

ASMOSIA

Newsletter

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Number 2

The President's Report

I am pleased to announce that the transactions of ASMOSIA IV have finally been printed and should already be under distribution. The volume is entitled *ARCHEOMATERIAUX, Marbres et autres roches*, and it has been edited by M. Schvoerer. It contains 49 papers, many of which are illustrated with color photographs, for a total of 368 pages: it may be purchased for 350 french francs from the Centre de Recherche en Physique Appliquée à l'Archéologie, Université Michel de Montaigne-Bordeaux 3/CNRS, Maison de L'Archéologie, Esplanade des Antilles, 33405 TALENCE cedex, France. Participants who presented a paper should receive a single copy and 15 offprints free of charge.

The organization of ASMOSIA VI has started, and by now all associates should have received the official announcement and the first circular. In case you have not yet received such documents, please notify me as soon as possible or download them from the ASMOSIA website. The deadline for registration and submission of abstracts is the 31st of January 2000.

I recommend again booking your hotel in Venice as early as possible. With regards to this, I should point out that the prices indicated by the official travel agency of the conference are in Italian Lire.

Relying on your help in advertising our association and the next conference, I send you all my best Seasons Greetings.

Lorenzo Lazzarini

ASMOSIA Website

<http://www.cas.usf.edu/asmosia/index.html>

Previous ASMOSIA Meetings and Proceedings

ASMOSIA I, Il Ciocco, Italy, May 9-13, 1988. Norman Herz & Marc Waelkens (eds.). 1988. *Classical Marble: Geochemistry, Technology, Trade*. NATO ASI Series E, Applied Sciences #153. \$186.50.

ASMOSIA II, Catholic University of Leuven, Belgium, October 16-20, 1990.

Waelkens, M., N. Herz & L. Moens (eds.). 1991. *Ancient Stones: Quarrying, Trade and Provenance. Interdisciplinary Studies on Stones and Stone Technology in Europe and the Near East from the Prehistoric to the Early Christian Period*. Acta Archaeologica Lovaniensia Monographiae 4. Leuven University Press (Blijde Inkomststraat 21, B-3000, Leuven, Belgium). BEF 2.800. Apparently out of print.

ASMOSIA III, Athens, Greece, May 17-19, 1993. Yannis Maniatis, Norman Herz & Yannis Basiakis (eds.). 1995. *The Study of Marble and Other Stones Used in Antiquity*. Archetype, London. \$45. (Also obtainable from the University of Pennsylvania Press).

ASMOSIA IV, Bordeaux, October 9-13, 1995. Max Schvoerer (ed.). 1999. *Archéomatériaux. Marbres et autres roches. Actes de la 14^{ème} Conférence internationale de l'Association pour l'étude des marbres et autres roches utilisés dans le passé*. CRPAA, Université Michel de Montaigne - Bordeaux 3 / CNRS. 350 FF (see table of contents on pp. 2-3).

ASMOSIA V, Boston, Massachusetts, June 11-15, 1998.

Proceedings in preparation by John J. Herrmann, Jr.

Published by the Association for the Study of Marble and Other Stones in Antiquity

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New Publications

Please send us citations, and abstracts if possible, of papers of interest to ASMOSIA, that were published or presented at professional meetings. Send them by email or snail mail to the editor.

Bernard, H., J.-C. Bessac, P. Mardikian & M. Feugère. 1998. L'épave romaine de marbre de Porto Novo. *Journal of Roman Archaeology* 11: 53ff.

Cauvin, M.-C., A. Gourgaud, B. Gratuze, N. Arnaud, G. Poupeau, J.-L. Poidevin & C. Chataigner (eds.). 1998. *L'obsidienne au proche et Moyen Orient*. BAR Int. Series S738. Archaeopress. ISBN 0860549313.

Cuvigny, Helene. 1996. The Amount of Wages Paid to the Quarry-workers at Mons Claudianus. *Journal of Roman Studies* 86: 139-145. Cuvigny reports that about 1,240 payment receipts to free workmen have been found in the quarries (painted on potsherds), and she gives a succinct analysis of the pay scales, deductions, and supplements in kind. (John J. Herrmann, Jr.)

Fischer, Moshe L. *Marble Studies. Roman Palestine and the Marble Trade*. Xenia, Konstanzer Althistorische Vortraege und Forschungen, Band 40. Konstanz. ISBN 3-87940-547-6. Price: DM 158,-/ Austrian S 1232/ Swiss F 158. The focus of this study is on the presentation and examination of marble artifacts of architecture, sculpture and sarcophagi dated to the Roman period as recorded in Israel. The study also covers Palestine's involvement in the Roman marble trade. The artistic examination of the items is completed by an interdisciplinary analysis of their petrographic, chemical and physical data. Since the use of marble in Palestine in the second and third centuries of the common era was completely based on importation, this study represents a kind of carte de visite of the microcosm of one of the Roman provinces, which certainly reflects the macrocosm of the Imperial system of marble quarrying and trade.

Harrell, J.A. & V.M. Brown. 1999. A late-period quarry for naoi in the Eastern Desert. *Egyptian Archaeology* 14: 18-20. This paper describes the earliest documented use of iron tools, including wedges, for quarrying in Egypt: mid 4th century BC.

Lazzarini, L. 1999. Marmo Sciro e Semesanto, nuove cave antiche. *Recupero & Conservazione* 27 (Aprile-Maggio): 64-69.

Milliken, S. & M. Persiani (eds.). 1998. *Lithic Technology: From Raw Material Procurement to Tool Production*. Papers from workshop 12 of the XIII International Congress of Prehistoric and Protohistoric Sciences, Forlì, 1996.

Miroslav, Verner. 1994. *Forgotten Pharaohs, Lost Pyramids. Abusir*. Academia Publisher of the Akademie vid Èeské republiky and Škodaexport, Praha, 1994. 245 pp., 250+ color photos by Milan Zemina, pictures, plans and illustrations. This book is devoted to Abusir- a pyramid necropolis near Memphis where a Czech team from the Institute of Egyptology at Charles University discovered the tomb of the little known pharaoh Ranaferef, a papyrus archive of the Abusir pyramid Temple, the tomb of vizier Ptahshepses, and a previously unknown cemetery dating from the Saite-Persian period. (Jan Šrámek)

Montana, G. & V. Gagliardo Briuccia 1998. *I marmi e i diaspri del barocco siciliano*. Flaccovio editore, Palermo. This book on the marbles and jaspers of Sicilian Baroque monuments, fully illustrated with color photographs, is most welcome since it covers a gap in the specific literature. It should be mentioned, however, that it contains several mistakes and inexactitudes. For an in-depth critical comment, see my review in the journal *Recupero & Conservazione* (vol. 27, Aprile-Maggio 1999, pp. 10-11) (Lorenzo Lazzarini).

Müller, Harald. 1997. Provenance of marble objects from the Roman province of Dacia. *Jahreshefte des Österreichischen Archäologischen Institutes in Wien* 66: 430-454.

Summary: Characterization of Bucova, the most important marble quarry of the Roman province of Dacia, some other local quarries and a number of archaeological objects examined was carried out by means of thin section analyses, isotope determinations and chemical analyses. The results were able to confirm that 65 archaeological objects were produced from the marble of Bucova and that 30 were imported items from the classical quarries of Marmara, Usak, Afyon, Paros, Thasos and Naxos. 17 objects are of unknown origin.

Conclusions and archaeological interpretation: On the basis of the results presented, it can be said with virtual certainty that, in Roman times in the province of Dacia, mostly marble from Bucova in the vicinity of the capital Sarmzegetusa was used. Exploitation of the Bucova quarry began shortly after the creation of the province under Trajan (AD 106

to137). The quarry reached its prime under the Severans (AD 193 to 235). Not only statues and monuments, but also large, magnificent marble faced buildings were created during this period. This is shown in particular by the example of Sarmizegetusa (columns of the forum, a large temple and the bases of large monuments). Artists and sculptors were probably recruited even from Asia Minor for this purpose (examples: padstones from the forum at Sarmizegetusa and the statue of Emperor Septimius Severus depicted as Neptune).

Of the total number of objects analysed, 65 were made of marble from Bucova, involving a transport distance of more than 100 km. All inscriptions...and architectural components...were produced from Dacian marble. Smaller artistic and votive artefacts were generally imported. Highly valuable statues, such as the Aesculpius statuette from Sarmizegetusa (SA11), the Liber Pater from Apulum (AP31...), the Mithras relief (PO6) and the relief of the Danubian horsemen (PR2) stem from the classical marble deposits of the Aegean and Asia Minor. The transport of these small and finished sculptures and reliefs over considerable distances may have been for religious reasons. At the same time, however, life-size statues such as the Apollo from Apulum (AP25) or the Tyche Polias from Drobeta (DR1) were produced of marble from Asia Minor. This shows that larger pieces too were transported over the Black Sea and on the Danube to Dacia. Thus trade in art was very substantial. The Dacian settlements in the south near the river Danube Sucidava, Aquae, Romula, Slaveni, Herculane, Dierna and Pojejena remarkable show imported objects only. The import into Dacia was probably done up the river Danube. It could be mentioned that a further transport occurred upwards the rivers Thisza and Mures to Alba Iulia, where a greater amount of imported objects was found.

For 47 imported objects, it was possible to characterize the marble as deriving from 5 classical sites: Marmara, Usak, Afyon, Paros, Thasos and Naxos. For a number of other objects analysed, the origin could not be determined on the basis of the analyses carried out. It is possible that they come from the marble deposits of the two Moesian provinces south of the Danube, for which no analytical results are as yet available. The large objects from northern Dacia, such as the lion of Potaisa (PO1) or the Hadrian inscription from Gilau (G11), may possibly come from one of the numerous small marble deposits in the western Carpathians. Today no further quarries are to be found there, thus no relevant analyses could be undertaken within the framework of this project. (John J. Herrmann, Jr.)

Pollini, J., N. Herz, K. Polikreti & Y. Maniatis. 1998. Parian *lychnites* and the Prima Porta statue: new scientific tests and the symbolic value of the marble. *Journal of Roman Archaeology* 11: 275-284.

Radt, Wolfgang. 1997. Antike und moderne Granitsteinbrüche im Kozakgebirge bei Pergamon/Bergama. *Istanbul Mitteilungen* 47: 453-4, pls. 63-64. A granite quarry in northwest Turkey has recently been discovered and reported on. Extensive signs of quarrying include two unfinished basins for bath buildings and a column shaft - all Roman. The ancient remains are endangered by modern operations. (John J. Herrmann, Jr.)

Schmid, J., M. Ambühl, D. Decrouez, S. Müller & K. Ramseyer 1999. A quantitative fabric analysis approach to the discrimination of white marbles. *Archaeometry* 41(2): 239-252. Quantitative fabric analysis was applied to discriminate better among white marbles from various quarries of archaeological interest. This method provides an effective complementary tool to a characterization based upon petrography, cathodoluminescence microscopy and stable isotopes. Very good discrimination of marbles is achieved with the help of simple variables such as major axis and the shape-specific PARIS-factor. Using quantitative fabric analysis, marbles with similar cathodomicofacies, as for example the Naxian quarries of Apiranthos, Koronos, Flerio and Kinidaros and the quarry of St. Béat (French Pyrenees), can be distinguished from each other. Marbles collected within one quarry may display dissimilar cathodomicofacies. The common origin of such specimens can be determined with the aid of quantitative fabric analysis, as shown for the quarries of Kinidaros as well as St. Béat.

A series of papers on stone weathering was graciously provided to ASMOSIA by Th. Skoulikidis of the National Technical University, Faculty of Chemical Engineering, Department of Materials Science and Engineering, Zografou Campus, 9 Iroon Polytechniou Street, Athens 157 80 Greece, from whom preprints and offprints are available:

Atzeni, C., M.G. Cabiddu, L. Massidda & U. Sanna. 1994. Considerazioni sul meccanismo elettrochimico della solfatazione delle superfici carbonatiche. In V. Fassina, H. Ott & F. Zezza (eds.), *III International Symposium on the Conservation of Monuments in the Mediterranean Basin, Venice, 22-25 giugno 1994*, 89-92.

Skoulikidis, Th. 1995. The Application and the limits of the intensification of the conditions by artificial weathering of stones. In *International Colloquium Methods of Evaluating Products for the Conservation of Porous Building Materials in Monuments, Rome, 19/21 June 1995*, 461-473. ICCROM.

Skoulikidis, Th. 1996. Non-destructive tests at the Acropolis of Athens. Preprint of the paper presented at the E.C. Workshop on *Non-Destructive Testing to Evaluate Damage Due to Environmental Effects on Historic Monuments, Trieste, Italy, 15-17 February 1996*.

Skoulikidis, Th. 1998. Air pollution and original solutions for the conservation of the Acropolis monuments. In T. Seki (ed.), *Proceedings of the Osaka City University International Symposium 1996 on Preservation of Cultural Heritage in Athens and Osaka, Osaka, October 6-8, 1996*, 77-101. Osaka, Organizing Committee for OCUIS 1996.

Skoulikidis, Th., D. Charalambous & K. Tsakona. 1996. Amelioration of the properties of hydrated lime for the consolidation of the surface or/and the mass of building materials of monuments or new buildings or statues and ornaments. In *8th International Congress on Deterioration and Conservation of Stone. Proceedings* vol. 3:1599-1607. Berlin. 30.9. - 4.10.1996.

Skoulikidis, Th., E. Kalifatidou, K. Tsakona & M. Evangelatou. 1996. Salt spray tests on untreated and treated marble and stones. Preprint of the paper presented at the E.C. Research Workshop *Origin, Mechanisms and Effects of Salts on Degradation of Monuments in Marine and Continental Environment, Bari, Italy, 25-27 March 1996*.

Skoulikidis, Th. & P. Vassiliou. 1997. n-Semiconductor pigments for the protection of stones and metals. *Recueil des Conférences EUROCOAT 97, Lyon Eurexpo, 23-25 Septembre 97*, 103-120.

Skoulikidis, Th., P. Vassiliou, E. Kalifatidou, E. Kritikou, K. Tsakona & M. Evangelatou. 1996. Protection from sulfation of various stones from several monuments (in Greece, Spain, Italy, Malta) using n-semiconductor pigments. Preprint of a paper presented at *Eurocare - Euromarble EU 496. Workshop 7, October 21-24, 1996*. Foundation for Research and Technology-Hellas.

Skoulikidis, Th., P. Vassiliou, P. Papakonstantinou, A. Moraitou, V. Zafirooulos, M. Kalaitzaki, P.

Spetsiodu, V. Perdikatsis & P. Maravelaki. 1995. Some remarks on Nd:YAG and Excimer UV Lasers for cleaning soiled sulfated monument surfaces. Paper presented at the LACONA Workshop on *Lasers in the Conservation of Artworks*, 4-6 October, 1995, Heraklion, Crete, Greece.

Conferences

Round Table "Les Roches décoratives dans l'architecture, durant l'Antiquité et le Haut Moyen Age", Ville d'Autun, 18-19 November 1999, sponsored by Centre d'Archéologie et du Patrimoine d'Autun. For more information, contact Pascale Chardron-Picault, Centre d'Archéologie et du Patrimoine d'Autun, B.P. 133, 71402 Autun CEDEX France. Tel. 03 8552 7350, fax 03 8586 5001. Sessions included Origin of Materials and Methods of Analysis, Operating Techniques (from the quarry to the decoration), and Decor.

"Quarry - Laboratory - Monument." International Congress, Pavia, Italy, September 26-30, 2000. Following on from the 5th International Congress on the Restoration of Architectural heritage "Firenze-2000" (17-24 September), the "Pavia 2000" congress will focus on the physical structure and life of the cultural built heritage within the framework of Romanesque-Renaissance architectural evidence from Milan and Pavia. The following topics will be covered: quarrying, processing and petrophysical-mechanical characterization of the stones; morphological, material, architectural and historical surveys of the monuments; and structural assessment and preservation of the architectural heritage. Contact: PRAGMA, Via S. Giovanni in Borgo, 4, 27100 Pavia (Italia). Tel. 39-382-3-02859; fax 39-382-27697; email: pragmapv@tin.it

REMINDER

Abstracts and registration for
ASMOSIA VI

Deadline: January 31, 2000

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FROM THE SECRETARY/TREASURER

James A. Harrell

ASMOSIA Membership Dues

Annual dues for ASMOSIA membership is ten American dollars. As mentioned in the last *Newsletter*, your current dues status is indicated at the bottom of the mailing label. If you have not paid dues in the last five years no status code appears. For everyone else, the last year for which dues has been paid (including future years) is indicated by the two digits after the P. For those of you who are behind in your dues, please consider paying at least for 1999 and keep in mind that the payment (\$10 US per year) must be in US dollars. Payments and updated addresses, etc. should be sent to:

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Please note that all funds must be in American dollars. Your check or money order should be made payable to "ASMOSIA". Conversion of foreign currencies to dollars costs about \$15 per transaction, and this is more than the dues!

If your address on the mailing label is incorrect or incomplete, please send me the revisions as soon as possible. Either mail the following form to the above address, or send the information to me by fax (419-530-4421) or e-mail (jharrell@geology.utoledo.edu).

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