

## **ABSTRACTS**

(in chronological order of presentation)

*Isabel Rodà de Llanza, Simona Perna, Diana Gorostidi\**

### **MARMORA IN HISPANIA AND THEIR APPLICATIONS IN SCULPTURE, EPIGRAPHY AND ORNAMENTAL ITEMS**

Starting from the Augustan age, Roman Spain found itself at the centre of an intense network of marble import and use. The Peninsula's rich lithic resources began to be exploited, and local stone varieties appeared alongside the most sought-after *marmora* imported from all over the Mediterranean basin and Asia Minor. Shiny and variegated stones like giallo antico, alabaster, greco scritto, portasanta, cipollino and pavonazetto, from Egypt, North Africa and Turkey, were employed in a myriad of ways, following the trends and fashions of the capital city, Rome. *Marmora* were used in public architecture (in the shape of columns, wall and floor revetment and statuary) and domestic buildings (for decorative items and furniture) as well as epigraphic supports (plaques, basements and altars). Together with the obvious structural and decorative functions, such *marmora* became the means to express the prestige and power of not just private individuals and public benefactors, but also the importance of entire provincial communities such as Carthago Nova and Tarraco in Hispania Tarraconensis. This paper offers an overview of the uses, varieties and meanings of the most popular local and imported *marmora* in Hispania Romana also in light of recent research and archaeometric analyses.

*Cristina-Georgeta Alexandrescu, Albert Baltres, Bogdan Olariu\**

### **'ROMAN STONE MONUMENTS FROM NORTH DOBRUJA' PROJECT. RESEARCH QUESTIONS – OBJECTIVES – PRELIMINARY RESULTS**

The ongoing project on *Roman Stone Monuments from North Dobruja. Multidisciplinary Recovery of the Loss of Time and Context (PN-III-P4-ID-PCE-2020-1031)* focuses on petrological and litho-stratigraphic investigations of well-dated Roman stone objects and fortifications. The Roman stone monuments from the northern part of the Moesia inferior are the main ancient source for the 1<sup>st</sup> - 3<sup>rd</sup> century AD, a period difficult to approach archaeologically due to the overlapping of later settlements and to the state of research.

The majority of the examined monuments are made from local Turonian and Cenomanian limestone varieties, sedimentary breccias and sandstones, but also from younger Mesozoic

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limestones – lithologies widespread in the northern Dobruja. Archival materials as well as analyses of historical maps and high resolution airborne laser scans (ALS) are used to detect potential ancient quarry areas, which are ground-checked by geological methods. So far, provenance areas in the immediate surroundings of main ancient sites along the Danube, in the Măcin Mountains and in the Babadag Plateau have been localized, providing deposits of different limestones and sandstones. The ancient quarrying areas are sometimes difficult to localize due to the continuous use in the modern times and/or today.

This multidisciplinary approach promises to provide insights, not only into the provenance of stone material used during different historical periods (Greek, Roman, Late Roman and Byzantine) and for specific purposes (sculpture, architectural decoration, building slabs), but also into matters of transportation, workshops and economic interaction between the centers in Noviodunum, Troesmis, Halmyris, Ibida and the hinterland, as well as with Tomi (Constanța), the main harbor of the region, and, from there, with the Mediterranean region.

*Oliver Livanov\**

## **THE LITHIC MATERIAL AND THEIR SOURCE IN THE WALLS OF SEVERAL FORTRESSES FROM DOBRUJA**

The project of systematic archaeological research from the *Noviodunum* Fortress is defined as being essentially interdisciplinary and multidisciplinary. The analysis of different categories of archaeological materials, the study of construction materials and the identification of the supply sources are among the objectives of this program. Starting from the petrological analysis of the walls of the *Noviodunum* fortress, the research was extended, for a correlation of the data obtained with similar materials from other fortresses in Dobruja.

The Dobruja landscape has been intensely shaped during geological ages and also due to intense tectonic activity, which has generated a diversity of rocks and sediments that we can see today. The territory of Dobruja is abundant in rocks, which can be easily used in constructions, such as limestone of different ages and origins, conglomerates, basalt, granite, rhyolite, sandstone, mica schist or green schist, practically representing all three major rock types.

The analysis carried out on wall segments of some fortresses in Dobruja (*Noviodunum*, *Aegyssus*, *Carsium*, *Histria*, *Enisala*, etc.) highlighted that the builders mainly used the existing nearby lithic material. Regardless of whether it is from the Roman, mid-Byzantine or medieval period, the supply of rocks used in construction is mainly from nearby sources, and rarely from more distant areas. Thus, the fortification elements at the *Argamum* fortress are made in an overwhelming proportion of Cretaceous sandy limestone of local provenance.

Concerning the extraction area, evidence of old exploitations has not always been preserved. Through research conducted in the field, we try to highlight the main categories of materials, as well as the areas of supply.

*Elena Klenina\**

## **STONE SUPPLY TO CHERSONESUS TAURICA IN THE ANTIQUITY**

Stone structures, architectural elements, and details are clear evidence of a highly developed stone dressing industry that flourished since the foundation of the Greek colony of

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ChersonesusTaurica. Wide-area intensive construction work in this city caused an increase in the demand for and, therefore, the extraction of stone in the local quarries. Long research identified the locations of four quarries on the Heracles Peninsula. The existence of another quarry, operating in the first century AD at the mouth of the Chernaya River (on the territory of modern Inkerman), we find indirect information in *The Life of St. Clement*. Limestone was mined in all these quarries.

Specialist geological macroscopic and microscopic analyses were performed to determine which quarries supplied limestone used as a building material and which were used to prepare various architectural elements, cult objects, or everyday products. As a result of these studies, it was possible to conclude that in the Hellenistic period, limestone was supplied to the city from quarries located on the western shore of the Quarantine Bay, close to the defensive walls of the ancient city, while in the Roman period, lithic building material came to Chersonesus from quarries located at the mouth of the Chernaya River (modern Inkerman). Marble objects found in the ancient Chersonesus Taurica were made of imported raw material from the well-known quarries of Ancient Greece and Asia Minor of that time.

*Montserrat Claveira Nadal\**

## **THE PRODUCTION OF FUNERARY MONUMENTS IN NORTH-EASTERN HISPANIA. QUARRIES, DISTRIBUTION AND EVALUATION OF THEIR STONE MATERIALS RESULTS WITH REGARD TO THEIR INTERPRETATION**

The place of discovery and preservation of monumental Roman funerary remains in northeastern Spain is concentrated in two well-known ancient urban centers, one of them located in *Tarraco* (present-day Tarragona), the capital of *Hispania Citerior* and the *conuentus tarraconensis*, and the other in the colony of *Barcino* (modern-day Barcelona). The characterization of their raw materials through the application of various analytical techniques has allowed us to define both cities as the main production centers of sculptures and architectural reliefs in this north-eastern area, to determine the location of the lithic outcrops used in each of them and to trace the routes of diffusion of their products throughout the territory. The cataloguing and multi-method analysis of other remains scattered around the area are enriching our understanding of the type of workshops that produced sculptural monuments with local materials in this northern area of *Hispania*.

*Zdravko Dimitrov\**

## **THE LIMESTONE QUARRIES OF MARCIANOPOLIS**

In year of 2012-2013 some main sites for the extraction of stone materials during the Roman era in the province of Thrace and Lower Moesia were studied and mapped.

The quarries serving major urban centers such as *Philippopolis*, *Deultum*, *Anchialos*, *Odessos*, *Marcianopolis*, *Abritus* and *Nicopolis ad Istrum* were identified and documented. Building materials such as gneiss, granite, syenite and limestone were mined in these centers of the Roman provincial economy.

Among the best-preserved quarries from the Principate era are those in the GolyamotoKesme area near the modern town of Devnya. They served the construction of the great Roman city of *Marcianopolis*.

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The purpose of this study is to present, document and discuss the results of the first field surveys of the *Marcianopolis* quarries (2012-2013).

A very important fact is that a large part of the architectural order details from *Odessos* and *Marcianopolis* originate from these quarries near the present-day city of Devnya.

*Sorin Nemeti, Radu Zăgreanu\**

## **VOTIVE ALTARS FROM POTAISSA. MODELS AND DECORATIVE PATTERNS AS EVIDENCE FOR STONE WORKSHOPS**

A special category of Roman sculptural monuments from Potaissa is that of the votive altars. The urban agglomeration of Potaissa is one of the cosmopolitan centers of Dacia, strongly influenced by the presence of soldiers from the *legio V Macedonica*.

We have identified around 100 votive altars with epigraphic dedications and based on the shape of the monument and the decoration of the capital, a typological analysis has been proposed. The analysis also took into account the material from which these monuments were made, but also the specific sculptural techniques or models for rendering the epigraphic field, their base, body and capital. The decoration of the top of the altars rarely go beyond the provincial style, and the models show the influence of the workshops from the neighbouring centers like Sarmizegetusa, Apulum and of course Napoca. Starting from the typology realized and the epigraphic data contained on the altars, a chronology of the models and decorations was proposed.

Votive altars from Potaissa suggest the existence of several active workshops, some of which being active before the arrival of the legion in AD 170. The emergence of a greater mass of beneficiaries of the sculptural production, legion' soldiers and civilians linked to the army, contributes to the development of existing workshops and the emergence of new ones.

*Ute Kelp, Anja Klöckner\**

## **ON THE POLYCHROMY OF TREVERAN FUNERARY MONUMENTS. FIRST STEPS TOWARDS MAPPING COLOUR TRACES**

The Roman funerary monuments from the *civitas Treverorum* are of central importance both for the genre of Roman sepulchral monuments as a whole and for the social and cultural history of the north-western provinces. Using limestone and sandstone, a rich and varied imagery characterizes small-scale grave stelae as well as large built monuments. Widely known is the grave monument of the *Secundinii* ('Igeler Säule'), 23 m high and still standing *in situ* near the banks of the Moselle outside Trier. On the relief decoration of these monuments, residual paint can still be seen with the naked eye. As early as the 19th century, traces of colour were in some cases meticulously reproduced in drawings. These observations indicate full colouring of the monuments.

Apart from preliminary work, however, no in-depth analyses of the polychromy of the Trier funerary monuments exist. A study based on new scientific research methods is therefore extremely promising. Within the frame of the DFG-funded project "Contextualising Treveran Grave Monuments" that started in 2022 (<https://www.uni->

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frankfurt.de/128552583/Trier\_\_Grabdenkmäler\_im\_Kontext ), a pilot study will centre on the colour coding and polychromy of these Roman grave monuments. We build on the documentation carried out during our previous projects on these monuments, mostly preserved in the Rheinisches Landesmuseum Trier. Supervised by Vincenz Brinkmann and Ulrike Koch-Brinkmann, the aim is to develop scientific standards and to explore the technical possibilities for the reconstruction of the original colours. The pilot study will be carried out in autumn 2023, when by choosing one monument; various non-destructive, minimally invasive methods of analysis will be tested to assess the potential for further research. An overview of the colour materials and painting techniques will be used to map the colour texture on a digital 3D-model of the monument. Depending on the density of information obtained, a reconstruction of the original colouring can be considered.

*Robert Krickl\**

### **DETECTION OF ANCIENT POLYCHROMY ON ROMAN STONE ARTIFACTS: CASE STUDIES FROM THE PROJECT PolychroMon**

The project PolychroMon funded by Heritage Science Austria call 2020 of the Austrian Academy of Sciences is conducting comprehensive research on the polychromy of Roman stone monuments from the Danubian provinces. Principle investigators are members of Austrian Archaeological Institute / Austrian Academy of Sciences, State collections of Lower Austria, Kunsthistorisches Museum Vienna, and Federal Monuments Authority Austria. Following an interdisciplinary and holistic approach, modern techniques of materials analyses are employed to localize and identify remnants of former pigment application on stone monuments as basis for further archaeological interpretation. Possibilities and limitations of several invasive and non-invasive techniques will be discussed, based on current operating experiences.

*Simon Barker\**

### **THE CITY TRANSFORMED: PATTERNS OF RE-USE AS A TOOL FOR UNDERSTANDING LATE-ANTIQUITY URBAN LANDSCAPES**

Late-antique cities were increasingly shaped by negotiation with the earlier imperial urban fabric. During this period, episodes of re-use, removal, repair, and reconfiguration became the new norm. As such, late-antique urbanism was vastly different to urbanism in earlier periods in its approach to both existing monuments and to the way new monuments were produced. This paper will consider late-antique cities in terms of the patterns of monuments preserved and those re-used/removed for acts of construction in order to gain insight into how the monumental patrimony of Roman cities was treated by their late-antique inhabitants. The specific focus will be on re-used inscribed monuments which can be dated and something about their origin determined—civic, imperial, funerary. It will draw on several sites throughout the empire, including those in Gaul since this region has well-published, large-scale spolia contexts such as city walls, which incorporated much epigraphic material.

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*Florina Panait Bîrzescu\**

## **STONE TABLE AND BENCH SUPPORTS FROM HISTRIA**

The paper presents a series of pieces of furniture made of marble and limestone discovered at Histria. These are mainly supports for tables or vases, and benches with decoration. The fragmentary state of preservation makes their identification difficult, in some cases being hard to distinguish between a fragmentary sculpture and a piece of stone furniture. Several analogies point rather to the second hypothesis. Another problem concerns their function, the supports being able to sustain both tables and vases. These are discussed in the context of several other known discoveries from Histria. They attest the popularity of certain decoration models, which were reproduced in marble and local limestone during the Hellenistic and Roman periods.

*Andrzej Biernacki\**

## **SOME REMARKS ON THE USE OF ARCHITECTURAL ORDERS IN THE CASTRUM STATUS OF THE LEGIO I ITALICA IN NOVAE (LOWER MOESIA)**

The present paper owes its existence to the many years' interdisciplinary studies of the architectural elements and details from Novae, conducted by archaeologists, architects and geologists. Among the 1600 architectural elements and details from Novae covered by the macroscopic petrographic studies of rock material were Tuscan and Ionic-Roman capitals.

The comparative investigations of the Tuscan and Ionic capitals unearthed in Novae have shown a strikingly parallel chronology of their occurrence. All of the Tuscan capitals discovered in Novae so far are made of crumbly limestone. Around AD 90, the local crumbly limestone started to be applied in Novae. One of the reasons behind the increased demand for the latter material was that it could be easily encountered in the area of Novae, principally in the valleys of the Danube and its tributaries, including the river Yantra. The same type of limestone was also the usual material for the construction of the walls of the legionary camp in Novae between the last decade of the 1st cent. and the 240s AD. Most of the architectural details in the Tuscan order come from the yard of the valetudinarium, dated to the reign of Trajan, and more precisely, to the very end of the 1st cent. AD. Considering the fact that the hospital was built by legionaries of the Legio I Italica, it is entirely reasonable that its design should apply the Tuscan order, which after all was the native order for the Roman legionaries. Another argument in favor of using it in Novae was the techniques of construction and the available material. More support of this view comes from the Tuscan semi-capital of a very simple shape, which was discovered in the façade of a row of chambers behind the transverse room in the basilica principiorum in Novae. This part of the principia is dated to the times of Trajan (98–117).

Forty Ionic-Roman capitals have been discovered in Novae so far. Only five are made of crumbly limestone. Their appearance strongly suggests that originally they decorated a sanctuary of an unidentified Roman deity. This may explain the fact that the volutes of one capital have the shapes of snakes or adders.

A vast majority of the Ionic-Roman capitals from Novae, viz., 35, are made of organogenous detrital limestone, warranting the assumption that they were produced between A.D. 130 and 233, when the quarries in Hotnitsa provided the limestone to Novae, including material for pedestals of

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statues and for tombstones. Their style and workmanship are the closest to those found in the Roman cities in Asia Minor. Thus, stonemasons and builders from Nicomedia and Nicaea, or their successors and descendants, could have been instrumental in the spreading of the Ionic-Roman order in Novae, even if only indirectly, when they worked at the quarries in Hotnitsa and in the workshops which apparently were established near the stone-pit to produce items made of the local organogenous detrital limestone.

*Gabrielle Kremer\**

## **BEYOND CORPUS AND DATABASE – RESEARCH ON STONE MONUMENTS OF THE ROMAN PROVINCES**

Since the publication of the first volumes of the *Corpus signorum imperii Romani (CSIR)*, not only the technical methods of data collection and processing, but also the scientific questions posed to the source material have changed and developed considerably. The CSIR Austria will be used as an example to trace and discuss this development. The advantages and disadvantages of overarching projects such as the CSIR, as well as the problems of current developments, will be highlighted. Alternative approaches will be presented on the basis of project examples carried out at the Austrian Academy of Sciences. A selection of results from ongoing projects on the provenance of stone materials, on the polychromy of stone monuments and on the history of religion will illustrate the range of potential research questions.

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