands (Croatia) <i>Mate Parica</i>	941
The Impact of Local Geomorphological and Geological Features of the Area for the Construction of the Burnum Amphitheatre <i>Miroslav Glavičić and Uroš Stepišnik</i>	951
Roman Quarry Klis Kosa near Salona <i>Ivan Alduk</i>	957
Marmore Lavdata Brattia <i>Miona Miliša and Vinka Marinković</i>	963
Quarries of the Lumbarda Archipelago <i>Ivka Lipanović and Vinka Marinković</i>	979

Island of Korčula – Importer and Exporter of Stone in Antiquity <i>Mate Parica and Igor Borzić</i>	985
Faux Marbling Motifs in Early Christian Frescoes in Central and South Dalmatia: Preliminary Report <i>Tonči Borovac, Antonija Gluhan and Nikola Radošević</i>	995
INDEX OF AUTHORS	1009

TWO IMPERIAL MONUMENTS IN PUTEOLI: USE OF PROCONNESIAN MARBLE IN THE DOMITIANIC AND TRAJANIC PERIODS IN CAMPANIA

Irene Bald Romano¹, Hans Rupprecht Goette², Donato Attanasio³ and Walter Prochaska⁴

¹ School of Art and School of Anthropology, University of Arizona, Tucson, Arizona, United States
(ireneromano@email.arizona.edu)

² Deutsches Archäologisches Institut, Berlin, Germany (hans.goette@dainst.de)

³ Istituto di Struttura della Materia, Consiglio Nazionale delle Ricerche (ISM-CNR), Rome, Italy (donato.attanasio@ism.cnr.it)

⁴ Department of Geosciences and Geophysics, University of Leoben, Leoben, Austria (walter.prochaska@unileoben.ac.at)

Abstract

This paper is focused on two major public monuments of the Domitianic and Trajanic periods from Puteoli (modern Pozzuoli) on the Bay of Naples. There are no architectural traces of these monuments in Pozzuoli today and their specific ancient locations are not known. Our knowledge of them, therefore, is based on two joining marble panels, one in the University of Pennsylvania Museum of Archaeology and Anthropology in Philadelphia and the other in the Neues Museum in Berlin. Scientific analyses of the marble of both panels show they are of Proconnesian marble, providing evidence for identifying other possible fragments of the monuments. In addition, the precisely dated inscription of AD 95–96 on one side of the Philadelphia panel is an important example of a monument constructed by imperial order made of Proconnesian marble, establishing another fixed point in the late Flavian period for the use of this marble in the Italic peninsula.

Keywords

Proconnesian, marble, Puteoli

This paper is focused on two major public monuments of the late 1st and early 2nd centuries AD from Puteoli (modern Pozzuoli) on the Bay of Naples. There are no architectural traces of these monuments in Pozzuoli and their specific ancient locations are not known, so our knowledge of them is based on two joining panels, one in Philadelphia and one in Berlin, and on the identification of other possible fragments, for which the provenience of the marble is of importance.¹

The first of these two monuments from Puteoli is represented by a large rectangular (H. 1.62; W. 1.145; P. Th. 0.285 m) marble panel in the University of Pennsylvania Museum of Archaeology and Anthropology in Philadelphia (hereafter referred to as the “Penn Museum”) (MS 4916; ROMANO 2006, 255–266, no. 123 for the previous key bibliography) (Fig. 1). It was discovered in fragments, 150 m west/southwest of the Flavian amphitheater in Puteoli around 1908 on the property of Pasquale Elia in the Rione Ricotti district of the modern town (not far from the ancient Via Domitiana). It was reported to have been reused as a paving stone for an ancient road (ZEVI 1993, 130–131). The panel was acquired by the Penn Museum in 1909. On one face (Side A) is an honorific Latin inscription lauding the emperor Domitian for his good public works benefitting Puteoli, probably for the continuation of a road, the Via Domitiana, that linked Puteoli with Sinuessa, on the coast, which, in turn, was linked to the Via Appia and Rome (FLOWER 2001, 632–634).

When Domitian was assassinated in AD 96 with the collusion of the Praetorian Guard, the Roman Senate moved immediately to posthumously condemn Domitian through a process popularly known by its modern term, *damnatio memoriae*. Monuments erected in Domitian’s honor, statues of him, and inscriptions lauding him were defaced or obliterated. We are, thus, left today with a rather imperfect picture of the imperial monuments of his reign. This inscription from Puteoli, however, is

for Excellence, University of Arizona; Thomas Fuller and Conservation Laboratory, Penn Museum; Lynn Makowsky, Mediterranean Section, Penn Museum; Wolfgang Massmann and Conservation Laboratory, Staatliche Museen, Berlin; Mellon 1984 Foundation; Museo dei Campi Flegrei, Baia; Andreas Scholl, Director, Antikensammlung, Staatliche Museen, Berlin; Agnes Schwarzmaier-Wormit, Antikensammlung, Staatliche Museen, Berlin; School of Anthropology, University of Arizona; University of Pennsylvania Museum of Archaeology and Anthropology; Claudia Valeri, Vatican Museums.

1 The authors are very grateful for assistance with this project from the following: Arizona State Museum, University of Arizona; Matthias Bruno; Deutsches Archäologisches Institut, Berlin; Donors to the College of Fine Arts Fund



Fig. 1. Panel with Domitianic Inscription (Side A), from Puteoli. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia, MS 4916 (photo: Penn Museum)



Fig. 2. Relief Panel with Roman Soldiers (Side B), from Puteoli. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia, MS 4916 (photo: Penn Museum)

a notable exception, making it an especially important document for Roman history. The inscription was not destroyed but “erased,” using a chisel to carefully pick out the 11 lines, but it is still possible to read each line with a raking light. The inscription can be closely dated by historical information, including the death and so-called *damnatio memoriae* of Domitian, and by imperial titles, especially the reference to his 15th tribunician year, to between September AD 95 and September AD 96.

The panel in Philadelphia with its inscription was probably part of a monumental base that supported a statue of Domitian. Since the molded frame around the inscription is preserved, we can conjecture that the width of the front of the base was around 1.145 m. The depth of the base is not possible to calculate since the inscription block was probably affixed to the core of a built-up type of base (see HØJTE 2005, 30–35). The height of the base was almost certainly greater than the height of this panel, since there would have been some more substantial elements at the bottom (socle, orthostates or stepped base) and at the top (molded capping stones and plinth).

We cannot be certain if the base supported a standing image of Domitian or an equestrian statue. For the latter, the horse would have been more or less in a frontal position, like the one from Domitian’s Villa at Castel Gandolfo (BERGEMANN 1990, 63–64, P12, Taf.

20–23c). As a general parallel, it is pertinent to consider the bronze equestrian statue of Domitian discovered in the sanctuary of the Augustales at Misenum, just northwest of Puteoli along the Bay of Naples. It can be closely dated by a fragmentary inscription to almost the same time period as the Puteoli monument, between December of 94 and September of 95 and may also have commemorated the completion of the Via Domitiana. We must assume that the statue that once stood on the Puteoli base was destroyed or the head was possibly removed and the statue transformed by replacing the head with that of another emperor, as was done in the case of the very slightly earlier statue of Domitian from Misenum, the face of which was replaced with Nerva’s following Domitian’s *damnatio memoriae* (ADAMO MUSECETTOLA 2000, 65; VARNER 2004, 121). In the end, since the upper surface of the Puteoli base is not preserved, we cannot determine if the image of Domitian was of marble or bronze. The size of the inscribed panel indicates that the base was big enough for a life-sized or over-life-sized statue.

The inscribed marble panel in Philadelphia, however, had a second life. The block was turned around (but with the top surface oriented in same direction) and the back was carved and reused in another major imperial monument in Puteoli (Side B) (Fig. 2). It bears images in low and high relief of Roman soldiers, including possibly



Fig. 3. Detail, Shield Emblem of Scorpion on Relief Panel, from Puteoli, University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia, MS 4916 (photo: Penn Museum)

a member or members of the Praetorian Guard, the elite protectors of the emperor, identified by their emblem, the scorpion, on the shield of one of the figures (Fig. 3). On the left edge of the panel is half of a figure in relief, marching to his right, wearing a short *tunica*, a *paenula*, and heavy sandals or *caligae*. He holds a spear in his left hand which leans against his left shoulder, passes by the back of the head of the figure behind him and ends at the top frame. We know that at least one more block would have been joined to the left side of this panel to complete this one figure.

Behind the left figure marches another figure, executed in very low relief. His body is in three-quarters frontal position, and he wears a short tunic and a cloak. His left arm is bent and he holds the looped strap of his shield by his left index finger; a large oval shield (*scutum*) decorated with an elegant floral anthemion and a scorpion in low relief in the center is slung over his back left side. He also wears *caligae* on his feet. His head is in profile facing to his right, and he is beardless and has longish, wavy hair that is brushed forward to his brow, bound by a narrow band below the crown.

On the viewer's right is a figure in high relief, separated from the other two figures by a vertical molded frame. The background curves in deeply from the central



Fig. 4. Relief Panel, from Puteoli. Neues Museum, Antikensammlung, Staatliche Museen, Berlin, Sk 887, post-conservation, 2013 (photo: Antikensammlung Staatliche Museen)

frame to the figure's right, a device to mask the transition to deeper relief. This soldier is in a frontal position with his right arm bent, holding a spear vertically, which is now largely broken off. He wears a short *tunica*, a hooded *paenula*, and a *cingulum* or military belt in front. A sword (*gladius*) in its scabbard hangs from a strap over his right shoulder. He is beardless and has a short hairdo with the locks brushed forward along his forehead.

The Penn Museum panel is joined at right angles with another marble relief panel (H. 1.59; W. 0.86; Th. 0.22 m), now in the Neues Museum in Berlin (Sk 887; KNITTMAYER, HEILMEYER 1998, 211; SCHWARZMAIER, *et al.* 2012, 296–298, no. 171) (Fig. 4). It was discovered in Puteoli in 1801 in a context that is unclear, and acquired by the Antikensammlung in 1830. The adjoining Berlin panel completes the rightmost figure on the Penn Panel. The Berlin panel shows that the left arm



Fig. 5. Oblique View of Viewers' Left Side of Relief Panel, from Puteoli. Neues Museum, Antikensammlung, Staatliche Museen, Berlin, Sk 887 (photo: Hans Rupprecht Goette)

of the rightmost figure on the Penn panel is down, supporting a small oval shield (*palma*) at his left side (Fig. 5). This corner of the monument probably had a molded frame, but conservation of the panel carried out in 2009 shows that the present molding was reconstructed in the 19th century (personal communication, Wolfgang Massmann, Antikensammlung conservation records, June 2013). In high relief in a frontal pose is a single soldier wearing a *tunica*, *paenula*, *cingulum*, and *caligae*, with a *gladius* hanging at his right side and a small oval shield, a *palma*, at his left. The viewers' right side of the panel is carefully finished, with a large ancient dowel cutting and pour channel from the top of the block and with 3 cm wide finely-picked contact bands at the front and back edges, all from the block's previous use. It is not clear, therefore, if another relief panel was attached at this edge. The back of this panel seems to have been sawed off in



Fig. 6. Plaster Casts of the Joined Puteoli Panels in Philadelphia and in Berlin in the Museo dei Campi Flegrei, Baia (photo: Hans Rupprecht Goette)

post-ancient times, and the thickness of the panel is 6 cm less than that of the Philadelphia panel. Casts of the Penn and Berlin panels were made and assembled in Rome for the Mostra Augustea della Romanità in 1937-1938 and were displayed for many years in the Museo della Civiltà Romana in EUR, Rome (Fig. 6); a cast of the joining fragments is also in the Museo Archeologico dei Campi Flegrei in Baia. These provide helpful visualizations of the appearance of at least one corner of this monument.

Comparison with dated works and stylistic elements suggest that the reliefs were carved in the reign of the emperor Trajan. The hairstyles match closely those of the Trajanic period, and the hairdo of the figure on the Berlin panel closely imitates the hairstyle of Trajan himself (Fig. 7). In general, the reliefs date to the early years of the 2nd century AD.

None of the soldiers on these two panels are wearing helmets or heavy armor. They are shown standing or in procession, wearing only part of their military costume, and there is no reference to a specific setting, such as an architectural backdrop. We are not sure, therefore, if we should interpret these as historical reliefs commemorating a specific event, like a military ceremony or a scene of *reditus* or triumphal return, or if these are, rather, more generic representations showing Trajan's loyal troops, celebrating the military might of the empire and Trajan's control of the army. The way in which the figures on the left are shown in low and very low relief



Fig. 7. Detail, Head of Soldier, Relief Panel from Puteoli, Berlin SK 887 (photo: Hans Rupprecht Goette)

and in profile, separated from the frontal figures in high relief at the corners, may be a clue to understanding the monument.

It is not at all clear what form this Trajanic period monument in Puteoli took. Sieveking put the reliefs on a base for an equestrian monument (1919, 8). Since then, however, most scholars have assumed that the Berlin and Penn museums' joining relief panels were part of a commemorative arch, an arch over the Via Domitiana, either in the attic story or decorating socles of the bases for free-standing columns at the front of the arch (FLOWER 2001, 640–642). There is no place, however, in the upper story of a typical Roman commemorative arch for two such reliefs that join at right angles with no heavy architectural member defining the corner. That these reliefs adorned the pedestals or socles for free-standing columns at the front of an arch is also problematic, given that there was at least one more panel to the left of the Philadelphia relief, making these socles impossibly large. In the only Trajanic arch more or less completely preserved, the Arch of Trajan at Beneventum, there is a single fornix with attached columns articulating the corners and a wide undecorated socle (ca. 1.50 m high and 4 m wide), anchoring the massive piers. The measurements of

the Puteoli reliefs would fit comfortably on this type of rectangular socle but the only parallel for reliefs in this position is the much later Arch of Galerius in Thessaloniki, ca. AD 298–303. Rather, these Puteoli reliefs were likely in a position close to the ground level of the viewer, perhaps forming the corner of an enclosure, like a monumental statue base, an altar, a balustrade or a podium where the images of soldiers would be shown processing toward a focal point, such as a staircase or doorway or the front of the monument.

Hans Rupprecht Goette, Irene Bald Romano, and Claudia Valeri are continuing to work on possible reconstructions of the monuments. Since the Puteoli monument of the Trajanic period is so enigmatic, one of the avenues we are exploring regarding its reconstruction is the possible identification of other fragments among the Puteoli sculptures in the Museo Archeologico dei Campi Flegrei in Baia (and elsewhere). One of the critical issues in identifying other fragments of the same monument, however, is confirmation of the provenience of the marble. In 2004 Norman Herz carried out stable isotopic analysis of a sample from the Penn Museum panel with results that offered several possibilities in the overlapping isotopic fields of ancient marbles. The tentative conclusion at that time was that the marble may be from Paros (Chorodaki) (ROMANO 2006, 255). Subsequent analysis in 2009 of a portion of the same sample by Donato Attanasio using six discriminant variables, including stable isotopes, electron paramagnetic resonance, and petrographic analysis determined that the marble definitively comes from the Proconnesian quarry (Proconnesus I) on the island of Marmara. The white marble is medium-grained (maximum grain size: 1.4 mm) with large blue/grey banding (color: 79). The sample emitted a strong sulfur odor upon grinding, which is consistent with Proconnesian marble. The EPR intensity is extremely low, i.e., with low manganese concentration of 6 ppm, and the stable isotopes are within the range for Proconnesian: $d^{18}O$ -1.43; $d^{13}C$ 2.79 (Fig. 8).

Since the block in the Penn Museum with its inscription on one side was reused in the Trajanic period monument, it is important to confirm the provenience of the marble for the rest of the monument, presuming that a single marble source was most desirable. With the kind permission of Andreas Scholl in the Antikensammlung and the assistance of Wolfgang Massmann in the Conservation Department, a sample was taken from the panel in the Neues Museum, and stable isotopic and chemical analyses of the marble were carried out by Walter Prochaska in his lab in Leoben, Austria. The sample from the Berlin panel revealed results for the stable isotopes and chemical composition compatible with Proconnesian marble: $d^{18}O$ -2.23; $d^{13}C$ 2.62 (See also Fig. 8); $MgCO_3$ 0.96; Fe 34; Mn 6 ppm; Sr 130. The manganese content is low, which is consistent with Proconnesian marble.

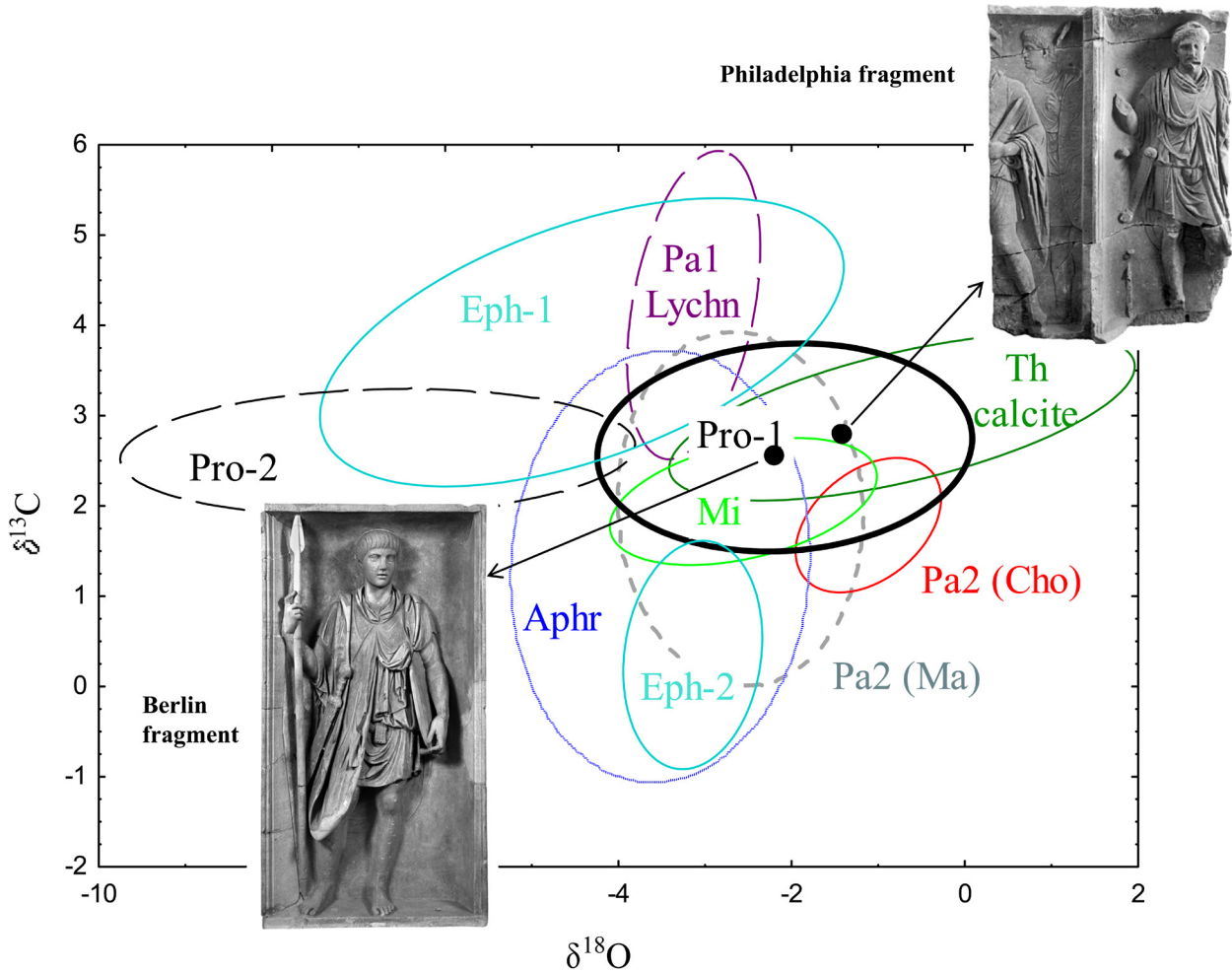


Fig. 8. Graph showing Results of Stable Isotopic Analyses of Samples from the Puteoli Panels in the Penn Museum, Philadelphia and in the Neues Museum, Berlin (graph: Walter Prochaska)

Other than confirming one of the variables in identifying other fragments of this monument, why are these marble provenience results important and what do they add to our picture of the Roman marble trade? We know that Proconnesian marble was utilized in the 6th century BC and for some major 4th century BC and Hellenistic monuments in Asia Minor and in the northern Aegean. For example, the structure of the Mausoleum of Halicarnassos was executed in Proconnesian marble (Vitruvius 2.8.10; Pliny, *NH* 32.15.1), while the sculptures were carved from other marble. The main marble for the 2nd century BC Altar of Pergamon was probably Proconnesian (HEILMEYER 2007, 127–132, 159–160), and Proconnesian marble has been attested in the Sanctuary of the Great Gods on the northern Aegean island of Samothrace, including in the Propylon of Ptolemy II, built between 285 and 281 BC (MANIATIS *et al.* 2012).

It has been demonstrated, however, that exploitation of the quarries of Marmara in the Roman period was a gradual process beginning in Flavian times, eventually

replacing Luna marble in the 2nd century AD as the most prevalent white marble for architectural monuments in the Italic peninsula and elsewhere. The earliest known Roman use of Proconnesian marble in Italy occurs in several architectural elements from the Temple of Venus at Pompeii that can be dated between the earthquake of AD 62 and the AD 79 eruption of Vesuvius (ATTANASIO *et al.* 2008, 749, 752). In the city of Rome, the use of Proconnesian marble has also been documented in the late Flavian period, in the Domitianic construction of the Domus Flavia on the Palatine hill; this may have been the very first importation of that marble to Rome (BRUNO, *et al.* 2002, 291–3, 298; PENSABENE 1998).

At the site of Puteoli, Filippo Demma has noted the presence of Proconnesian marble among the architectural blocks of the Flavian amphitheater, as well as its subsequent dominance as the marble of choice for the architecture of the post-Flavian monuments, though as far as we know these have not been scientifically tested (DEMMA 2007, 231–2). We noted from visual inspection

that the dedicatory inscription for the amphitheater is also probably Proconnesian. Since the Domitianic inscription in the Penn Museum from Puteoli is very precisely dated to AD 95–96 the confirmation that the marble is Proconnesian is of importance in adding to the history of the use of this marble in the Roman period in Campania. We must assume that a statue of the emperor Domitian would not have been erected except under strict imperial control or imperial order, so, as such, this inscription constitutes important early evidence for a monument constructed by imperial order of Proconnesian marble, thus establishing another fixed point in the Domitianic period for the history of the Roman use of this marble.

REFERENCES

- ADAMO MUSCETTOLA S. 2000: “Miseno: culto imperiale e politica nel compresso degli Augustai”, *RM* 107, 79–109.
- ATTANASIO D., BRILLI M., BRUNO M. 2008: “The properties and identification of marble from Proconnesos (Marmara island, Turkey): A new database including isotopic, EPR and petrographic data”, *Archaeometry* 50 (5), 747–74.
- BERGEMANN J. 1990: *Römische Reiterstatuen: Ehrendenkmäler im öffentlichen Bereich*. Mainz: Ph. von Zabern.
- BRUNO M., CANCELLIERE S., GORGONI C., LAZZARINI L., PALLANTE P., PENSABENE P. 2002: “Provenance and distribution of white marbles in temples and public buildings of Imperial Rome”, in HERRMANN J. J., HERZ N., NEWMAN R. (eds.): *ASMOSIA V*. London: Archetype Publications, 289–300.
- DEMMA F. 2007: *Monumenti Pubblici di Puteoli per un’Archeologia dell’Architettura*, Rome: L’Erma di Bretschneider.
- FLOWER H. I. 2001: “A Tale of Two Monuments: Domitian, Trajan, and Some Praetorians at Puteoli”, *American Journal of Archaeology* 105, 625–48.
- HEILMEYER W.-D. 2007: “Berliner Marmore aus Kleinasien: Bericht über ein geologisch-archäologisches Projekt 1994-2004”, *JdI* 122, 127-161.
- HØJTE J. M. 2005: *Roman Imperial Statue Bases from Augustus to Commodus*. *Acta Jutlandica LXXX:2*, *Humanities Series* 78. Aarhus: Aarhus University Press.
- KNITTLMAYER B., HEILMEYER W.-D. 1998: *Staatliche Museen zu Berlin, Die Antikensammlung. Altes Museum - Pergamonmuseum*. Mainz: Ph. von Zabern.
- MANIATIS Y., TAMBAKOPOULOS D., DOTSIKA E., WESCOAT B. D., MATSAS D. 2012: “The Sanctuary of the Great Gods on Samothrace, Greece: An Extended Marble Provenance Study”, in GUTIÉRREZ GARCIA-M. A.; LAPUENTE P.; RODÀ DE LLANZA I. (eds.): *ASMOSIA IX*. Tarragona: Institut Català d’Arqueologia Clàssica, 263–78.
- PENSABENE P. 1998: “Il fenomeno del marmo nella Roma tardo-repubblicana e imperiale”, in PENSABENE P., (ed.): *Marmi antichi II. Studi Miscelanei*. Rome: “L’Erma” di Bretschneider, 333–90.
- ROMANO I. B. 2006: *Classical Sculpture: Catalogue of the Cypriot, Greek, and Roman Stone Sculpture Collection*, University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology.
- SCHWARZMAIER A., SCHOLL A., MAISCHBERGER M. 2012: *Die Antikensammlung der Staatlichen Museen zu Berlin*, Berlin: Staatliche Museen zu Berlin.
- SIEVEKING J. 1919: “Römisches Soldatenrelief”, *SB-Münch*, 3–9.
- VARNER E.R. 2004: *Mutilation and Transformation: Damnatio Memoriae and Roman Imperial Portraiture*, Leiden/Boston: Brill.
- ZEVI F. 1993: *Puteoli, Vol. I*. Naples: Banco di Napoli.