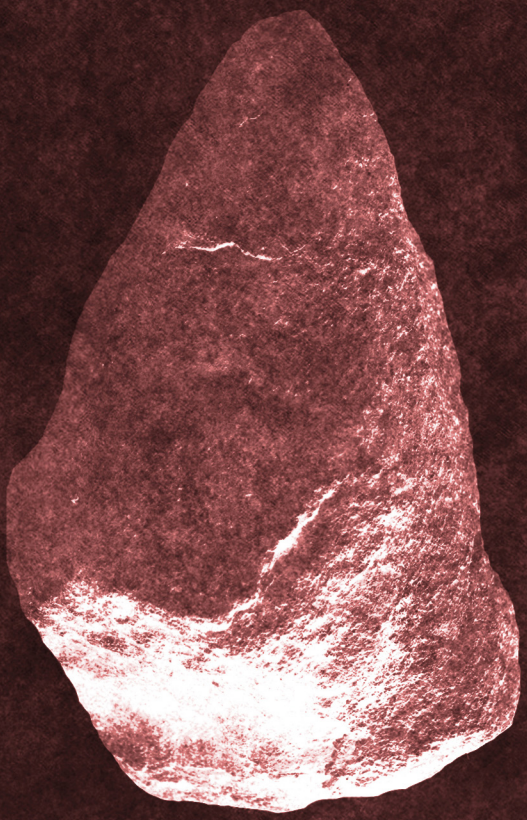
ARCHAEOTECHNOLOGY STUDIES

raw material exploitation from prehistory to the Middle Ages



Editors

Selena Vitezović

Dragana Antonović

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Selena Vitezović
Dragana Antonović

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CONTENTS
SADRŽAJ

RAW MATERIAL MANAGING AND EXPLOITATION IN THE PAST

Archaeology studies material remains of the past, and the question of raw material from which they were made is often the very first, initial research question.

Raw materials include food and water for humans and animals, as well as materials for making tools, shelter, clothes, other daily objects such as vessels, storage containers, etc., and also for objects of art, ritual and cult. Their origin and method of acquiring are often interlinked and are connected into a complex network of mutual relation. For example, food remains, such as animal bones, skin, tendons, are used for artefact production, non-edible parts of plants may serve for other purposes, such as stems for roofs or for covering the floor, fresh running water is important for human and animal consumption but also for numerous production processes, gathering in the woodlands may encompass diverse resources, such as wood for basketry, plant and animal food, and so on. The system and the organization of acquiring and exploiting of different raw materials represent the most important part of every economy and economical system. The questions such as availability of some of the raw materials, the degree of their exploitation versus their availability, the mode of exploitation as well as the method of their extracting, connected with the technological choices, are particularly important for studying not only economic, but also other social aspects.

Analyses of raw material may provide information on the exploitation of the environment and human-environment relations; the relative distance of the sources from the settlement may point to the territory used or controlled by certain group, routes of trade and exchange, or, in a case of hunter-gatherers, routes of migration and/ or territory covered. Technology of extracting some raw materials, such as stones or ores, may indicate the level of technological knowledge

and the organization and the overall economic system within a community that explored them.

Furthermore, some materials can be considered as luxurious and prestigious among some human groups; this is often, but not exclusively related to the rarity of the given raw material or to the difficulties in its extracting and/or working. Some materials may be used for both daily and ritual objects, some not, thus revealing some aspects of the perception of the environment, both landscape and animal world.

The analysis of raw material acquiring and managing has a special place within the technological analysis. Technology (from Greek word τέχνη, meaning skill) is a conceptual approach to the material culture studies, that encompasses all the human actions upon a matter, from individual level (body gesture, embodied knowledge in crafting) to the social and cultural setting of production (cf. Inizan *et al*. 1999, also Miller 2007 and references therein). Technology or technological systems can be roughly described as processes and practices associated with production and consumption, from design to discard (Miller 2007: 5). The view of technology as a cultural-driven phenomenon implies that there is usually more than one technique that satisfies the minimum requirements for any given task. Therefore, the technological choices may be strongly influenced by beliefs, social structure and tradition within the given society – it is important to analyse why specific manufacturing techniques were employed and not another ones, why some objects are quickly discarded and other repaired several times, etc. (cf. Lemonnier 1992, 1993, see also Killick 2004).

As for raw materials, the question is why a specific material was chosen and not some other. Some raw material may be readily available or exist in the environment and yet remain unused. Raw material choices are influenced by factors that can be roughly described as external – namely, the availability (including available quantities and possibilities for extractions with available technology), physical and mechanical properties, and internal – social, cultural preferences, traditions, etc.

Careful choices of raw materials, and not random usage of first that come at hand, may be noted since very early stages of human past. Careful selection of particular raw materials, even targeted

search for adequate materials, their collecting, transporting, hoarding for later use, etc., can be traced back very deep into our past. Studies on lithic raw material demonstrated that already in the Middle Palaeolithic period tool provisioning and management strategies show clear organization and planning depth (Meignen et al. 2009).

The studies of raw material acquiring and managing are not important only for studies of economy; they can have great influence on other fields of research as well. As L. Meignen and co-authors noted, „Analyses of Middle Paleolithic technological behaviors – and by extension of Neandertal cognitive capacities and mobility organization – have been revolutionized by theoretical perspectives devised from lithic technological and raw material investigations" (Meignen *et al.* 2009: 15)

Today, studies of raw materials must also include diverse multi- and interdisciplinary approaches. Throughout the 20th century, most of the studies were focused on the discovery of the sources of a certain raw material, especially lithic and metal. Lithics are probably the most studied raw material (e. g., Antonović 1997, 2003, Biró 1998, Gatsov 2006, Gurova 2011, Šarić 2014, to mention just a few examples from Balkan archaeology), although they are far from being exhausted. In past few decades, however, may be noted both the improvements in methodology as well as an increased interest and increased variety in raw material studies. For example, we may quote the studies on amber (e.g., du Gardin 2002, Murillo-Barroso and Martinón-Torres 2012), or salt (Cavruc and Harding 2012, Saile 2012, Weller 2012).

Interest in osseous raw materials especially increased in past three decades or so, both in Europe and other continents (e. g., Guthrie 1983, Scheinsohn and Ferretti 1995, Margaris 2012, Allentuck 2013; see also Schibler and Choyke 2007, Choyke 2013). One of the classical studies on symbolic value of raw materials is the one on the osseous raw materials, by Robert McGhee (1977), on raw material choices within the Thule culture in arctic Canada. McGhee clearly demonstrated that the use of antler, ivory and bone for specific artefacts is by no means accidental, and is in fact strictly linked to the worldview. From the relations between the raw material and their products, McGhee reconstructed oppositions land/sea, summer/winter, man/woman, antler/ivory.

* * *

This volume is the result of several thematic session that took place at Annual meetings of the Serbian archaeological society, especially sessions *Exploitation of raw materials, exchange and trade in prehistory,* and *Technology of raw material exploitation from prehistory to the Middle Ages.*

The first paper by M. Mitrović presents a study on knapped raw materials from a new, interesting point of view – it discusses the aesthetic qualities of flint materials. The next two papers are focused on osseous raw materials; V. Krištofić analyses the osseous raw material choices in the Neolithic period, on the case study of the site of Jakovo-Kormadin, while S. Vitezović looked into the usage of osseous materials for ornaments in times when metals entered into wider use, on the case study of the Mokrin necropolis.

The next three papers are dealing with metals from different perspectives. R. Balaban discusses early copper artefacts and their symbolic value. D. Antonović and V. Dimić offered new results from very interesting, but at the same time challenging research on early mining activities and they present the results from the investigations of the site of Prljuša on the Rudnik mountain. Paper by T. Sekelj Ivančan and T. Marković is a leap forward in time, into the Middle Ages, and they are focused on the iron processing along the Drava river. Finally, the book is closed by analysis of clay raw materials in the Middle Ages using the area of medieval Ras as model for raw material procurement strategy and organization of pottery production, by V. Bikić and U. Vojvodić.

Editors would like to thank to everyone who helped in creating this book, authors and all participants at Annual meetings of the Serbian Archaeological Society, members of the editorial board and reviewers, as well as to the Serbian Archaeological Society, and, last but not least, to translators, Jelena Vitezović and Miloš Krnetić.

Selena Vitezović
Dragana Antonović

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LIST OF CONTRIBUTORS

Dragana Antonović
Insitute of Archaeology, Belgrade, Serbia
d.antonovic@ai.ac.rs

Radmila Balaban
University of Belgrade, Faculty of Philosophy, Department of Archaeology, Belgrade, Serbia
radmilab@gmail.com

Vesna Bikić
Insitute of Archaeology, Belgrade, Serbia
v.bikic@ai.ac.rs

Vidan Dimić
University of Belgrade, Faculty of Philosophy, Department of Archaeology, Belgrade, Serbia
vidandimic@rocketmail.com

Vedrana Krištofić
Croatian Archaeological Society, Zagreb, Croatia
vedrana.kristofic@gmail.com

Tamara Marković
Croatian Geological Survey
Department of Hydrogeology and Engineering geology
tmarkovic@hgi-cgs.hr

Milica Mitrović
University of Belgrade, Faculty of Philosophy, Department of Archaeology, Archaeological Collection, Belgrade, Serbia
mmitrovi@f.bg.ac.rs

Selena Vitezović
Insitute of Archaeology, Belgrade, Serbia
s.vitezovic@ai.ac.rs

Tajana Sekelj Ivančan
Insitute of Archaeology, Zagreb, Croatia
tsivancan@iarh.hr

Uglješa Vojvodić
littledukeugljesa@gmail.com

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