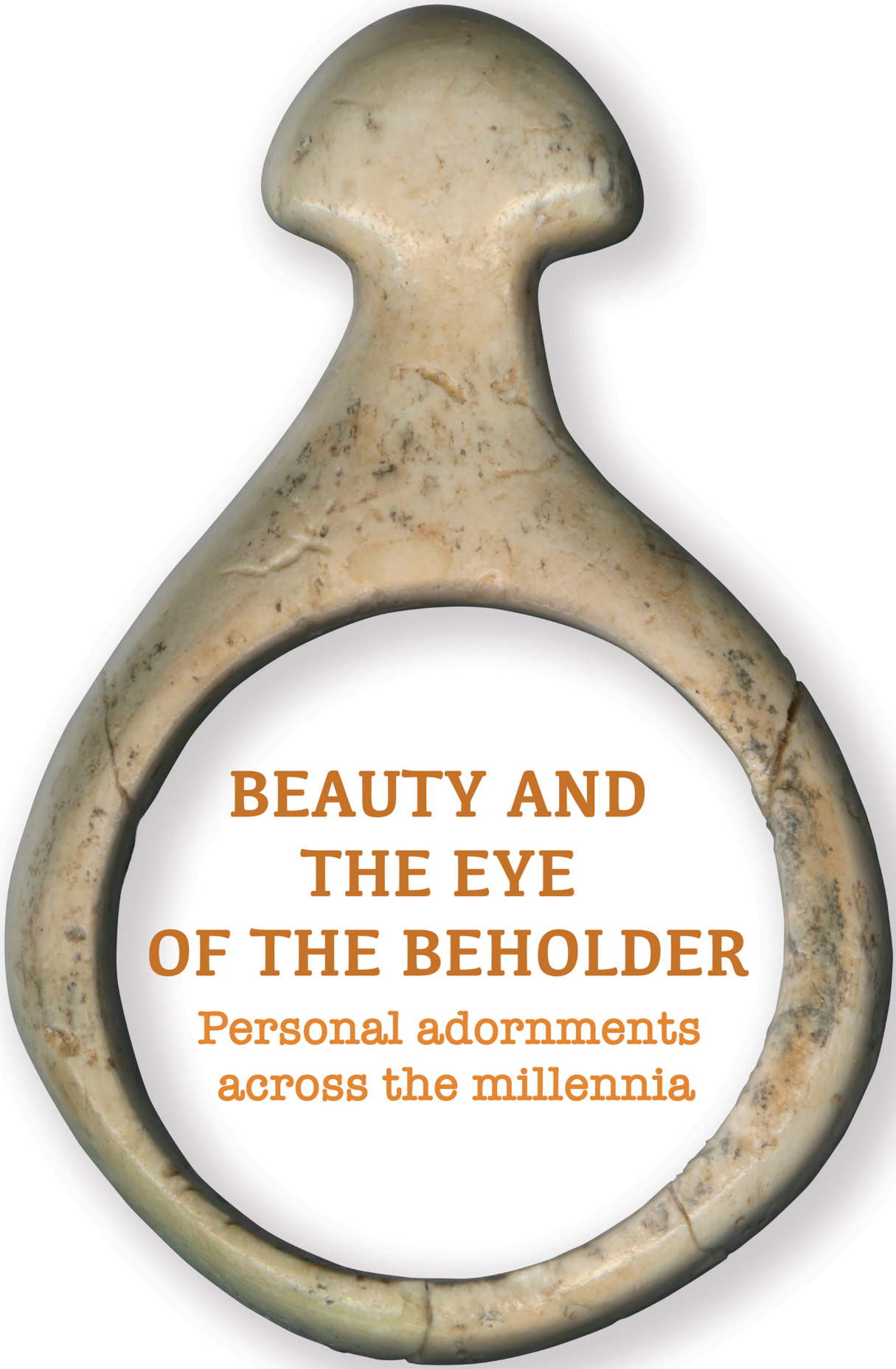

BEAUTY AND THE EYE OF THE BEHOLDER

Personal adornments across the millennia

Edited by Monica Mărgărit & Adina Boroneanț

CETATEA DE SCAUN

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DE SCAUN

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Photo cover: Bone piece with a ringlike morphology from the necropolis of Sultana-*Valea Orbului* (Romania) and *Spondylus* beads from the necropolis of Urziceni-*Vamă* (Romania) (photos: Monica Mărgărit)

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FOREWORD

The message of personal adornments is not an easy one to decipher. Nevertheless, they provide an insight to the many aspects (social, spiritual, economic, etc.) of human behaviour, personal expression, relationships and communication. Understanding the complicated social and technical aspects of adornments generally require a broad spectrum of technical and methodological approaches as well as a good knowledge of the state of research and numerous local case-studies.

Beyond the aesthetic impact, at times secondary in traditional societies, personal adornments represents a language in itself, a complex communication system, conveying clear messages on ethnic, gender and age class affiliation. They are associated to certain rituals (e.g. passage or marital), they can be amulets or talismans and they can act as currency or as symbols of the ritualistic trade (e.g. Sciama 1998; Trubitt 2003; Vanhaeren 2005, etc.).

Moreover, their manufacture can be related to complex territorial and economic organization helping to identify in certain cases crafts and specialized workshops, circulation paths of raw materials and the existing systems for inter-community exchange (e.g. Newell *et al*. 1990; Vanhaeren and d'Erico 2006; Rigaud *et al*. 2015). Further information can be extracted from their presence in funerary contexts, revealing whether they were exclusively created for the afterlife or had been part of the every-day life of the respective individual/community.

There is already an impressive literature dedicated to personal adornments, which analyses the most diverse aspects: from their possible social-cultural functions to the means of obtaining the raw materials, the techniques used for their transformation, the ways they were used/repaired and their discard (e.g. Bar-Yosef Meyer *et al*. (eds.) 2017; Bar-Yosef Mayer and Bosch (eds.) 2019; Baysal 2019; Ifantidis 2019; Mărgărit 2019; to exemplify only with the latest publications). Nevertheless, as this volume also shows, the subject is a vast one and there is continuous need for further exploration.

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The International Colloquium: "Beauty and the eye of the beholder: personal adornments across the millennia" took place at Valahia University, Târgoviște, Romania, between 12 and 14 September 2019. Bearing in mind the complexity of the subject, the participants were invited to discuss a variety of topics, expressing the views of various "beholders" both in the past and at the present moment: their meaning/symbolism within the prehistoric/historical societies (e.g. cultural tradition, social and spiritual organization and exchange systems), raw materials (identification of sources and acquisition), various methodologies of study (technological and usewear analyses, microscopy, SEM+EDS analysis, FTIR and RAMAN spectroscopy, etc.) and experimental approaches (creating experimental reference collections), etc.

At the end of the colloquium, following the discussions with our colleagues, it was decided to gather all presentations in a volume while also inviting other contributions dedicated to this topic, in an attempt to capture a broader spatial and temporal image.

The result is the present volume comprising 26 studies organized in three major sections related to regional studies on adornments, and their use and presence in everyday life and afterlife. Within one section, papers were organized in chronological order. The papers in the volume cover geographically the whole of Europe and Anatolia: from Spain to Russia and from Latvia to Turkey; it spans chronologically many millennia, from the Middle Palaeolithic to the Iron Age (2^{nd} – 4^{th} centuries AD).

The volume opens with ten regional studies offering not only comprehensive syntheses of various chronological horizons (Palaeolithic - Daniella E. Bar-Yosef Mayer, Neolithic/Chalcolithic - Emma L. Baysal; Fotis Ifantidis; Selena Vitezović and Dragana Antonović; Sanda Băcueț Crișan and Ancuța Bobînă; Andreea Vornicu-Țerna and Stansislav Țerna; Roberto Micheli) but also new data on the acquisition and working of various raw materials or specific types of adornments (*Columbella rustica*

shells - Emanuela Cristiani, Andrea Zupancich and Barbara Cvitkusić; wild boar tusk - Ekaterina Kashina and Aija Macāne; canid tooth pendants - Petar Zidarov). The unbreakable link between adornments of the everyday life and those of the afterlife it is also highlighted in some of the contributions.

The following section - *Adornments in settlement archaeology* - includes nine studies, covering the archaeological evidence from specific settlement sites. Many studies focused on the adornments' iconographic designs, meaning, and exchange but also on raw materials, technologies of production and systems of attachment. Chronology-wise, this section brings together the most varied range of ornaments, raw materials and processing techniques from sites in Spain (Esteban Álvarez-Fernández), Turkey (Sera Yelözer and Rozalia Christidou), Greece (Catherine Perlès and Patrick Pion; Christoforos Arampatzis) and Romania (Adina Boroneanț and Pavel Mirea; Ioan Alexandru Bărbat, Monica Mărgărit and Marius Gheorghe Barbu; Monica Mărgărit, Mihai Gligor, Valentin Radu and Alina Bințințan; Gheorghe Lazarovici and Cornelia-Magda Lazarovici; Vasile Diaconu).

The last section - *Adornments of the afterlife* - focuses on ornaments identified in various funerary contexts allowing for a more detailed biography of ornaments through mostly use- and micro-wear studies, in order to reconstruct their production sequence and use life. Raw material availability and their properties, as well as contexts of deposition are also taken into account. In the seven studies of the section, different funerary contexts from Latvia (Lars Larsson), Ukraine (Nataliia Mykhailova), Hungary (Zsuzsanna Tóth) and Romania (Monica Mărgărit, Cristian Virag and Alexandra Georgiana Diaconu; Vlad-Ștefan Cărăbiși, Anca-Diana Popescu, Marta Petruneac, Marin Focșăneanu, Daniela Cristea-Stan and Florin Constantin; Dragoș Măndescu; Lavinia Grumeza) are discussed.

We would like to thank to all contributors who responded to our call and helped us complete this volume in less than a year. Each paper was submitted to external reviews. Therefore, we would like to also thank our colleagues who accepted to anonymously review the contributions, thus improved the overall content of the volume.

The Editors

References

Bar-Yosef Mayer, D.E., Bonsall, C., Choyke, A.M. (eds.) 2017. *Not Just for Show: The Archaeology of Beads, Beadwork and Personal Ornaments*. Oxbow, Oxford-Philadelphia.

Bar-Yosef Mayer, D.E., Bosch, M.D. (eds.) 2019. Early Personal Ornaments - Humans' Earliest Personal Ornaments. *PaleoAnthropology* 2019.

Baysal, E. 2019. *Personal ornaments in prehistory*. Oxbow, Books Oxford.

Ifantidis, F. 2019. *Πρακτικές Προσωπικής Κόσμησης στη Νεολιθική Ελλάδα / Practices of Personal Adornment in Neolithic Greece*. Archaeopress, Oxford.

Newell, R.R., Kielman, D., Constandse-Westermann, T.S., van der Sanden, W.A.B., van Gijn, A. 1990. *An Inquiry into the Ethnic Resolution of Mesolithic Regional Groupe. The Study of Their Decorative Ornaments in Time and Space*. Brill, Leiden.

Mărgărit, M. 2019. *Personal adornments in the prehistory of the Northern Danube area: from aesthetic to socio-cultural symbol*. Cetatea de Scaun Publishing, Târgoviște.

Rigaud, S., d'Errico, F., Vanhaeren, M. 2015. Ornaments Reveal Resistance of North European Cultures to the Spread of Farming. *PLoS ONE* 10(4), e0121166. doi:10.1371/journal.pone.0121166.

Sciama, L. D. 1998. Gender in the Making, Trading and Uses of Beads. An Introductory Essay. In: Sciama, L.D., Eicher, J.B. (eds.), *Beads and Bead Makers: Gender, Material Culture and Meaning*. Berg, Oxford: 1-46.

Trubitt, M.B. 2003. The Production and Exchange of Marine Shell Prestige Goods. *Journal of Archaeological Research* 11(3), 243-277.

Vanhaeren, M. 2005. Speaking with beads: the evolutionary significance of personal ornaments. In: d'Errico, Fr., Backwell, L. (eds.), *From Tool to Symbols: From Early Hominids to Modern Humans*. Witwatersrand University Press, Johannesburg: 525-553.

Vanhaeren, M.; d'Erico, Fr. 2006. Aurignacian ethno-linguistic geography of Europe revealed by personal ornaments. *Journal of Archaeological Science* 33(8), 1105-1128.

JEWELLERY FROM OSSEOUS AND LITHIC RAW MATERIALS IN THE VINČA CULTURE

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Abstract: The Late Neolithic/Early Chalcolithic Vinča culture is known for its rich and elaborate material culture, including numerous objects that had decorations and/or had decorative purposes. Personal ornaments were made from diverse materials, and in this paper we shall focus on ornaments from osseous and lithic raw materials. Raw materials were both locally obtained (bone, antler, teeth and some types of lithic materials) and those obtained through exchange (such as marine shells). Some of the morphological types were made from both material types, and in fact imitate one another, for example the beads and pendants made from whitish mollusc shells and whitish stones. Both lithic and osseous ornaments often indicate important labour and skill investment, and were used for a long time. Unfortunately, the majority of finds come from settlements and therefore include mainly discarded or lost items. However, the necropolises from the sites of Botoš–Živanića Dolja and Gomolava provided some information about the mode of use and especially about the importance of personal ornaments for the members of the Vinča culture communities.

Keywords: personal ornaments, Vinča culture, Late Neolithic, osseous raw materials, lithic raw materials.

Introduction

Personal ornaments are among the most attractive and most intriguing archaeological finds. They reveal the aesthetic criteria of past societies and their worldviews, and they provide us with an insight into the way people may have looked like in the past and their own perception of themselves. The need for beauty, ornamentation and decoration is immanent to human species. The appearance of decorations is often considered as one of the hallmarks of modern human behaviour, and, although the decorations have a wide range of appearances, they are highly significant in every human society and deeply embedded in the human behaviour (cf. Mellars 1989; d'Errico *et al.* 2005; d'Errico 2007). The presence of ornaments has been confirmed very early in prehistory and ever since they constitute an important part of the material culture of every society, including our own (cf. Mellars 1989; Taborin 2004; d'Errico *et al.* 2005; d'Errico 2007; Cattelain 2012). One of the oldest finds of possible personal ornaments so far is that of the forty-one beads made from the shells of the molluscs *Naussarius kraussianus* at Blombos Cave in South Africa. This find is securely dated between 70,000 and 75,000 BP (Henshilwood and Sealy 1997; d'Errico *et al.* 2005). In Palaeolithic Europe, personal ornaments have been confirmed since the Early Upper Palaeolithic (Aurignacian); they were recovered from numerous sites and the rare Palaeolithic burials confirm their function of ornamentation of the human body (Taborin 2004; cf. also Álvarez Fernández and Jöris 2008; Cattelain 2012).

The shapes, colours, raw materials, etc., of personal ornaments are influenced by both individual and community aesthetic standards, as well as by the symbolic value attributed to some of these traits. Different types of decorations can be combined in an

endless number of possibilities – the variations may exist within the quantity of ornaments one person can wear at a time, their combination, position on body, etc. Through the appearance – clothes, jewellery, make-up, as well as through the entire body and its decoration and modification, different messages can be transmitted (cf. Wright and Garrard 2002; Thomas 2011, and references therein). Bodily ornamentation can be used to show and to negotiate different identities, from assertive (individual) to emblematic (group), from permanent or of long duration (such as belonging to a class or kin group) to temporary (e.g., the role of shaman, participant in a ritual, etc.) (cf. Wright and Garrard 2002; Thomas 2011). Through these status can be announced, displayed, negotiated and/or emphasized. Hair and hair style, for example, can be used to express individual status (single, married, young mother, widow, etc.), to signify strength and force, to denote ethnic identity, even as a visible sign of punishment (Firth 1973); clothes are even today used to display not only social status or wealth, but also a current role of the individual (for example, uniforms for some professions).

Along with the status display, ornaments may also have an apotropaic role, as well as a purely aesthetic one (one role does not exclude the other, on the contrary). The analyses of personal ornaments of the past must include the diverse aspects of raw material selection, production process, indications of use, as well as different ways of discard.

The archaeological background

The Vinča culture phenomenon was widespread in south-eastern Europe in the Late Neolithic and Early Chalcolithic period, roughly between 5400 and 4500 cal BC (Garašanin 1979; Tasić *et al.* 2015). The craft production of the Vinča culture is characterized by rich and diverse material culture, including high quality, skilfully made, every day and ritual items from clay, lithic and osseous raw materials, and even objects made through metallurgical processes (cf. Bačkalov 1979; Tringham and Krstić (eds.) 1990; Antonović 2003; Vitezović 2007, 2018a).

Ornaments and ornamentation are present everywhere in the Vinča culture. Ceramic vessels for everyday and ritual use often have rich decorations, carried out by incision, channelling, less frequently by painting (usually with red colour). Geometric motives were generally combined into bands filled with dots, spirals, zig-zag lines, etc. (Garašanin 1979; Chapman 1981). Decorations are also present on utilitarian objects, such as spindle whorls and weights (e.g., Vuković *et al.* 2016: t. VIII). The importance of certain aesthetic criteria can also be noticed in the technological choices among everyday objects made from stone and bone, in particular in the choices of raw material of specific colours (cf. Antonović *et al.* 2017). Furthermore, Vinča culture is famous for its extraordinary figural anthropomorphic and zoomorphic representations – figurines, made predominantly from clay, are frequently found at all Vinča sites, and in large quantities – in dozens and often in hundreds (e.g., Ignjatović 2008; Petrović *et al.* 2009); zoomorphic protomes can be encountered on vessels, etc. Some figurines stand out as true pieces of art, such as the famous Vidovdanka statue or the Lady of Vinča, from the eponymous site of Vinča–Belo Brdo, or the hybrid representations from Fafos (Garašanin 1979; cf. also Ignjatović 2008: kat. 54, 55)

The repertoire of the Vinča material culture also includes objects that were most likely used as personal ornaments, as parts of garments and/or jewellery. Personal ornaments are known from sites such as Vinča–Belo Brdo (Srejović and Jovanović 1959; Antonović 1992, 2003; Dimitrijević and Tripković 2002, 2006; Ignjatović 2008), Gomolava (Vitezović *in prep*), Potporanj (Milleker 1938), Belovode (Antonović 2003; Vitezović *in press* a), Selevac (Russell 1990), Divostin (McPherron *et al.* 1988; Vitezović 2013a), Drenovac (Vitezović 2007), Slatina–Paraćin (Vitezović 2007), Supska (Antonović 2003), Vitkovo (Vitezović 2013b), Stragari (Vitezović 2013b), Pločnik (Vitezović *in press*

b), etc. (see also Vitezović 2016; 2018b). Unfortunately, these finds come from settlements and therefore include mainly discarded or lost items. There are only two necropolises of the Vinča culture - the extra muros cemetery at the site of Botoš–Živanića Dolja (Marinković 2010) and the intra muros cemetery at the site of Gomolava (Brukner 1980 - that provided some information about the mode of use and especially about the importance of personal ornaments for the members of the Vinča culture communities.

Lithic and osseous raw materials were the most frequently used raw materials for ornaments, followed by rare occurrences of ornaments made from ores, and these will be presented here. Sometimes, ornaments were also made from clay, and we can assume that perishable materials were also in use.

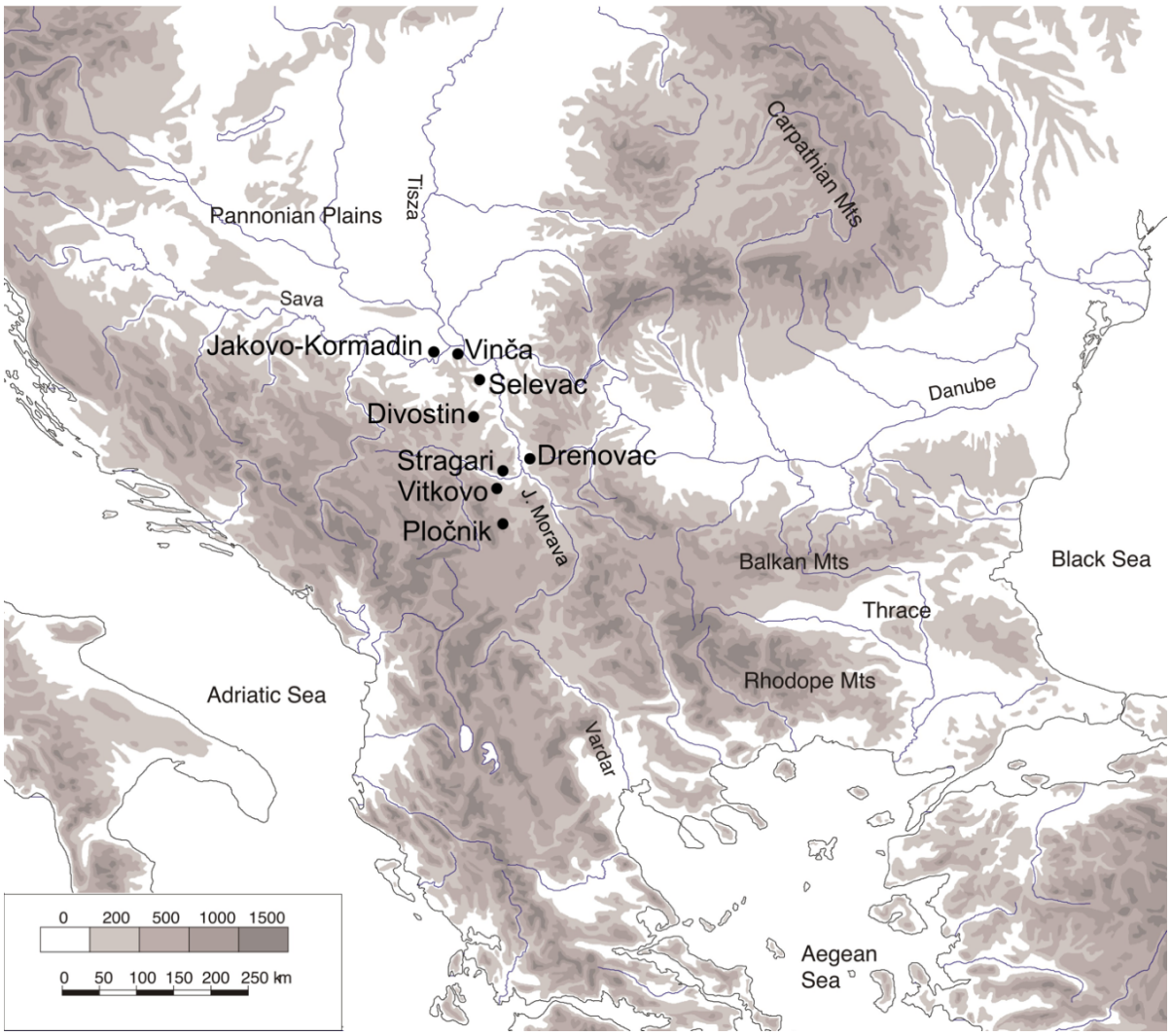

Figure 1. Map of the most important Vinča sites mentioned in the text.

Raw material selection

Osseous raw materials included mollusc shells, bones, antler and teeth from various species (cf. Dimitrijević and Tripković 2002, 2006; Ignjatović 2008; Vitezović 2013b, 2016, 2018b). Diverse bones were used, but mainly different segments of long bones. Upon the available material, we could not observe any rules regarding the choice or preference for specific skeletal element nor for certain species. Also, antler segments were used, mainly red deer, but there are few examples of roe deer antlers. The teeth used came from both domestic and wild species – cattle incisors, boar tusks and red deer canines.

The mollusc shells were mainly *Spondylus* and *Glycymeris,* with rare occurrences of *Cardium* and *Dentalium*.

Bones, antler and teeth were obtained within the settlements or in the immediate vicinity, while mollusc shells were mainly obtained through exchange (there is a possibility, however, that *Dentalium* shells were obtained from the vicinity of Vinča–Belo Brdo – cf. Dimitrijević 2014).

The distribution of these diverse raw materials is uneven. In particular, the presence and quantities of mollusc shells vary considerably; at some sites mollusc shell ornaments are completely absent, at other sites they occur in small quantities, while the site of Vinča–Belo Brdo yielded a truly large assemblage of mollusc shell ornaments (cf. an overview of shell distribution in Vitezović 2016, and references therein). Since this is the most extensively used Vinča culture settlement, with an impressive 9 m thick cultural layer, and also the most extensively excavated Vinča culture site, it is possible that sample bias plays some role in this disparity. However, there is also the possibility that this Vinča settlement had some more prominent role in the craft production and/or trade network than the other Vinča culture communities (cf. Vitezović and Antonović 2019). Also, the *Dentalium* shells, at the moment, seem to be restricted to the site of Vinča-Belo Brdo.

Lithic raw materials encompassed mainly stones of white colour or of whitish nuances – such as marble, marble-onyx, calcite and limestone, but sometimes also malachite, galenite and pebbles from diverse magmatic rocks (Antonović 2003).

Typological repertoire and technological traits

Decorative items were used and worn in different manners – as single decorative items, combined into different jewellery, and/or attached to garments. The exact mode of use, however, cannot always be identified, due to the insufficient preservation of the objects and use wear traces. Therefore, they are classified into several types according to their morphology into pendants, beads, bracelets, rings, applications, buckles and decorative needles (following Camps-Fabrer ed. 1991).

Pendants

Pendants are decorative objects that were suspended or attached from their upper part and have their lower part free; they have at one end, i. e., in the upper part, either a perforation or, rarely, a groove that was used for suspension (cf. Taborin 1991).

Pendants made from osseous materials include perforated animal teeth, or pendants in diverse shapes made from bone or antler (Fig. 4/3, 5). Animal teeth modified simply by the addition of a perforation were used as ornaments since the Palaeolithic times and throughout prehistory (cf. Taborin 2004). In the Vinča culture, the amount of available finds so far does not allow to establish any pattern for a preferred animal species. There are examples of both domestic and wild animal teeth used. For example, a *Canis familiaris* tooth with perforation was found at the site of Slatina–Paraćin (Vitezović 2007: 113) (Fig. 4/3) and a *Bos taurus* perforated tooth at the site of Žarkovo in Belgrade (Perišić 1984: 42, t. 26/174). Red deer canines were probably the most popular animal teeth throughout prehistory, perhaps because of their distinctive drop shape, and/or perhaps because they were linked with the symbolic meaning attributed to deer. There are even multiple cases of production of copies in different materials (cf. Choyke 2001, and references therein). From Vinča culture sites, one such perforated tooth comes from Belovode (Vitezović in press a), while from Selevac comes one pendant made probably from antler that copies the shape of the red deer canine (Russell 1990: pl. 14.7a).

Figure 2. Ornaments made from lithic raw materials from Vinča – Belo Brdo: 1. bracelet from grey limestone, 2. plaque-shaped pendant from limestone, 3. pendant-pestle from marble, 4. flat pendant from marble, 5. pendant from galenite (photo by D. Antonović).

Figure 3. Ornaments made from lithic raw materials from Vinča – Belo Brdo: 1. bead from grey limestone, 2. biconical bead from marble, 3. large discoid bead (?) from marble, 4. bead from galenite, 5. "button" from marble, 6. discoid bead from alevrolite, 7. malachite bead (photo by D. Antonović).

Figure 4. Ornaments made from osseous raw materials: 1. buckle made from bone, Gomolava, 2. large cylindrical bead made from a *Spondylus* shell, Pločnik, 3. perforated tooth, Slatina-Paraćin, 4. ring-shaped ornament, Belovode, 5. antler pendant, Vitkovo (photo by S. Vitezović).

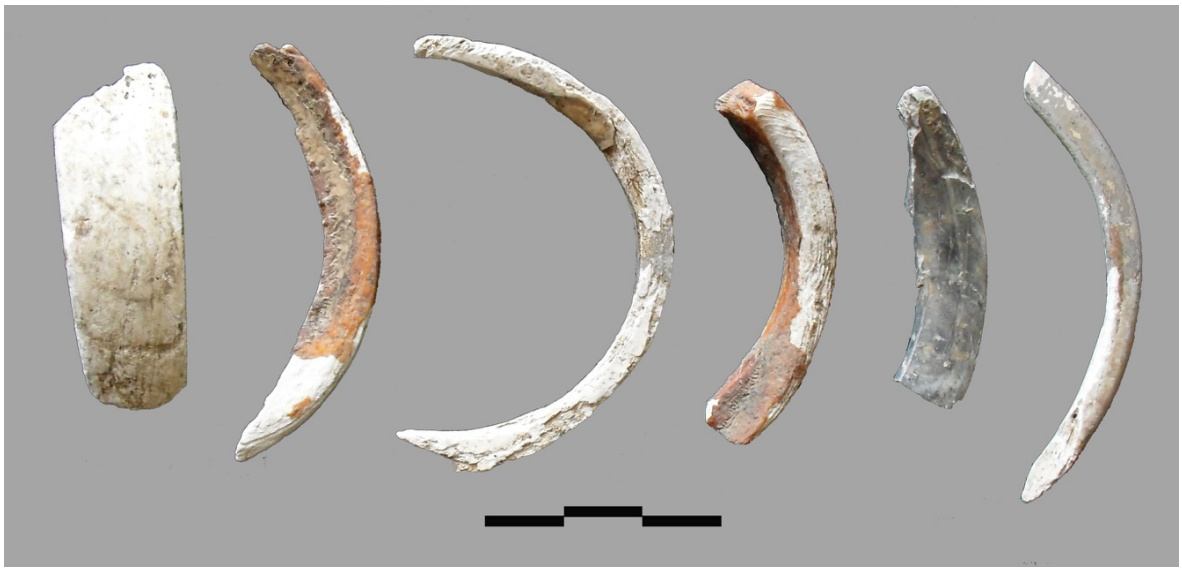

Figure 5. Ornaments made from osseous raw materials – six fragmented bracelets from *Spondylus* shells, Vitkovo (photo by S. Vitezović).

Boar tusks were usually additionally modified besides the drilling of the perforation (split, cut, etc.); a fragmented boar tusk with perforation from Divostin was probably a pendant (Vitezović 2013a) and a modified boar tusk with large perforation was discovered at Selevac (Russell 1990: 534, pl. 14.7d).

Bone and antler pendants usually have simple, geometric forms. At Vinča – Belo Brdo were discovered both an oval antler pendant (Ignjatović 2008: kat. 222), and some of more elongated shapes (Srejović and Jovanović 1959: fig. 7). At Vitkovo an elongated, rectangular pendant was found (Vitezović 2013b: 12, pl. I); it had a perforation broken at the upper part and below it two parallel notches were placed (Fig. 4/5). Its form is perfectly regular, suggesting it was made from a carefully cut cortex piece, and not from some *ad hoc* broken fragment. The entire artefact is burnished and polished, and the perforation itself, done by drilling, is smoothed from use.

One interesting pendant was discovered at the site of Stragari (Vitezović 2013b: 13, pl. II). It was made from a segment of a larger long bone, rectangular in shape, elongated, with the lower part somewhat thicker, finely burnished. It has a perforation at the upper part, and its lateral sides are worn out, suggesting this object was not worn suspended, but was sawn on something, probably on clothes. Its dorsal surface also shows traces of intense polish and is more worn than the outer, ventral side, confirming such an interpretation of its use.

Among the lithic ornaments, pendants show the largest span of variations (Fig. 2). As pendants were used amorphous pieces of unworked stone or ore, as well as objects that otherwise had an everyday use, but hold a special value and meaning to their owners. Some of the pendants have simple shapes and resemble the unworked river pebbles. One such pendant was noted at the necropolis of Botoš – Živanića Dolja (Marinković 2010: 35, cat. 47). Unworked pieces of calcite used as pendants, were found at the sites of Belovode and Supska (Antonović 2003: 85, 114). Pendants from unworked pieces of lead ore (galenite) and copper (malachite) were noted at the site of Vinča – Belo Brdo (Fig. 2/5) (Antonović 1992: 36; Antonović 2002: 29–31), while from Belovode originates one rectangular pendant made from a modified piece of malachite (Šljivar *et al.* 2006: 260).

For the elongated cylindrical objects made from marble can be assumed that they were used as pestles for the preparation of cosmetic or medicinal products (Fig. 2/3). They have perforations at one end and therefore can be classified as pendants, and they probably had not only a decorative role, but were also status symbols. Several specimens were discovered at the site of Vinča – Belo Brdo (Antonović 1992: 18). To the same class of utilitarian objects with special value can be attributed the rectangular and oval plaques made from marble and limestone, with one or several perforations at one end, discovered at Vinča – Belo Brdo (Fig. 2/2, 4) (Antonović 2003: 68, fig. 46, 4–5). Those that have oval shapes in fact resemble very closely to the *Spondylus* shells, and they may have been imitations. We should also mention a unique pendant discovered at Pločnik in the shape of the letter V, with two perforations at the ends (Antonović 2003: 68, fig. 46, 6).

Beads

Beads represent smaller objects, of different shapes and sizes, which had their perforation positioned in such a way that it allowed them to be lined up on a string. They could be sawn on clothes or combined into necklaces or bracelets (cf. Barge-Mahieu 1991a).

They may be flat and discoid, or elongated, ovoid or biconical; the length of the second variant may vary considerably. These two subtypes, in fact, cannot always be clearly distinguished, i. e., they sometimes actually represent two opposite ends of the two extremes with numerous examples falling in-between (thicker/longer flat beads and shorter elongated beads). All these subtypes were made from both shells and lithic raw materials, and often is difficult to distinguish between them, since predominantly whitish stones that imitate (or resemble to) mollusc shells were used (such as marble).

Small discoid and elongated cylindrical and biconical beads made from different lithic raw materials (marble, limestone, alevrolite and malachite) were discovered at the sites of Vinča–Belo Brdo (Fig. 3) (Antonović 2002: fig. 46/8–9) and Divostin (McPherron *et al.* 1988: fig. 11.5). Larger elongated beads were mainly produced from *Spondylus* shells. Over twenty beads, mainly from *Spondylus* shells, cylindrical or biconical, were found at the necropolis of Botoš – Živanića Dolja. Some of these beads were found separately, but it seems that some were discovered as parts of necklaces (Marinković 2010). Nine complete and several fragmented beads were found at Vršac–Potporanj (Milleker 1938: 47–48). There should also be mentioned one find of a quite large example of *Spondylus* bead, 4 cm long, discovered at the site of Pločnik (Vitezović *in press* b) (Fig. 4/2). Somewhat larger biconical

beads made from marble (their length is approximately 3 cm) represent rare finds among the Vinča culture ornaments. One such bead, very finely made, was discovered at Vinča-Belo Brdo within the later phases (Fig. 3/2).

Naturally elongated, cylindrical beads from minimally modified *Dentalium* shells are known so far only from the site of Vinča – Belo Brdo (Srejović and Jovanović 1959; Ignjatović 2008: kat. 220; Dimitrijević 2014). Elongated cylindrical beads were also produced from limestone, and they resemble very closely the *Dentalium* beads (Fig. 3/1). Several specimens were discovered at Vinča (Antonović 2003: 68, fig. 46, 8), and at the necropolis of Botoš were found two necklaces composed from this variant of beads (Marinković 2010: 33, cat 33–34).

Malachite beads belong to those group of ornaments that can be linked with a new technology – the metallurgy. They are found at the sites of Vinča, Belovode (Fig. 3/7) and Divostin (Antonović 2002: 33, fig. 1). One bead of regular shape, rectangular in the cross-section, made from galenite, is a unique ornament within the Vinča culture (Fig. 3/4).

Bracelets

Bracelets are artefacts in the shape of an open or closed band or chain, with dimensions allowing them to be worn on the wrist or arm (cf. Barge-Mahieu 1991b).

Bracelets were usually made from the outer segments of *Bivalvia* valves – the *Spondylus* and *Glycymeris* shells (Fig. 5). The richest collection of bracelets comes from the site of Vinča – Belo Brdo with over 300 specimens (Dimitrijević and Tripković 2002; 2006; Ignjatović 2008: kat. 218, 221; Srejović and Jovanović 1959). They were often fragmented, suggesting they were in use for a long time and discarded/lost when they became unusable.

Also a relatively rich collection of bracelets was discovered at the necropolis of Botoš. The finds are represented of at least twenty-one bracelets (ten of them were complete and others were fragmented) made from *Spondylus* and *Glycymeris* shells (although they were all inventoried as *Spondylus*, at least seven were made from *Glycymeris* – cf. Marinković 2010: fig. 38–40, 43–46). Judging from this find, the bracelets could have been indeed worn on the wrist.

Apart from these, shell bracelets were found at several other Vinča sites, but in smaller quantities. In the Banat region, from the site of Vršac–Potporanj were reported 28 fragmented bracelets, and 1 from Vršac (Milleker 1938: 47–48). In Pomoravlje region, a fragmented *Glycymeris* bracelet with traces of being repaired was found at Selevac (Russell 1990: 535), a *Spondylus* bracelet comes from Pavlovac – Gumnište (Perić *et al.* 2016: t. IX/13), while at Vitkovo six fragmented *Spondylus* bracelets were discovered in one pit (Vitezović 2013b) (Fig. 5).

The production of bracelets from stone demanded very skilful and experienced artisans, and this may be the reason why the former are so rare within the Vinča culture. The largest assemblage of stone bracelets was found at Vinča – Belo Brdo (Antonović 1992: 17, T. XI, 2), all of them made from grey limestone (Fig. 2/1). Also, several fragmented items were discovered at Divostin (McPherron *et al.* 1988: 328–329), Majdan near Smederevska Palanka (Katunar 1988: 82), Drenovac, Svojnovo near Jagodina and Resnik near Kragujevac (Antonović 2003: 67). Stone bracelets imitate closely those made from *Spondylus* shells and this type of the ornaments disappeared after the Vinča culture.

Rings and discs

Rings and decorative plates include smaller ring-shaped and similar objects, in the form of a disc or oval plate with a larger hole positioned in the centre. These are too small to be worn as bracelets, but the examples from Vinča culture are also not adequate to be worn on fingers, therefore, their classification as rings is purely morphological.

There are only a few examples of ring-shaped ornaments. At the site of Vinča – Belo Brdo, a small number of rings was found – a few made from bone (Ignjatović 2008:

kat. 217), and one massive stone ring with a fragmented oval head made from marble. Its outer diameter is 2.7 cm and the inner diameter 1.5 cm (Antonović 1992: 17). A bone ring of unusual shape, with a triangular prong that resembles to a point was discovered at Belovode (Vitezović *in press* a) (Fig. 4/4). Another stone ring was reported from Pavlovac – Gumnište (Perić *et al.* 2016: t. IX/9).

Buckles

Buckles are diverse artefacts that were used for fastening clothes, belts, etc.; their shape and dimensions may vary considerably, but usually they have a notch or a perforation at the centre that allows their fastening.

A U-shaped piece from Botoš – Živanića Dolja, made from shell, was probably a belt buckle (Milleker 1938: p. 148; Marinković 2010), and another possible buckle was found at Vršac-Potporanj (Milleker 1938: p. 47–48). A third possible belt buckle, made probably from antler, came from Selevac, (Russell 1990: pl. 14.3d); it has an oval head with a large perforation (ring-shaped) and a thin handle with denticulated edges. N. Russell interpreted it as a possible part of hook-and-eye belt buckle, similar to those found in Anatolia (Russell 1990: 534-535). Similar in shape, although much thicker, is a possible belt buckle discovered at Gomolava, made from the large thick segment of a large mammal long bone (Vitezović *in prep*) (Fig. 4/1).

Appliqués and buttons

Appliqués and buttons are diverse artefacts that have several perforations enabling them to be attached to clothes, headdresses, etc. They occur relatively rarely, and do not have standardized forms.

Diverse shapes of *appliqués* with two or more perforations were produced from the *Spondylus* and *Glycymeris* shells, and most likely all of them represent modified, broken bracelets. They were noted, for example at Vinča (e.g., Ignjatović 2008: kat. 219), Vršac-Potporanj (Milleker 1938: 47–48), etc. *Appliqués* were also made from entire valves of *Bivalvia* shells; the latter were modified by adding the perforation at their upper part. A *Cardium appliqué* was discovered at Vinča – Belo Brdo, and a *Cardium* shell with a perforation at the upper and another at the lower part was discovered at Pavlovac (Perić *et al.* 2016: t. IX/14).

A fragmented object made from antler from Selevac, with four preserved symmetrical perforations and other two broken perforations, was most likely some sort of *appliqué* as well (Russell 1990: 14.9b).

Semispherical and cone-shaped objects made from marble and limestone, with a perforation on their flat side (dorsal part), resemble very closely to modern buttons (Fig. 3/5). They may have been used as beads, strewn on a string, or they may have been sawn to clothing (Antonović 1992: 17). Although they are quite rare within the Vinča culture – only few specimens were noted at Vinča – Belo Brdo (Antonović 1992: 17) and Jakovo (Chapman 1981: fig. 151) – these ornaments were valued and demanded also outside the Vinča culture, as evidenced by the large amount of marble buttons discovered in the Tisza culture layers at Čoka-Kremenjak (Banner 1960: 18). It was assumed that they were obtained through exchange since they were discovered packed in ceramic vessels (Garašanin 1973: 148–149).

Decorative needles

Decorative needles were not common, and in fact it is difficult to identify them with certainty among other fine pointed artefacts. Three possible decorative needles were discovered at the site of Stragari (Vitezović 2013b: 13-14, pl. II). They are elongated, thin artefacts, with a blunt point at the distal end, and they could have been used as some sort of spindle, but also could have been decorative pins. They were all made from long bone segments (one probably from a large herbivore metapod) and have thin, highly polished bodies and decorated heads. One is especially carefully made, with a head that resembles an animal head – it has two horn- or antler-like additions. It is completely preserved and the visible traces of manufacture suggest it was

shaped by cutting and scraping with a chipped stone tool and afterwards polished with some fine-grained abrasive (such as sandstone). The other two are not so elaborate in shape, one has a rounded head, the other is fragmented, but common for all of them is the careful manufacture and high polish. Traces of polishing with some fine-grained abrasive may also be observed on them. They also display fine even polish from use, resulted from the contact with soft organic materials.

Reconstruction of use

The vast majority of ornaments were discovered as individual (lost, discarded) items within settlements, often in a fragmented state and with intensive, often overlapping traces of use wear, therefore it is difficult to reconstruct how they were used. The finds from the cemetery of Botoš – Živanića Dolja provide some information; in particular, they showed that bracelet-shaped objects could have been in fact worn as bracelets around the wrist and that beads could have been combined into necklaces (Marinković 2010). When usewear traces are sufficiently preserved or visible, they can be indicative for the item's mode of use; for example, the above-mentioned pendant from Stragari shows usewear traces that suggest it was more likely worn sawn to clothing than actually suspended.

Figural representations, as already mentioned, were quite frequent in the Vinča culture. The decorations (incisions and plastic decorations) on figurines most likely represent jewellery and other types of personal adornments (garment or coiffure) and we may use these representations as an indication on the manner some of the personal ornaments were used (at least in certain occasions). Figurines often have necklaces, sometimes with one prominent pendant (Fig. 6), also possible bracelets around the wrist and on the upper parts of their arms, and around waist are frequently represented, possible belts with large oval applications (Fig. 7) (see also e.g., Ignjatović 2008: kat. 56, 59, 73, 78, 93; Petrović *et al.* 2009: kat, 30, 31, 39, 52, 53, 54; see also Vitezović 2013b).

Figure 6. Figurine with representation of jewellery: the "Lady of Vitkovo" wearing a necklace with a pendant (photo archive Museum of Župa, Aleksandrovac, courtesy of Sanja Crnobrnja-Krasić).

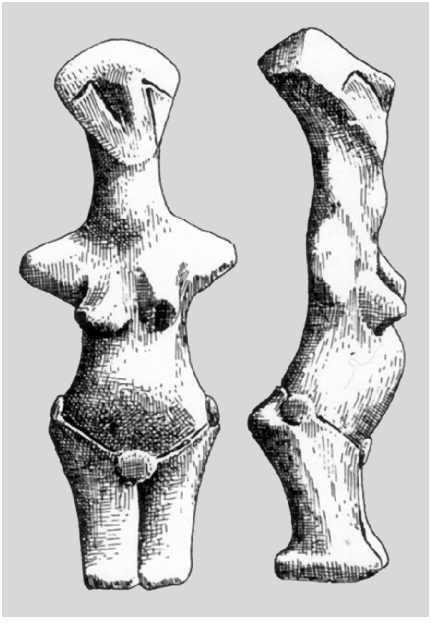

Figure 7. Figurine with representations of jewellery: the figurine from Stragari wearing a belt with large oval *appliqués* (after Stanković 1988).

Discussion and concluding remarks

Personal ornaments played an important role in the everyday life of the Vinča culture communities and also held an important symbolic value. However, our knowledge on their mode of use, symbolic meaning, etc., is limited due to the nature of the context of the finds – the majority of the ornaments had been lost, discarded, fragmented or represented single pieces of jewellery, while only a limited amount comes from burials.

Raw materials used for ornaments were both locally available and obtained from large distances and/or limited sources. Shells were the preferred raw material for the personal ornaments, followed by other raw materials – different teeth, bones, antler, and different lithic raw materials and ores, including those that were less commonly encountered, such as marble. The symbolic role and meaning of personal ornaments were increased and/or emphasized by some of their traits. The origin of raw materials was certainly important, since shells of exotic origin were the preferred choice and were also long used and often repaired. Also, other physical characteristics of the osseous and lithic raw materials were important, such as durability and hardness, but there were also the "less technical" traits – such as smoothness and colour – predominantly white or whitish colour. White is a fascinating, bright and shiny colour (cf. Luik 2007) and has a wide range of symbolic meanings in different cultures, ranging from symbols of death to symbols for the divine (Vollmar 2011), and it is possible that white colour was valued *per se* and contributed to the prestigious role and symbolic value of personal ornaments (cf. Antonović *et al.* 2017).

Ores also had an important place within the Vinča culture. Perforated pieces of galenite and malachite (pendants and beads) were perhaps displayed as symbols of the new technology – metallurgy, i.e., the transformation of stone into a new, previously unknown material such as metal, conquered precisely in the times of the Vinča culture.

Some of the techno-types are chronologically and culturally insensitive and widespread across prehistoric Europe: perforated teeth, simple discoid or cylindrical beads, bracelets made from *Spondylus* or *Glycymeris* shells, etc. More specific for the Vinča culture can be singled out the decorative pins, including that with a bucrania-shaped head from Stragari, and *appliqués* and belt buckles in diverse shapes, usually oval or rectangular, made from boar tusks, antler or bone.

We may also note cases of skeuomorphism – presence of one morphological type of ornament made in a different raw material – copies or imitations of shell ornaments in marble, copies or imitations of red deer residual canines in other raw materials, etc.

The majority of these ornaments display high labour and skill investment. We may assume that ornaments from locally available raw materials were produced locally, although traces of possible workshops or working areas are scarce (but this may be influenced by the methods of research and recovery, as well as by the nature of the archaeological remains), since these raw materials were locally modified into other objects as well, and the techniques used for the production of ornaments were already known and used within Vinča culture communities (cf. Antonović 2003; Vitezović 2007). Local production of stone decorative items is evidenced by rare finds of semi-finished beads and pendants, discovered at the sites of Vinča – Belo Brdo (Antonović 1992: 17) and Belovode (Antonović 2003: 85), as well as by the extraordinary artistic skill invested into the production of stone zoomorphic figurines and amulets, characteristic for the Vinča culture. Items from mollusc shells were most likely imported as finished items, since these techno-types have a wide distribution across prehistoric Europe (cf. Séfériadès 2010 and references therein); however, repair and modifications were most likely done locally.

The majority of these ornaments have intensive traces of use and were discarded mainly when broken. Also, we have evidence of

placing personal ornaments in graves. Overall, both the techniques of production and the raw material choices, as well as the discard patterns show that these were valued objects. Their symbolic meaning, however, is more difficult to reconstruct. We may assume that the body, among other meanings, also displayed status and prestige, probably emphasized through the raw material selection and skilful production.

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References

Álvarez Fernández, E., Jöris, O. 2008. Personal Ornaments in the Early Upper Paleolithic of Western Eurasia: an Evaluation of the Record. In: Jöris, O., Adler, D.S. (eds.), *Dating the Middle to Upper Palaeolithic Boundary across Eurasia. Proceedings of Session C57, 15th UISPP, Lisbon, Portugal, September 2006*. *Eurasian Prehistory* 5 (2): 31-44.

Antonović, D. 1992. *Predmeti od glačanog kamena iz Vinče,* Filozofski fakultet, Centar za arheološka istraživanja, Beograd.

Antonović, D. 2000. Predmeti od glačanog kamena sa Belovoda. *Viminacium* 11, 23-34.

Antonović, D. 2002. Copper processing in Vinča: new contributions to the thesis about metallurgical character of Vinča culture. *Starinar* LII, 27-45.

Antonović, D. 2003. *Neolitska industrija glačanog kamena u Srbiji*. Arheološki institut, Beograd.

Antonović, D., Vitezović, S., Dimić, V., 2017. Life in white: Symbolism and importance of the white colour in the Neolithic in the Balkans. In: Rujak, Z., Sekulov, P.V., Cvetanov, D. (eds.), *International Symposium of Arcaheology Vita est Vita 4, Acta Musei Tiberiopolitani, vol 2.* NI Institute for protection of cultural monuments and Museum Strumica: 26-37.

Bačkalov, A. 1979. *Predmeti od kosti i roga u predneolitu i neolitu Srbije*. Savez arheoloških društava Jugoslavije, Beograd.

Banner, J. 1960. The Neolithic Settlement on the Kremenjak Hill at Csóka (Čoka), *Acta Archaeologica Academiae Scientiarum Hungaricae* 12, 1-56.

Barge-Mahieu, H. 1991a. Fiche perles néolithiques. In: Camps-Fabrer, H. (ed.), *Fiches typologiques de l'industrie osseuse préhistorique. Cahier IV. Objets de parure*. Université de Provence, Aix-en-Provence.

Barge-Mahieu, H. 1991b. Fiche anneaux. In: Camps-Fabrer, H. (ed.), *Fiches typologiques de l'industrie osseuse préhistorique. Cahier IV. Objets de parure*. Université de Provence, Aix-en-Provence.

Brukner, B. 1980. Naselje vinčanske grupe na Gomolavi. *Rad Muzeja Vojvodine* 26: 5-55.

Camps-Fabrer, H. (ed.) 1991. *Fiches typologiques de l'industrie osseuse préhistorique.Cahier IV. Objets de parure*. Université de Provence, Aix-en-Provence

Cattelain, P. 2012. Les parures au Paléolithique et au Mésolithique: coquillages, dents, os, ivoire et pierres.... In: Cattelain, P., Bozet, N., Di Stazio, G. V. (eds.), *La parure de Cro-Magnong à Clovis "Il n'y a pas d'Âge(s) pour se faire beau"*. Éditions CEDARC, Paris: 7-35.

Chapman, J. 1981. *The Vinča culture of South-East Europe*. *Studies in chronology, economy and society*. British Archaeological Reports International Series S117, Oxford.

Choyke, A.M. 2001. Late Neolithic Red Deer Canine Beads and Their Imitation. In: Choyke, A., Bartosiewicz, L. (eds.), *Crafting bone: skeletal technologies through time and space – Proceedings of the 2nd meeting of the (ICAZ) Worked Bone Research Group, Budapest, 31 August – 5 September 1999*. BAR International Series 937, Oxford: 251-266.

d'Errico, F. 2007. The Origin of Humanity and Modern Cultures: Archaeology's View. *Diogenes* 54(2), 147–166.

d'Errico, F., Henshilwood, C., Vanhaeren, M., van Niekerk, K. 2005. *Nassarius kraussianus* shell beads from Blombos Cave:

evidence for symbolic behaviour in the Middle Stone Age. *Journal of Human Evolution* 48, 3-24.

Dimitrijević, V. 2014. The provenance and use of fossil scaphopod shells iat the Late Neolithic/Eneolithic site Vinča-Belo Brdo, Serbia. In: Szabó, K., Dupont, C., Dimitrijević, V., Gastélum, L.G., Serrand, N. (eds.), *Archaeomalacology: Shells in the Archaeological Record*. BAR International Series S2666, Oxford: 33-41.

Dimitrijević, V., Tripković, B. 2002. New *Spondylus* findings at Vinča–Belo Brdo 1998–2001 campaigns and the regional approach to problem. *Starinar n. s.* LII, 48-62.

Dimitrijević, V., Tripković, B. 2006. *Spondylus* and *Glycymeris* bracelets: trade reflections at Neolithic Vinča–Belo Brdo. *Documenta praehistorica* XXXIII, 237-252.

Firth, R. 1973. *Symbols: public and private*. George Allen and Unwin, London.

Garašanin, M. 1973. *Praistorija na tlu SR Srbije*. Srpska književna zadruga, Beograd.

Garašanin, M. 1979. Centralno-balkanska zona. In: Benac, A (ed.), *Praistrija jugoslavenskih zemalja II – Neolitsko doba*. Akademija nauka i umjetnosti BiH – Centar za balkanološka istraživanja, Sarajevo: 79-212.

Henshilwood, C.S., Sealy, J.C. 1997. Bone artefacts from the Middle Stone Age at Blombos Cave, southern Cape, South Africa. *Current Anthropology* 38(5), 890-895.

Ignjatović, M. 2008. Katalog. In: Nikolić, D. (ed.), *Vinča, praistorijska metropola. Istraživanja 1908–2008*. Filozofski fakultet, Beograd, Narodni muzej u Beogradu, Muzej grada Beograda, Galerija SANU, Beograd: 203-277.

Katunar, R. 1988. Majdan – Smederevska Palanka. In: Srejović, D. (ed.), *The Neolithic of Serbia*. Faculty of Philosophy Beograd: 81–82.

Luik, H. 2007. Dazzling white. Bone artefacts in Bronze Age society – some preliminary thoughts from Estonia. In: Merkevičius, A. (ed.), *Colours of archaeology. Material culture and society. Papers from the Second Theoretical Seminar of the Baltic Archaeologists (BASE) Held at the University of Vilnius, Lithuania, October 21–22, 2005*. Vilnius: 49–64.

Marinković, S. 2010. Arheološki materijal sa lokaliteta Živanićeva Dolja iz zbirke Narodnog muzeja u Zrenjaninu – vinčanska kultura. *Rad Muzeja Vojvodine* 52, 21-36.

McPherron, A., Rasson, J., Galdikas, B. 1988. Other artifact categories. In: McPherron, A., Srejović, D. (eds.), *Divostin and the Neolithic of central Serbia*. University of Pittsburgh, Pittsburgh: 325-343.

Mellars, P. 1989. Major issues in the emergence of modern humans. *Current Anthropology* 30, 349-385.

Milleker, F. 1938. Vorgeschichte des Banats. *Starinar* XIII, 102-166.

Perić, S. Bajčev, O., Obradović, Đ., Stojanović, I. 2016. The Neolithic site of Pavlovac-Gumnište: results of the rescue excavations in 2011. In: Perić, S., Bulatović, A. (eds.), *Archaeological investigations along the highway route E 75 (2011-2014)*. Institute of Archaeology, Belgrade: 221-274.

Perišić, S. 1984. *Predmeti od kosti, roga i kamena iz Odseka za praistoriju Muzeja grada Beograda*. Muzej grada Beograda, Beograd.

Petrović, B., Katić, V., Spasić, M. 2009. *Life in clay. Neolithic art on the territory of Belgrade – figural plastic artifacts from the Collection of the Belgrade City Museum*. Belgrade City Museum, Belgrade.

Russell N. 1990. The Bone Tools. In: Tringham, R., Krstić, D. (eds), *Selevac: A Neolithic village in Yugoslavia*. Monumenta Archaeologica 15, Institute of Archaeology, UCLA, Los Angeles: 521-548.

Séfériadès, M.L. 2010. *Spondylus* and long-distance trade in prehistoric Europe. In: Anthony, D. (ed.), *The Lost World of Old Europe: The Danube Valley 5000-3500BC*. The Institute for the study of the Ancient World & Princeton University Press, New York, Princeton and Oxford: 178-190.

Srejović, D. Jovanović, B. 1959. Oruđe i oružje od kosti i nakit iz Vinče. *Starinar n. s.* IX–X, 181-190.

Stanković, S. 1988. Šljivik–Stragari, Trstenik. In: Srejović, D. (ed.), *The Neolithic of Serbia*. Faculty of Philosophy, Beograd: 95-97.

Šljivar, D., Kuzmanović-Cvetković, J., Jacanonvić, D. 2006. Belovode – Pločnik, new contributions regarding the copper metallurgy in the Vinča culture. In: Tasić, N., Grozdanov, C. (eds.), *Homage to Milutin Garašanin*. Serbian Academy of Sciences and Arts, Belgrade: 251-266.

Taborin, Y. 1991. Fiche pendeloques. In: Camps-Fabrer, H. (ed.), *Fiches typologiques de l'industrie osseuse préhistorique. Cahier IV. Objets de parure*. Université de Provence, Aix-en-Provence.

Taborin, Y. 2004. *Langage sans parole. La parure aux temps préhistoriques*. La Maison des roches, Paris.

Tasić, N., Marić, M., Penezić, K., Filipović, D., Borojević, K., Russell, N., Reimer, P., Barclay, A., Bayliss, A., Borić, D., Gaydarska, B., Whittle, A. 2015. The end of the affair: formal chronological modelling for the top of the Neolithic tell of Vinča–Belo Brdo. *Antiquity* 89, 064–1082, doi:10.15184/ aqy.2015.101.

Thomas, J.T. 2011. Fashioning identities, forging inequalities: Late Neolithic/Copper Age personal ornaments of the Portuguese Estremadura. *European Journal of Archaeology* 14(1–2), 29-59.

Tringham, R., Krstić, D. (eds.) 1990. *Selevac: A Neolithic village in Yugoslavia*. Monumenta Archaeologica 15, Institute of Archaeology, UCLA, Los Angeles.

Vitezović, S. 2007. *Koštana industrija u neolitu srednjeg Pomoravlja*. Mphil thesis, Faculty of Philosophy, Belgrade University, Belgrade.

Vitezović, S. 2013a. Vinčanska koštana industrija sa Divostina. *Zbornik Narodnog muzeja* XXI(1), 109-127.

Vitezović, S. 2013b. Personal ornaments in the Vinča culture: the case study of Vitkovo and Stragari. In: Ferencz, I.V., Rișcuța, N.C., Tutilă Bărbat, O. (eds.), *Archaeological small finds and their significance: Proceedings of the symposion : Costume as an identity expression (Costume as an identity expression. Simpozion internațional)*. Editura Mega, Cluj–Napoca: 9-20.

Vitezović, S. 2016. The sea within: the use of mollusc shells as ornaments in the central Balkans Neolithic. In: Preoteasa, C., Nicola C.-D. (eds.), *The sea within: the use of mollusc shells as ornaments in the central Balkans Neolithic Cucuteni Culture within the European Neo-Eneolithic Context: Proceedings of the International Colloquium "Cucuteni – 130", 15–17 October 2014, Piatra-Neamț, Romania*. Editura "Constantin Matasă", Piatra-Neamț: 237-256.

Vitezović, S. 2018a. Craft Production in the Vinča Culture: Viewpoint from Osseous Industries. In: Miloglav, I., Vuković, J. (eds.), *Artisans Rule: Product Standardization and Craft Specialization in Prehistoric Society*. Cambridge Scholars Publishing, Newcastle upon Tyne: 65-88.

Vitezović, S. 2018b. Personal ornaments from osseous raw materials in the Late Neolithic Vinča culture. *18th UISPP World Congress (XVIII° Congres UISPP Paris juin 2018), 4-9 June 2018, Paris*: 966.

Vitezović, S. in preparation a. Bone industry from Pločnik. In: Radivojević, M., Roberts, B.W. (eds.), *The Rise of Metallurgy in Eurasia: The Archaeology of Early Metallurgy and Society in the Central Balkans*.

Vitezović, S. in preparation b. Bone industry from Belovode. In: Radivojević, M., Roberts, B.W. (eds.), *The Rise of Metallurgy in Eurasia:The Archaeology of Early Metallurgy and Society in the Central Balkans*.

Vitezović, S., Antonović, D. 2019. Functional differentiation and possible regional specialisation of the Vinča culture settlements: Viewpoint from osseous and lithic industries. *Quaternary International* 539: 39-48.

Vollmar, K. 2011. *Das grosse Buch der Farben*. Königsfurt-Urania Verlag GmbH, Krummwisch (Serbian translation: *Velika knjiga o bojama*).

Vuković, J., Vitezović, S., Milanović, D. 2016. Pavlovac – Kovačke Njive – Neolithic layers. In: Perić, S., Bulatović, A. (eds.), *Archaeological investigations along the highway route E 75 (2011–2014)*. Institute of Archaeology, Belgrade: 167-204.

Wright, K., Garrard, A. 2002. Social identities anf the expansion of stone bead-making in Neolithic Western Asia: new evidence from Jordan. *Antiquity* 77, 267-284.