

Interdisciplinary Studies on Ancient Stone

Proceedings of the IX ASMOSIA Conference

(Tarragona 2009)

Edited by
Anna Gutiérrez García-M., Pilar Lapuente and Isabel Rodà

Institut Català d'Arqueologia Clàssica

DOCUMENTA 23



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Anna Gutiérrez Garcia-M.
Pilar Lapuente Mercadal
Isabel Rodà de Llanza

D O C U M E N T A 23

INSTITUT CATALÀ D'ARQUEOLOGIA CLÀSSICA

Tarragona, 2012

Association for the Study of Marble and Other Stones used in Antiquity. International Symposium (9è : 2009 : Tarragona, Catalunya)

Interdisciplinary studies on ancient stone : proceedings of the IX Association for the Study of Marble and Other Stones in Antiquity (ASMOSIA) Conference (Tarragona 2009). – (Documenta ; 23)

Bibliografia

ISBN 9788493903381

I. Gutiérrez García-Moreno, Anna, ed. II. Lapuente Mercadal, Pilar, ed. III. Rodà, Isabel, 1948- ed. IV. Institut Català d'Arqueologia Clàssica V. Títol VI. Col·lecció: Documenta (Institut Català d'Arqueologia Clàssica) ; 23

1. Escultura en marbre – Roma – Congressos 2. Construccions de marbre – Roma – Congressos 3. Marbre – Roma – Anàlisi – Congressos 4. Pedres de construcció – Roma – Anàlisi – Congressos 5. Pedreres – Roma – Història – Congressos

904-03(37):552.46(061.3)

Aquesta obra recull les aportacions (comunicacions orals i pòsters) que es van presentar durant el IX Congrés Internacional de l'Association for the Study of Marbles and Other Stones in Antiquity (ASMOSIA), organitzat per l'ICAC en el marc del programa de recerca HAR2008-04600/HIST, amb el suport del programa d'Ajuts ARCS 2008 (referència expedient IR036826) de la Generalitat de Catalunya i del Ministeri de Ciència i Innovació (Accions Complementàries HAR2008-03181-E/HIST), i celebrat a Tarragona entre el 8 i el 13 de juny del 2009.

Aquesta publicació ha estat possible gràcies a l'ajut del programa d'Ajuts ARCS 2008 (referència expedient IR036826) de la Generalitat de Catalunya i del Ministeri de Ciència i Innovació (Accions Complementàries HAR2008-03181-E/HIST), i també als projectes de recerca HAR2008-04600/HIST ("Explotación, uso e intercambio de materias primas inorgánicas entre el norte de Hispania, el sur de la Galia y los puertos de Roma") i HAR2011-25011 ("La explotación y comercio de los recursos naturales en el N. de la Hispania romana: *lapis, metalla, aqua*") del Ministeri de Ciència i Innovació.

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© de la fotografia de la coberta: ICAC

Primera edició: maig del 2012

Coordinació: Publicacions de l'ICAC

Disseny de la col·lecció: Dièdric

Coberta: Gerard Juan Gili

Fotografia de la coberta: Placa de *broccatello* de la vil·la romana dels Munts, a Altafulla (Tarragona).

Maquetació i impressió: Indústries Gràfiques Gabriel Gibert

Dipòsit Legal: T-336-2012

ISBN: 978-84-939033-8-1

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THE *MARMORA* USED IN THE IMPERIAL CULT AREA OF TARRACO (HISPANIA CITERIOR)

A. Àlvarez, J.M. Macias, A. Muñoz, À. Pitarch, I. Teixell and J.J. Menchon

Abstract

The imperial cult area of Tarraco was built in the 1st century AD in the highest part of the city and presided over the seat of the *Concilium Prouvinciae Hispaniae Citerioris*. It was a *temenos* with a similar layout to that of the Forum Pacis and architectural decoration imitating that of the Forum Augustum in Rome, where the use of marble was a fundamental part of the architectural and sculptural decorative programme. An extensive assemblage of marble was recovered during the excavations carried out under the Tarragona Cathedral Master Plan. It reflects the use of imperial quarries in the decorative programme and has been analyzed at the Unitat d'Estudis Arqueomètrics (ICAC) facilities. This assemblage reflects the wide panorama of *marmora* imported and used in the decoration of the *temenos*. Local varieties of *marmora* have been identified in Tarraco, plus a series of foreign *marmora* from quarries all over the Roman Empire (Greece, Turkey, Egypt and North Africa). All this shows the involvement of the imperial power in the monumental architecture of the capital of the *prouvincia Hispania Citerior*.

Keywords

Tarraco, Cathedral, *Concilium Prouvinciae*, imported *marmora*, imperial cult.

Introduction

This paper presents the results and analyses of the studies of the architectural decoration of the imperial cult area in the zone of the *Concilium Prouvinciae Hispaniae Citerioris*. This was a large, two-hectare sacred area built in the 1st century AD crowning the highest point of the town. It was an urban shrine dedicated to the imperial cult that consisted of a building complex similar to the Forum Pacis in Rome and the shrines at Cigognier in Avenches, at Bagnols in Alba and Aut Bechere in Corseul. At the same time the architectural decoration and its iconography represent the adoption of the model, both political and religious, established in the Forum Augustum in Rome, which was also imitated in the capital of the *prouvincia Hispania Lusitania* (Figs. 1-2).

The extensive assemblage of marble recovered during the excavations carried out under the Tarragona Cathedral Master Plan reflects the use of the imperial quarries in the decorative programme (Macias *et al.* 2011). The sacred area was delimited by an *opus quadratum* wall of local stone. It surrounded an extensive eleven-metre-

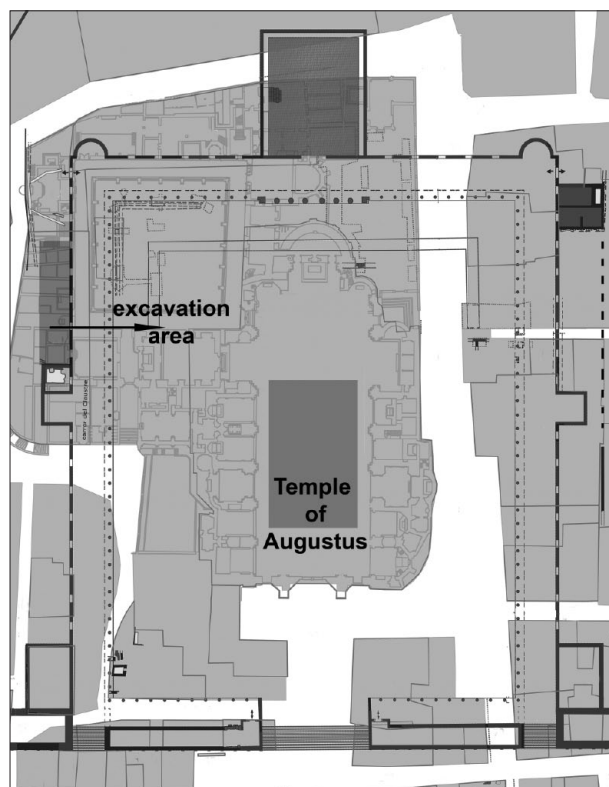


FIG. 1. Archaeological plan of Tarraco, 2nd century AD.

wide portico built of Luni marble (revetments, columns and an attic). The other chromatic varieties of *marmora* were used as a wall covering or on the pavements of the different apses and rooms surrounding the perimeter of the enclosure. Fragments of imperial cult sculpture in Paros and Thassos marble were also recovered. The use of *marmora* in the scenography and propaganda established around the imperial cult is well known in the Roman Empire. In the case of Tarraco the use of marble persisted during the early-Christian period. The reuse of architectural material from the imperial period to decorate the new buildings related to the 6th-century-AD Visigothic *episcopium* has been evidenced through our excavations. Fluted columns were rounded and drum fragments were cut down to obtain new plaques for coverings or tiling.

The finds presented here correspond to the abandonment and the Late Roman transformation stratigraphy of this great imperial cult square. They were made outside the sacred square and within the extensive service corridor of the *peribolos* wall. Their localisation reflects a major urban transformation related to the construction of the Visigothic-period episcopate and the practice of reusing fine materials in new buildings. The first evidence of changes in the great square are detected in the second

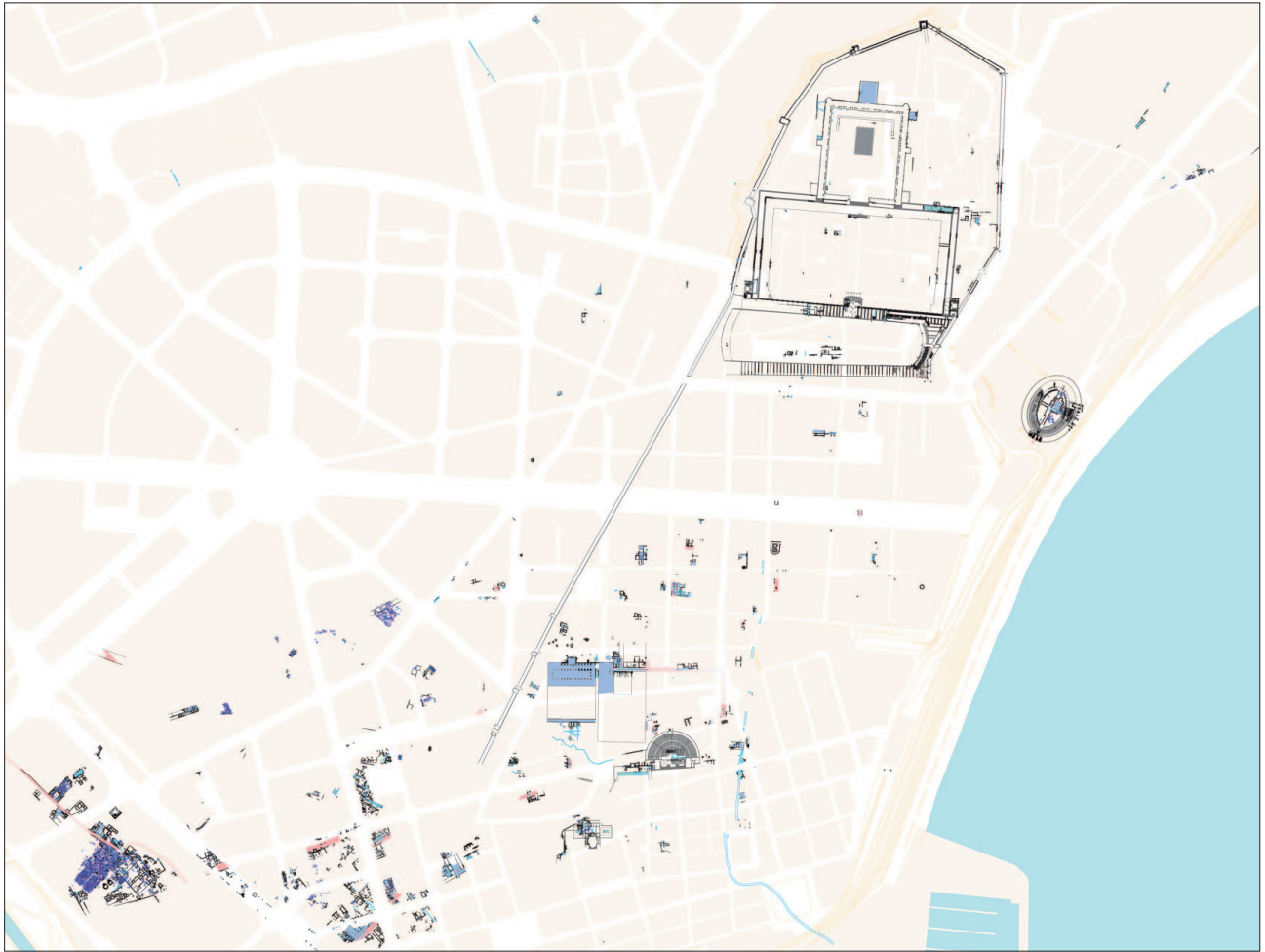


FIG. 2. Provincial forum or seat of the *Concillium Provinciae*, 2nd century AD (from Macias *et al.* in press).

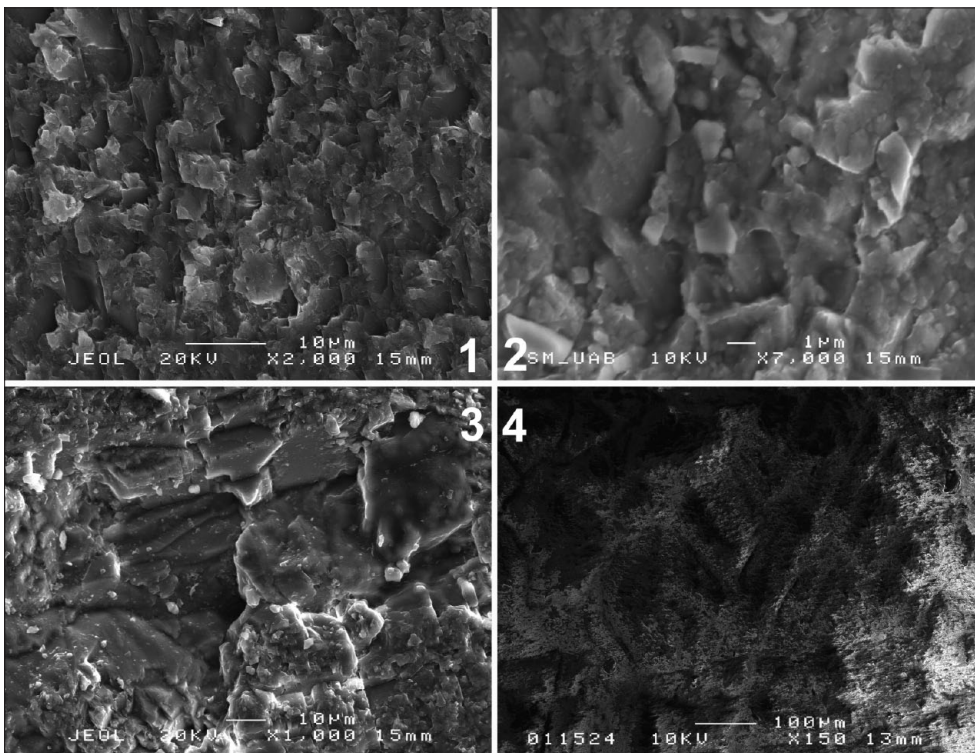


FIG. 3. Samples from field walking in scanning electron microscopy.

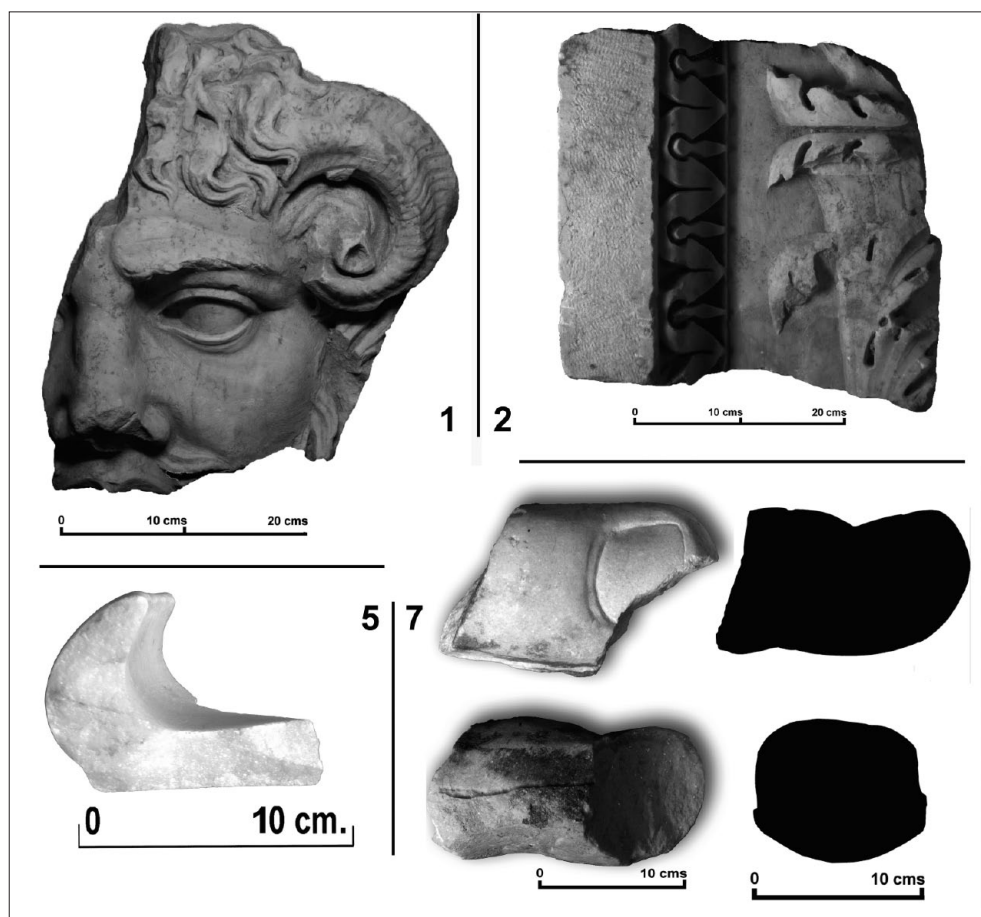


FIG. 4. Details of pieces corresponding to samples 1, 2, 5, 7.

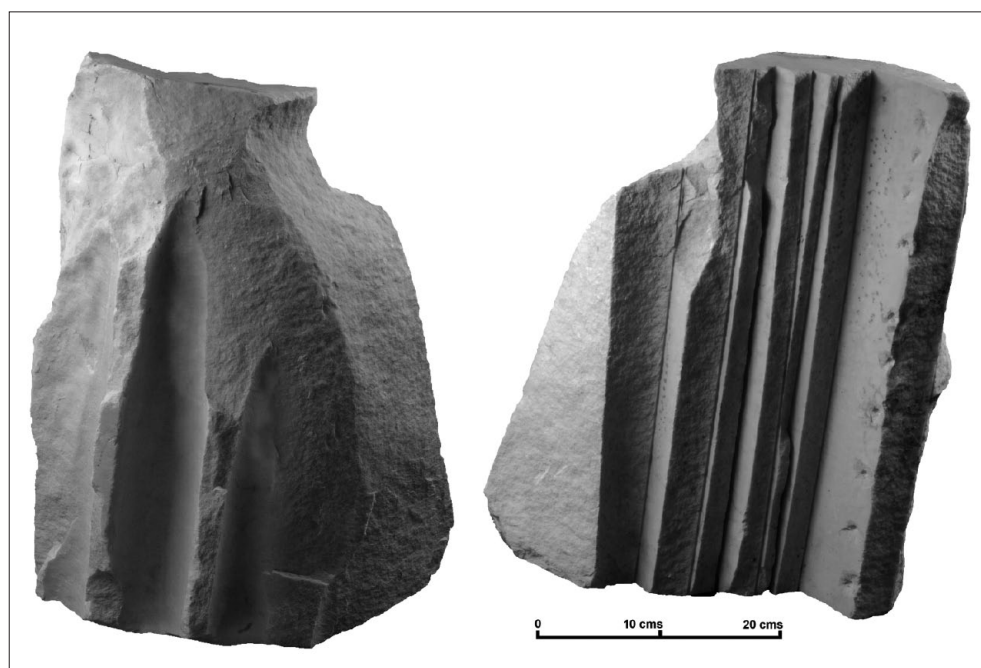


FIG. 5. Reuse in late antiquity of one of the columns from the perimetrical portico (Luni-Carrara).

quarter of the 5th century, when signs of pavement robbing and large urban spoil heaps indicate the proximity of inhabited structures. Throughout this century there are small but significant signs that reflect the reuse of the decorative *marmora* of the cult precinct, although no indications of the destruction of the central temple or its perimeter portico have been found.

There can be no doubt that the edicts of the emperors Constantine and Theodosius led to the disappearance of pagan practices, but we know nothing about the use of the square during the late Roman Empire. Tarraco was the only Hispanic capital under the control of Rome during the 5th century that still maintained its political representation; evidence of this can be found in the inscriptions dedicated to the emperors Leo and Anthemius (CIL II, 04109). A new architectural and urban situation can be detected through the documentation of large cisterns, the reuse of building material, the sharing of public spaces and new funerary practices that are manifested through isolated intramural evidence. Stratigraphic and pottery evidence indicates that the ancient precinct dedicated to the imperial cult was dismantled during late fifth – early sixth centuries. In this period the temple dedicated to the emperor Augustus in the middle of the precinct had disappeared, as had the portico surrounding the square, of which several fragments of the colonnade and attic have been found.

An overall transformation also occurred, as evidenced by the large rainwater collection cisterns (new architectural roof coverings) and the construction of new streets giving access to the interior of the square (Aquilué 2003; Bosch *et al.* 2005, Macias *et al.* 2007b, 60). These indicate an availability of resources that can be associated with the introduction of the new Visigothic city *episcopium*. Following the demise of the Roman Empire, the circumstances were favourable for a process of Christian monumentalization, which is also seen in other towns of the north-eastern Iberian Peninsula (Barcino, Egara and Valentia).

Thus, large fragments of the portico decoration were found in the excavated stratigraphic contexts, which reflects a major and well organized dismantling and reuse of the Flavian period architectural elements. We note the finds of numerous marble chips resulting from the rounding of the fluted columns and fragments of columns reworked to obtain new plaques for linings or pavements (Fig. 5). Traces of this activity found in the chapel of Nostra Senyora del Claustre should be considered as the natural continuation of our excavations. Unfortunately, there are no available pottery studies that would give us a precise chronology of the process, as with other groups of building materials recovered during the 20th century (Hauschild 1993), even outside the cult precinct (Arola *et al.* 2012). All this reflects a major transformation of the imperial cult area, although its function with regard to the urban scenario is unknown to us. Indeed, there are numerous examples of the reuse of temples as Christian basilicas or of spoilage and complete dismantling. In our case we do not have any

useful data, merely conjectures based on the partial conservation of the *peribolos*, although this demonstrates the perfect assemblage of the medieval cathedral with the foundations of the temple dedicated to the emperor Augustus.

The stone material recovered represents a wide range of the precinct's architectural decorative elements. An initial assessment shows how most of it probably came from the decoration of the perimeter portico – pavements, tiled work, mouldings and pilasters – although there are also fragments from the attic and the columns that supported it. However, some materials may well have come from other places in the square, as they were found out of any stratigraphic context. As part of a broader study of the remains of the settlement, the principal aim of this study was to characterize these materials in order to establish their provenance and to further understand the aesthetics and ideology of this ensemble built to resemble the Forum Augustum. The study of these samples will provide, therefore, complementary information useful for furthering historical explanations.

Materials and methods

A total of 16 samples were analysed. Sampling was done taking into account the whole range of existing colours and shades. The samples were collected from debris and floor filling material.

The whole assemblage of marbles was subjected to petrographic analysis. Moreover, specific analyses were applied to the white marbles (X-ray diffraction and scanning electron microscopy).

Morphological observations of specially prepared thin cross sections (30 µm thick) of the samples were carried out at the Unitat d'Estudis Arqueomètrics facilities of the Institut Català d'Arqueologia Clàssica using a polarizing light microscope (Nikon Eclipse E400 POL) equipped with four lenses (×4, ×10, ×20 and ×40) and joined to a Nikon COOLPIX 5400 microcamera by means of a Nikon COOLPIX MDC lens adaptor.

Observation and characterization of polished cross sections coated with gold were performed at the Microscopy Services of the Universitat Autònoma de Barcelona (UAB) using a JEOL JSM-6300 scanning electron microscope equipped with an EDS Link Isis-200 energy dispersive X-ray analysis system. EDS analysis was carried out using a 15 mm working distance and an acceleration potential of 20 kV.

The X-ray diffraction patterns of the white marble (previously prepared as fine powder by grinding a small quantity in an agate mortar) were recorded using a Philips X'Pert diffractometer in Bragg-Bretano geometry using a Cu Kα target tube X-ray source (operating at 40 kV and 50 mA). The angular range (2θ) was explored by a goniometer scanning from 4° to 60° at a step size of 0.05° and a counting time of 3 seconds per step. The analyses were carried out at the X-ray Diffraction Services of the Universitat Autònoma de Barcelona (UAB).

Results and discussion

The main features relating to the provenance of the marbles and the techniques used in each case are summarized in Table 1.

PLM was a key technique in the characterization of the marbles, providing fast and reliable identification of the structures and mineral components based on the optical properties of the marbles under study. According to the observations carried out using PLM, the majority of the fragments are white Luni-Carrara marble (Fig. 6), the type of material most commonly used in the construction of the temple of Augustus and in all the architectural decoration of the perimeter portico, although the presence of Paros (Fig. 7) and Thassos marble has also been observed. Furthermore, we have documented several varieties of polychrome *marmora*, including cipollino verde, greco scritto, pavonazzetto, africano (Fig. 8), rosso antico, giallo antico, portasanta, verde antico and porfido rosso antico. They belong to different decorative programmes without a precise location in the religious complex. Also notable is the use of local stone much valued by the Roman builders (broccatello, Santa Tecla stone (Fig. 9) and llisós). These materials, especially the first two types, were obtained from Cretaceous-period calcareous deposits and are characterized by their hardness, texture and colour (Álvarez 1992, 2007, 2009; Álvarez *et al.* 1993; 2009a, 2009b, 2009c; Genera and Álvarez 2009; Gutiérrez Garcia-M. 2009a, 2009b, 2011, 2012).

Although by using PLM it is possible to identify the main petrographic features of the different cross sections, the use of SEM-EDS allowed us to obtain a more detailed description. In accordance with the SEM-EDS observations of Samples 1 and 2, the size and regularity of the crystals allowed us to affirm that they are in fact Carrara marbles of purely calcareous composition. Sample 5 is a marble from Paros with the same calcareous composition, but the measurement and distribution of the calcite grains are much more heterogeneous than in the two previous examples. Indeed, crystals of much more isometric forms, medium size and rounded shapes can be observed, as well as smaller ones in clear process of recrystallization. The last type (Sample 7) corresponds to a Thassos marble and presents a dolomitic composition with thicker grains. These dolomite crystals tend to grow in an idiomorphic shape with a rhomboidal frame.

In terms of the crystalline phase analysis of some of the samples (Fig. 10), the X-ray diffractions enabled us to determine the presence of minerals with a concentration of over 1-2%, thus confirming the nature of the materials identified by PLM and SEM.

Conclusions

The find of this dump of rejected building material that had been robbed from its original emplacement allows us to draw up an approach to the architecture of

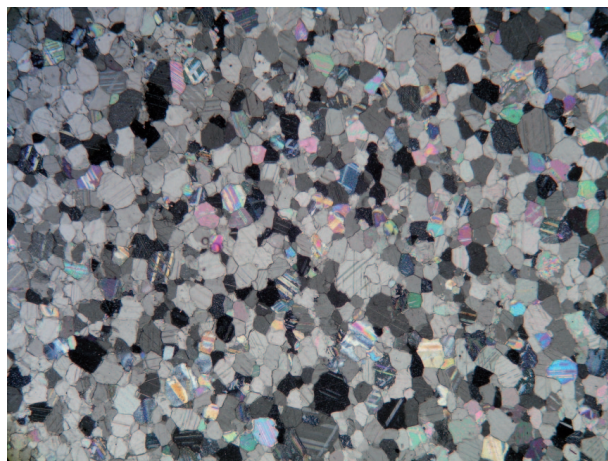


FIG. 6. Microphotography (crossed polarizing lenses, x2) of sample 2.

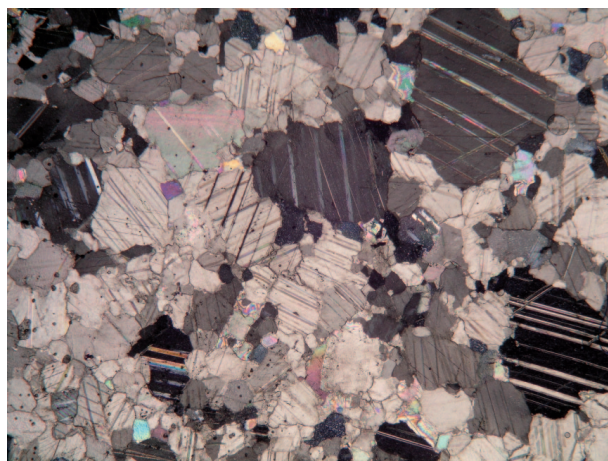


FIG. 7. Microphotography (crossed polarizing lenses, x2) of sample 5.



FIG. 8. Microphotography (crossed polarizing lenses, x2) of sample 8.

the imperial cult precinct in particular and of the architecture of the provincial power in general. Thus the composition of this ensemble is an example of how Hel-

Reference	Type of <i>marmor</i>	Name	Origin	Techniques		
				PLM	XRD	SEM
1 and 2	Marble	Carrara (<i>marmor Lunensis</i>)	Luni – Carrara (Italy)	x	x	x
3	Marble	Cipollino verde (<i>marmor Caristium</i>)	Karistos, (Eubea, Greece)	x		
4	Marble	Greco scritto	Annaba (Hipo Regius, Algeria)	x		
5	Marble	Paros	Paros island (Greece)	x	x	x
6	Marble	Pavonazzetto (<i>marmor Phrigium</i>)	Iscehisar (Afion, Turkey)	x		
7	Marble	Thassos	Thassos (Greece)	x	x	x
8	Calcibrecia	Africano (<i>marmor lucullaeum</i>)	Teos (Turkey)	x		
9	Limestone	Giallo antico (<i>marmor Numidicum</i>)	Chemtou (Turkey)	x		
10	Limestone	Rosso antico (<i>marmor Taenarium</i>)	Tenaro cape (Greece)	x		
11	Limestone	Portasanta (<i>marmor Chium</i>)	Chios island (Turkey)	x		
12	Breccia	Verde antico (<i>marmor Thessalicum</i>)	Larisa (Tessalia, Greece)	x		
13	Porphyry	Porfido rosso antico (<i>lapis Porphyrites</i>)	Mons Porfirites (Egypt)	x		
14	Calcibrecia	Broccatello jaspi de la Cinta	Tortosa (Spain)	x		
15	Limestone	Santa Tecla stone	Tarragona (Spain)	x		
16	Limestone	Llísos	Tarragona (Spain)	x		

PLM: polarizing light microscopy; XRD: X-ray diffraction; SEM: scanning electron microscopy.

TABLE 1. Reference, name and origin of the identified materials and techniques used.



FIG. 9. Microphotography (crossed polarizing lenses, x2) of sample 15.

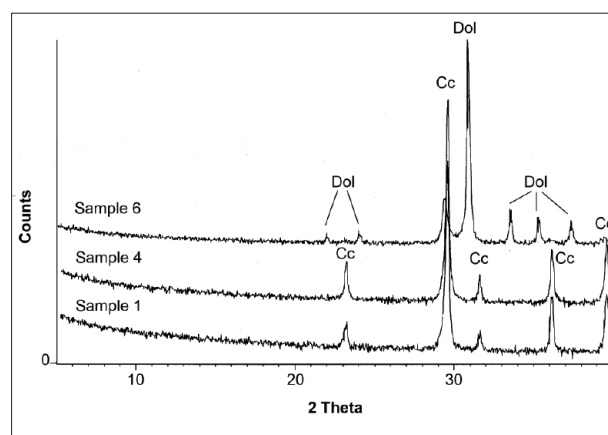


FIG. 10. Diffractograms of the 3 analysed white marbles - samples 1, 5 and 7. Key: Cc: calcite; Dol: dolomite.

lenistic-tradition marble was transferred to the provinces to promote the figure of the emperor and through imperial euergetism (Pensabene 1996, 2002). In this context the Luni *marmor* was a substitute for Greek marble, with the latter being reserved for statues. This shows the relationship of the constructive elements of the portico built around the temple of Augustus, which corresponds to the adaptation of the Forum Augustum in the Spanish provincial capitals (cf. Pensabene 1993, Peña 2009). All these elements were worked in *marmor Lunense* as has been confirmed by the analysis of Samples 1 and 2. The first corresponds to a fragment of the face of Jupiter

Ammon situated in the centre of the clypeus in the portico attic. These decorative motifs have been recorded in the city since the 19th century and in terms of the most recent archaeology, they have been found as fragments in the same building levels, thus demonstrating that the finishing touches were put to each *clypeus* at the time of construction. The second belongs to a segment of panels with candelabra that separated the shields, establishing a different decorative model from the caryatides of the Forum Augustum. Recently A. Peña has identified other parallels of candelabra in the cities of Arles, Lyon and Avenches (Peña 2009b, 567).

Sample 7 is a toe fragment from a foot with an incomplete maximum length of 16.70 cm and a width of 8.20 cm. It belonged to a colossal sculpture of Thassos *marmora* whose finish comes within the parameters of a sculpture of a large statue, seated and with bare feet and which can be interpreted as of a person treated as a divinity. The find coincides with numismatic references of a seated statue of the divine Augustus, which shows one foot placed forward with only the front part resting on the platform on which the statue stood, as shown by the examples from Herculaneum or Leptis Magna (Boschung 2002). However, we are also aware that it is also within the sculptural tradition present in other members of the Julio-Claudian family, but whose definite identification is not possible with the current data. This huge statue would have formed part of the sacred complex and was probably placed in one of the exedras of the portico within the temple *cella*. It was part of the sacred area, either inside one of the large exedra or presiding over the temple *cella*. Sample 5 is a piece of Paros *marmor* from the edge of a monumental *crater* measuring 46.70 cm in diameter.

The diversity of polychrome marbles reflects a scenographic treatment established in the Roman model, where the *marmora* from the occupied provinces evokes the concept of *maiestas imperii* in the period when *marmor Lunense* was the material used as a substitute in construction and decoration. We can therefore state that the major form of identified polychrome typology comes from quarries of imperial property and also that the statuary elements are of Hellenistic marbles. The result must have been a large sacred area that was multicoloured thanks to the contrast of the pavements, possibly of Santa Tecla stone, with the architectural elevation and decoration of the interior spaces of *Lunense* (Pensabene 2002; Cisneros 2002; Ungaro 2002). Another relevant fact is the identification of the *marmora* used in the West at the beginning of the 2nd century AD: rosso antico, verde antico and porfido rosso. These point to a restoration of the Tarragona temple of Augustus and the different architectural elements worked in *marmor Proconnesium* which have also been associated with this historic episode.

Acknowledgements

A. Pitarch gratefully acknowledges the Spanish Ministry of Education for the FPU scholarship (reference AP2006-4591).

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