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Caves in northern Bosnia: Between ritual and the profane

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Abstract

Caves are an important element of ancient landscapes. They are a type of topographic features where social action took place, and symbolic behavior and ideas about the world were expressed. The vast majority of caves of archaeological significance in Bosnia and Herzegovina are multi-period sites, with evidence revealing use by people across different eras and for a variety of purposes. In northern Bosnia, caves are not particularly widespread topographic phenomenon, due to the morphology of the terrain. Post-Paleolithic material assemblages from four caves are considered in this paper: Rastuša Cave near Teslić, Vukovića Cave near Stanari, Mišarica near Banja Luka, and Hrustovača Cave near Sanski Most. The archaeological material recovered from the sites is examined, and the evidence on the use of these natural features from the Neolithic to the Bronze Age is described and discussed.

Keywords: *Caves – northern Bosnia – ritual – landscape – Neolithic – Copper Age – Bronze Age.*

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Introduction

Caves, in addition to their ecological and natural values, have played a prominent role in the study of human cultural evolution. Since the earliest times of human (pre)history, these geological formations were used for a variety of reasons, including as places of permanent or temporary residence, for production and/or storage, dumps, water sources, mines/quarries, animal pens or shelters, cult and ritual sites, and refuges in times of danger. As ambiguous spaces, caves offer both protection and shelter, but they can also trap and imprison. They have been entered and explored for a wide range of reasons (Janković et al. 2021, 9). In an evolving landscape, caves have become places associated with people's changing ideas about their environment. It seems likely that such places were seen as gateways to the underworld, places of danger and liminality where the realms of the living and the dead collided, and where gods, spirits, and ancestors could be addressed and appeased. As dangerous meeting points between the worlds of darkness and light, caves could have been considered suitable places to conduct rites of passage. Although we tend to classify such sites as 'natural' places, they have, of course, often been altered – in both subtle and dramatic ways – by human intervention. Caves, therefore, can play prominent role in the study of various aspects of human experience, such as those listed above (Bergsvik & Skeates 2012, 3; Moyes 2014, 6).

The history of cave exploration in Europe can be traced in some regions back to the first half of the nineteenth century, when a number of prominent scientists began to investigate caves and their deposits as part of a wider geological, paleontological, and antiquarian interest. They were soon recognized as sites with a rich archaeological record, containing keys to unlocking the human past. Caves are considered an important resource for archaeological study, often containing excellently preserved artifacts in deep stratigraphic layers, which facilitated the relative chronological arrangement of faunal remains and cultural material, as well as for their often-protected and non-acidic sedimentary environments that have ensured a relatively good level of preservation of inorganic and organic materials; values that endure to the present day. Over the years, a wide range of professionals and enthusiasts have made archaeological discoveries in hundreds of caves across Europe. Sometimes such discoveries have been accidental. However, since the mid-1990s, systematic archaeological study – some of which has specifically focused on caves – has contributed significantly to our contextual understanding of the relationship between culture and landscape. All these forms of occupation have left traces and objects; some archaeological remains are clearly visible to everyone, while others' significance can only be grasped by scientists using specialized analyses. The main reason for caves being such an important window into the past lies in the fact that, unlike open spaces, they are partially protected from natural and human activities (Janković et al. 2021, 10). Their study is now experiencing a revival in various parts of Europe, particularly as part of the multidisciplinary study of natural and cultural landscapes. During the long history of cave archaeology, a diversity of theoretical and methodological approaches has been devel-

oped, in part linked to broader traditions of archaeological research associated with different periods and regions of study. Despite the information that can be extracted from the stratigraphic layers, the sites themselves, their functions, and their contexts are often misunderstood. It has long been assumed that caves were used primarily as profane spaces, an idea that has become so prevalent that it has reached the status of an interpretive paradigm (Moyes 2014, 5). Cave studies have mainly focused on establishing chronology and identifying occupation phases or uses. Although this aspect of cave research is crucial for documenting historical contexts, it should be considered merely a tool for further exploring the significance of such sites. Ethnographic approaches have shown that there is no universal pattern that can be applied to the use of cave space. The variability observed depends on how the occupants perceived and experienced the space, as well as on their social composition and identity (Bergsvik & Skeates 2012, 2). The aim of this paper is to interpret the use of caves in northern Bosnia from the Neolithic to the Bronze Age, i.e., to investigate their function and purpose through different temporal and cultural periods. These unique topographical phenomena are not numerous in the subject area, but even their small number testifies to their active use by human populations, and represents a wealth of paleontological, archaeological, and anthropological evidence. Caves and other natural sites do not exist independently; they are part of a wider system of human movement in the landscape, attesting to the fact that, during the prehistoric and later periods, an important range of activities took place outside of typical settlements. In this sense, caves represent ideal cases for the study of such activities. Throughout this discussion, caves will also be considered as ritual, sacred, ceremonial, or liminal spaces, i.e., spaces used not only for profane dwelling.

Geographical scope

Most of northern Bosnia is an integral part of a wider geographical area defined as southern Pannonia or the peri-Pannonian region. The relief of this macro-region was formed in the basin of the river Sava, the youngest structural unit of the Inner Dinarides (Leperica 2013, 36; Jovanović et al. 2014, 17). The landscape here is characterized by the vast lowland valleys of the Sava (Posavina) and valleys in the lower reaches of the Vrbas and Bosna Rivers, as well as the low mountain area in the south to the rivers Tinja, Usora, and Spreča. To the west, this area is delineated by the river Una, and to the east by the large plains of the Drina (Semberija). In their middle courses, these rivers are characterized by hard-to-pass sections and deep canyons, which act as a clearly defined transition zone towards the mountainous area of central Bosnia. From a geomorphological perspective, two areas are individualized in the narrower part of northern Bosnia: horst-anticlinal mountain elevations of Majevica (915 m), Kozara (976 m), Motajica (652 m), Prosara (368 m), Trebava (692 m), and Vučjak (359 m) – the so-called 'island mountains' – and the plains along the Sava (Basler 1979, 301; Šparica 2007, 22; Jovanović et al. 2014, 18). At the beginning of the Pleistocene, tectonic activities gave rise to the uplift of the mountain areas

of Prosara, Motajica, and Vučjak, which were also geomorphologically modeled at the time. They consist mainly of Tertiary flysch and Triassic shale formations. In the warm, or interglacial, periods of the Pleistocene, due to the intense mechanical destruction of rocks in the area of central and northern Bosnia, the high-power Vrbas and Bosna Rivers as well as numerous other watercourses introduced huge amounts of alluvial and proluvial sediments of debris and sand to the Posavina region, especially in the area around the present-day towns of Brod and Šamac (Šparica 2007, 24). At the end of the Pleistocene and during the early Holocene, strong tectonic movements were renewed along the edges of the mountain massifs. These movements resulted in the lowering of geotectonic blocks, thus creating the Sava basin (Bačani et al. 1999, 145). The newly created basin was filled with thick riverine sediments, through which the course of the Sava gradually formed in the early Holocene. The best-known Younger Pleistocene in the wider Pannonian area is its loess. This was created by drifts of small particles via wind over an already indented relief, but also by embankment in residual lake and marsh environments, where it mixed with fluvial drifts creating the so-called swamp loess (Šparica 2007, 24; cf. Bačani et al. 1999, 145). The relatively modest concentration of limestone and dolomite rocks, i.e., the karst Dinaric landscape, resulted in the lack of many cave and sub-cave formations in this area (Dujaković 2004, 17).

Caves in context

Caves should be considered an important element of ancient landscapes. They are a type of topographic features where social action took place, and symbolic behavior and ideas about the world were expressed. Although the term 'cave' can be used to describe a variety of space types, their specific definitions depend on the type(s) of human interactions with them. Because the definition of caves is so broad, it conveys little useful meaning, and must be defined according to type (and reason) of use. The relationship between the landscape and the cave is not a binary opposition between the 'outside' landscape and 'inside' of the cave; while caves are spaces that are different and separate from the landscape, at the same time they are integral parts of it. A whole spectrum of different cave shapes exists, from cliffs and rock shelters to shafts and hidden underground cavities, rendering any clear distinction between 'a cave' and the rest of the landscape arbitrary (Mlekuž 2019, 48). When people inhabit them, they do so for specific reasons that are largely determined by how they undertake their livelihoods, the scale at which they move across the landscape, and the socioeconomic advantages offered by occupying a particular location. The logic of adaptive cave use, so hard to deny for mobile seasonal foragers, is rather harder to accept for many other survival and mobility regimes (Tomkins 2009, 126). As a result, caves are prime subjects for exploration because they are such exotic environments and produce such profound phenomenological experiences based on their morphological characteristics. In this sense, cave studies are viable candidates as 'proofs of concept' for demonstrating ideas relating to their characterization on the basis of archae-

ological interpretations and findings (Moyes 2023, 321). Most caves of archaeological significance in Bosnia and Herzegovina are multi-period sites, with evidence revealing use by people in different eras for a variety of purposes (Dujaković 2004, with ref.). Four caves in northern Bosnia were analyzed in this paper, the only ones known to date through archaeological research: Rastuša Cave near Teslić, Vukovića Cave near Stanari, Mišarica near Banja Luka, and Hrustovača Cave near Sanski Most (fig. 1). The archaeological material recovered from these sites is examined, and the evidence on the use of these natural places from the Neolithic to the Bronze Age is described and discussed.

Rastuša Cave

Rastuša Cave, a well-known Paleolithic site, is situated in the village Rastuša, near Teslić, at the base of a limestone ridge at an altitude of 370 m amsl. The cave entrance is

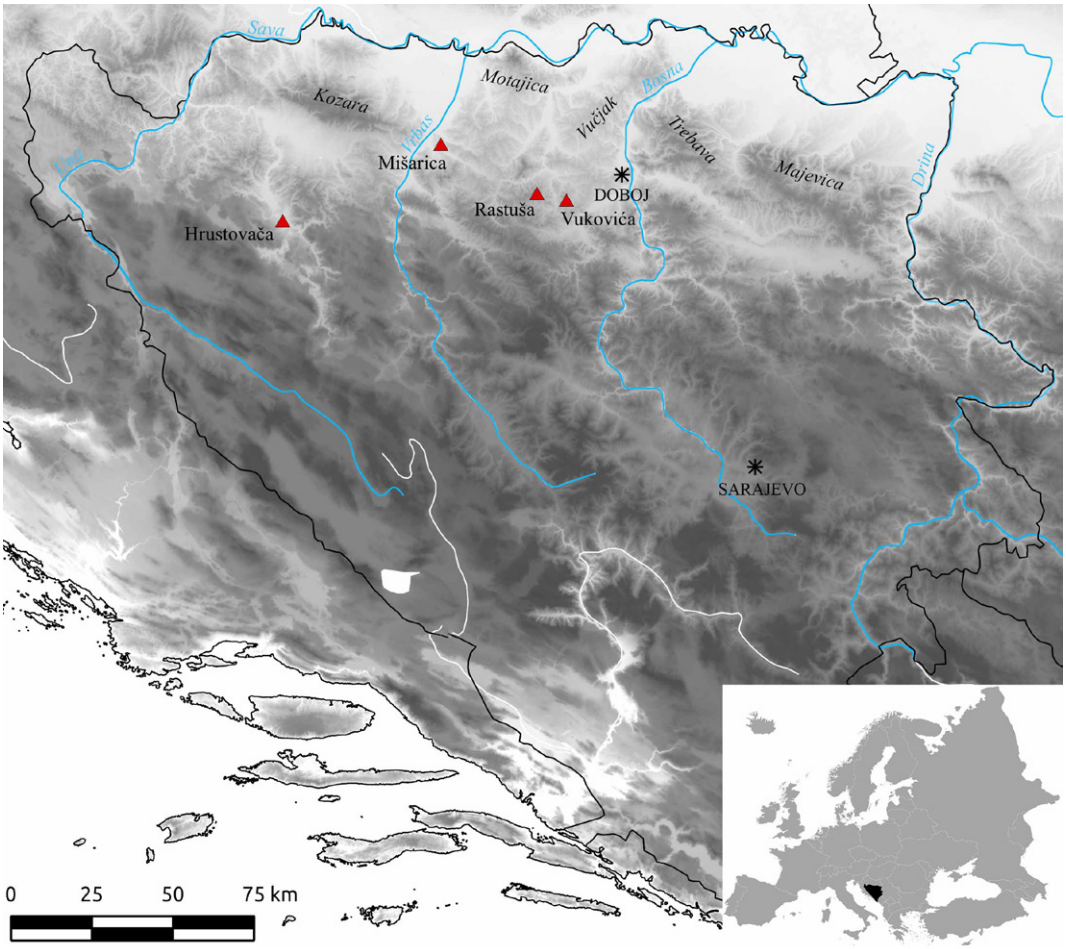

Figure 1. *Geographical position of cave sites in northern Bosnia. Image Credit: Regional Museum in Doboj and the author.*

located in a small dispersive valley on the northeastern slopes of the Hrnjin Hill, which is composed of Triassic limestones (Malez 1980, 13; Jovanović et al. 2014, 39f). From a morphological perspective, it consists of horizontal corridors and tunnels connected with chambers. Based on a morphological analysis, the following parts of the cave have been defined: entry tunnel, main tunnel, and side tunnel, including the abyss about 35 m in from the cave entrance (fig. 2). The total length of cave tunnels is 440m (Malez 1980, 15; Malez et al. 1978, 6, 9; Dujaković 2004, 221; Jovanović et al. 2014, 40). At the end of

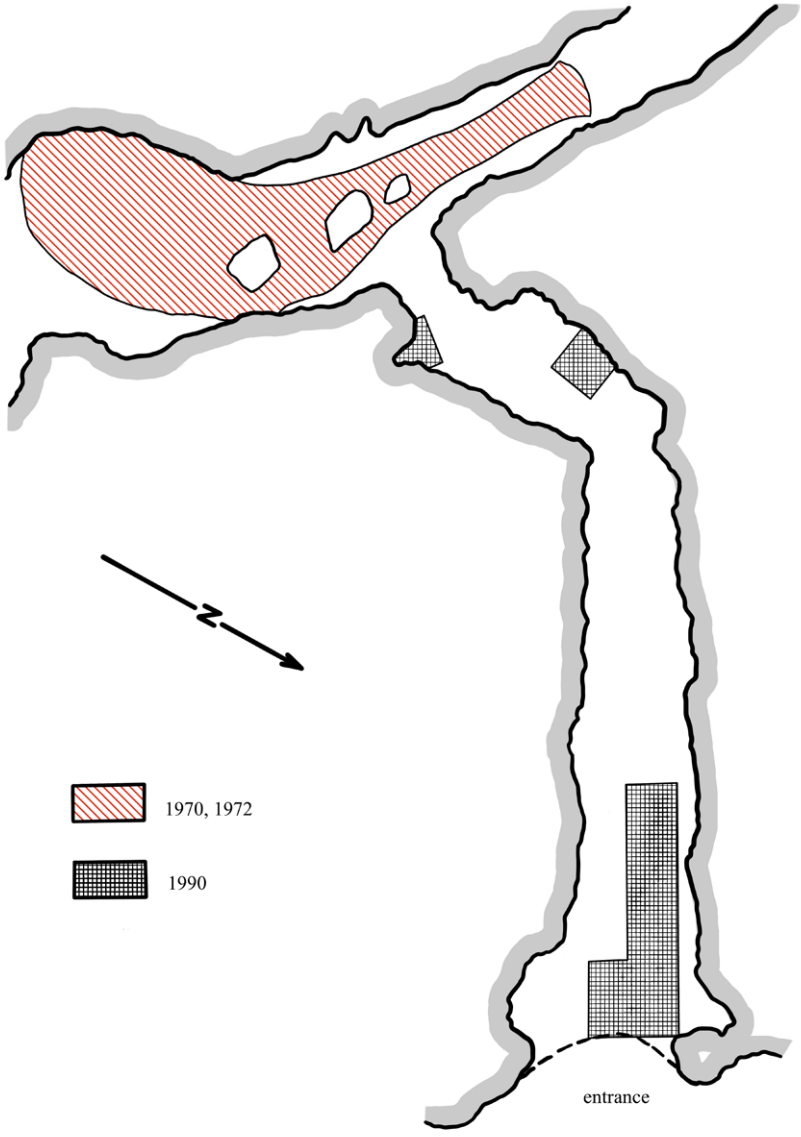

Figure 2. *Rastuša Cave plan and trenches. Image Credit: Z. Kujundžić-Vejzagić.*

the main tunnel, there is a big chamber with a large number of speleothems, stalagmites, and stalactites, and numerous draperies hanging down from ceiling cracks and sidewalls. The first excavations were carried out in the early 1970s under the direction of Mirko Malez, during which only few chipped stone pieces were found, identified as Mousterian and/or Aurignacian artifacts (Malez et al. 1978, 11; Basler 1979, 326; Malez 1980, 13f; Jovanović et al. 2014, 40). The next phase of archaeological research was carried out in 1990 ahead of the construction of tourist infrastructure in the cave. This research focused on the first entrance hall, and was conducted under the direction of Zilka Kujundžić-Vejzagić on behalf of the National Museum of Bosnia and Herzegovina in Sarajevo. The results are presented here for the first time. A main trench was placed at the entrance measuring 10 x 2 m, with a smaller lateral extension. Two additional trenches were placed along the side edges of the cave wall at the end of the large entrance hall. The research was time-limited, and its planned continuation was never realized due to outbreak of the 1992–95 war in Bosnia and Herzegovina and the disintegration of the Socialist Federal Republic of Yugoslavia. For these reasons, only the Holocene layer was investigated. The first three stratigraphic units were disturbed by modern activities, and consist of mixed layers. The fourth layer was formed of greasy, dark soil with large stone inclusions. A major characteristic of this layer is the relatively high concentration of hearths, along with remains of iron slag and ceramic sherds. One major chronological indicator is a sherd of a Roman-period vessel with painted decoration (fig. 4/10); such painted, whitish ceramics were classified as luxury ceramic tableware made in one of the provincial workshops and dated to the second half of the third century and the first half of the fourth century (Žigić 2017, 141). A more intensive distribution of material culture was recorded in the fifth layer. It was formed from clayey sediment with stones. The intensity of finds is indicative of occasional occupation during the late Eneolithic (fig. 4/4–7). The layer was rich in faunal remains, especially large quantities of wild boar tusks (fig. 4/3, 8, and 9). The bottom of the fifth layer lying at a depth at a depth of 2.5 m, was never reached by the end of the excavation (fig. 3).

The next excavation project in Rastuša Cave was carried out from 2010 to 2014, under the direction of Preston Miracle, during which 424 chipped stone artifacts were recovered. This material was extracted from three trenches whose total excavated surface area stood at 11 m^2 (Jovanović et al. 2014, 40f). The main focus of these investigations was on the Pleistocene layers and the formation of the general cultural stratigraphy of the cave. This, latest and best documented project provided new details on the occupation phases of the cave, including Middle and Upper Paleolithic, Mesolithic, and Neolithic layers. The Neolithic findings are of particular interest for this study. The material found in horizon 2 from trench 2 is characteristic of the Late Neolithic, which, in addition to the pottery finds, is indicated by the presence of a core for making blades and bladelets, a greater number of blades, as well as a high percentage and repertoire of retouched tools. A retouched bifacial arrowhead with a tang deserves special attention, and can be dated

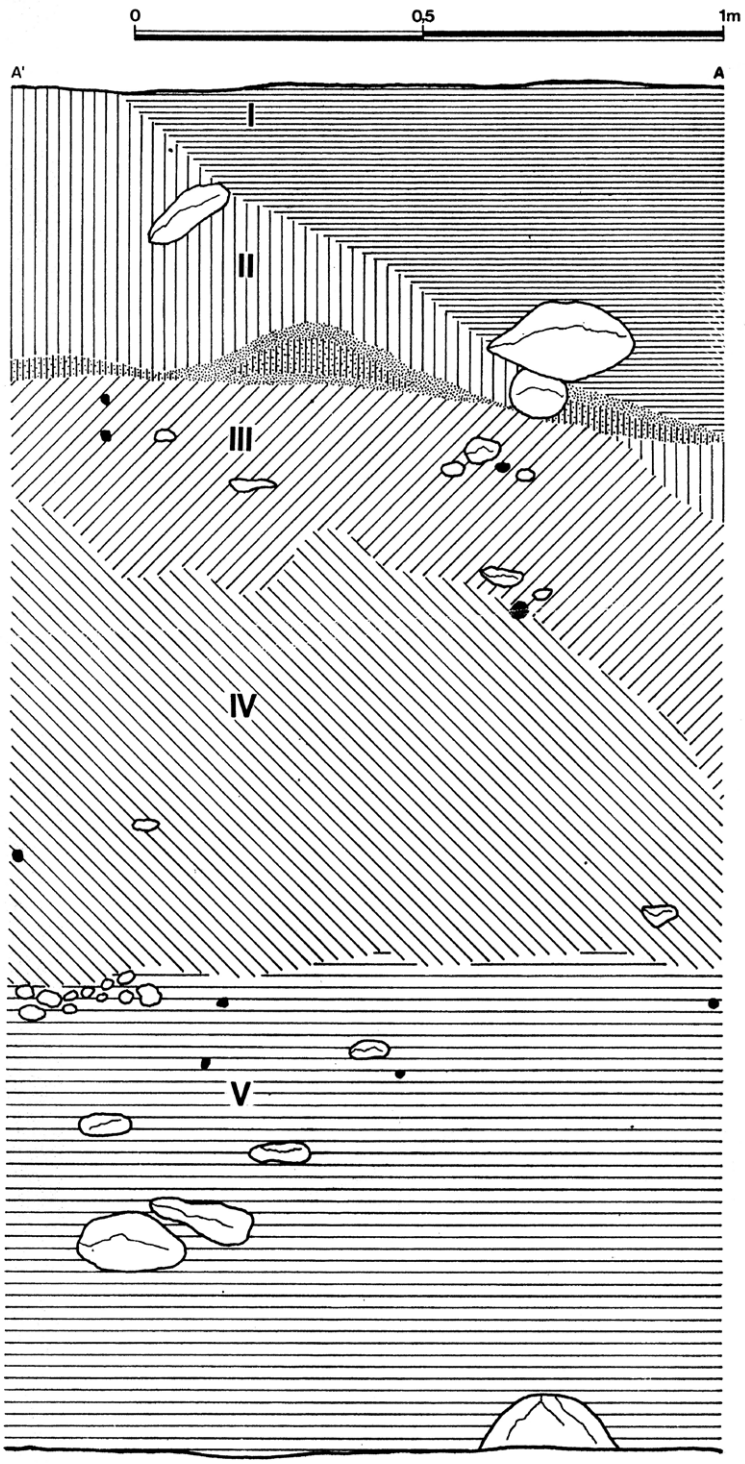

Figure 3. *Rastuša Cave. South profile, trench 1. Image Credit: Z. Kujundžić-Vejzagić.*

with certainty to the Late Neolithic (Jovanović et al. 2014, 118, t. XI/8; see fig. 4/2). The Late Neolithic and Eneolithic occupation of the cave was also confirmed by the chance find of a copper chisel in front of the cave entrance (fig. 4/1). Chisels or wedges of this and similar types represent the earliest copper tools in northern Bosnia. Current knowledge does not yet allow a clear chronological classification of the copper tool from Rastuša Cave; however, this type has parallels in similar forms that appeared at the turn of the Late Neolithic to the Eneolithic (Antonović 2014, 35; Govedarica 2016, 19).

Vukovića Cave

Vukovića Cave is located on the southern slopes in the foothils of the Krnjin Mountain, in the village Cerovice, some 5 km east of Rastuša Cave. Spacious, long slopes are the main characteristics of the terrain. A relatively small, simple, open cave is situated on one of those slopes at the base of a limestone escarpment, at an altitude of 250 m amsl. A steep path leads to the cave, while the plateau in front of the cave is very small and the terrain descends sharply to the west, below which there is a natural spring. Today, the entrance is 1 m high and 3.3 m wide, with a sharp, steep downward slope toward the interior. The total length of the cave is 96 m. The cave consists of an entrance hall and a corridor (fig. 5).

The main chamber is filled with a large amount of sediment from the entrance and fallen stones from the ceiling, while the sediments forming the floor of the central part of the cave are composed of thick clay deposits and rocks formed by the process of calcification. On the eastern cave wall is an opening from a small spring. During periods of heavy rainfall, this chamber was (and continues to be) flooded with water. The water flows through a small clay bed and quickly sinks deep among the rocks. Due to water dripping from the ceilings and the consistent temperature, the cave is humid throughout its entirety. The only parts that do not flood are an elongated small terrace on the western corner walls and the corridor. To the east of the main hall is a long and straight corridor that branches into smaller channels. The cave is dark, and despite the archaeological evidence of human activity, it's not suited for extended habitation. On the other hand, it is extremely interesting as a speleological, geological, and biological site, being decorated with stalactites and stalagmites or other calcite formations, and is actively inhabited by bats (*R. hipposideros* and *R. ferrumequnium*), insects, and small predators (Presetnik et al. 2017, 32). During the 2014 field survey in, a moderate number of ceramic sherds was found on the ground surface of the cave, mostly in its corners. Additionally, a fragment of a human skull was recovered from the ground surface in the entrance part (fig. 6).

This formed the basis for the 2015 excavations of the Regional Museum in Doboj. Based on the concentration of ceramic sherds on the ground surface, a trench measuring 2 x 3 m was opened on a small elevated terrace between the western and southern walls of the main chamber. Ceramics were found at a depth of just ca. 15 cm in a layer of gray clay, with yellow sterile clay and large stones below this, situated directly above the bedrock. No other artifacts were found. The space in front of the corridor and the corridor itself

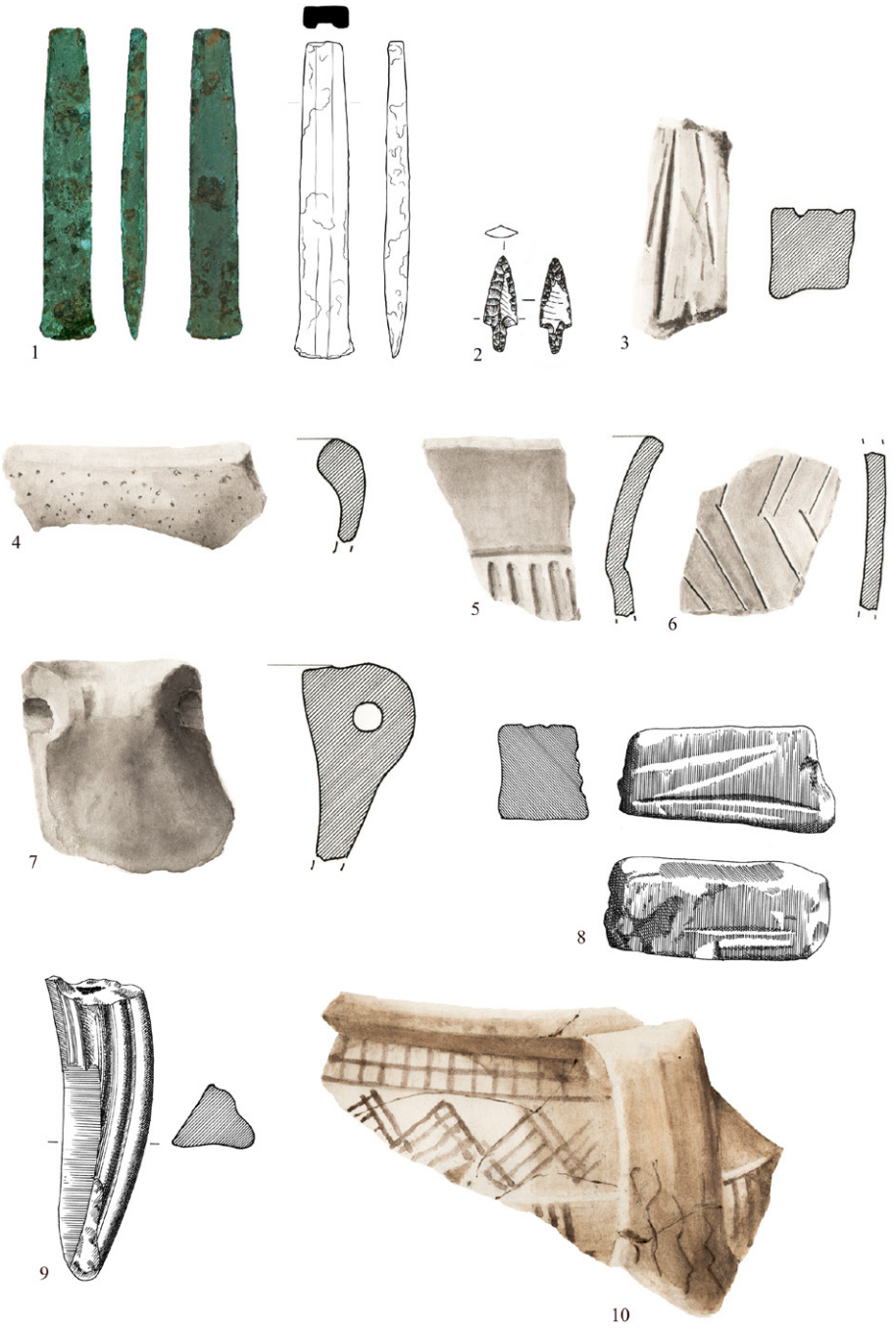

Figure 4. *Selection of material from the Rastuša Cave excavation: (1) Neolithic copper chisel; (2) Neolithic retouched arrowhead; (3, 8, and 9) boar tusks; (4–7) prehistoric pottery; (10) Roman-period painted pottery. Image Credit: M. Bešlagić and the author (1), I. Jovanović (2), S. Kudra (3–10).*

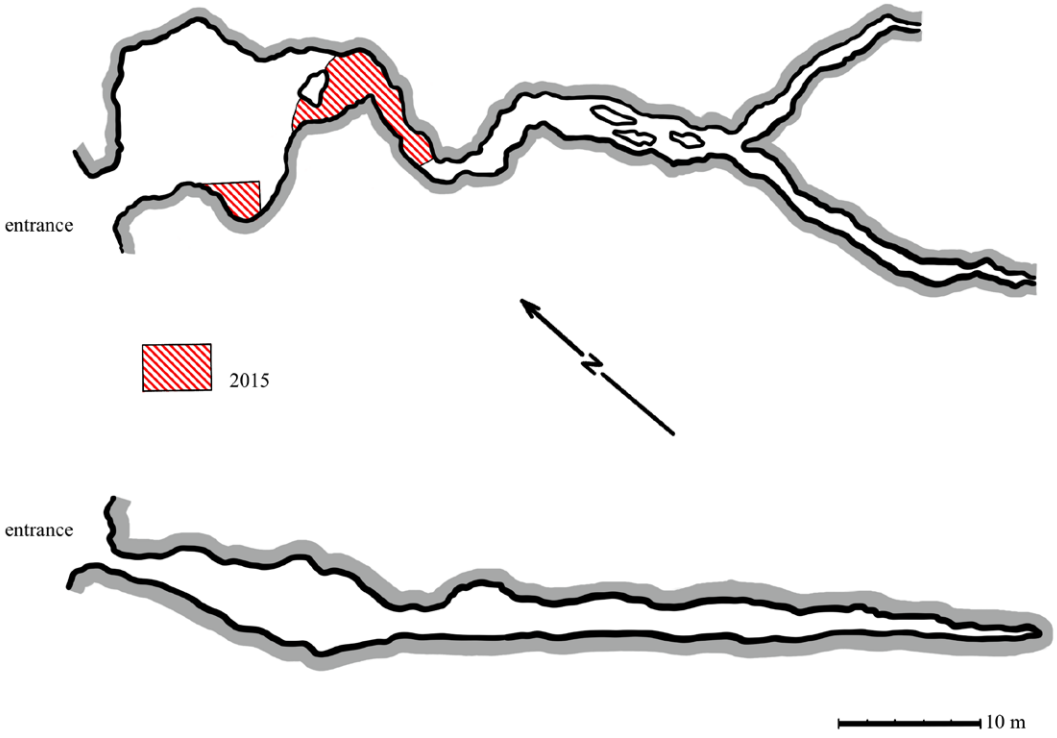

Figure 5. *Vukovića Cave plan and trenches. Image Credit: the author.*

Figure 6. *Fragment of a human skull. Image Credit: the author.*

were considered as promising areas for archaeological study, with these being the only other parts of the cave in which archaeological material was found. The situation was identical to that of trench 1, with ceramics found only in the excavation layer down to a depth of 10 to 15 cm. Due to the more intensive dripping of water from the ceiling, the level of calcification on the finds was more pronounced. No evidence of anthropogenic activity was uncovered beyond the corridor. No faunal remains were recorded, nor were any remains of hearths or evidence of the use of fire for lighting. Although the cultural layer is extremely shallow, a surprisingly large number of pottery sherds was found. They were mostly fragmented, but in spite of this it was possible to identify and record certain typo-chronological characteristics. The basic chronological framework for most prehistoric periods in the different regions of Bosnia is usually based solely on the development of pottery styles. This is especially the case in areas where metal finds are absent or badly preserved, and pottery is the most common find category serving as primary source of information. Most pottery sherds from Vukovića Cave are rims of different types of bowls, pots, cups, and storage jars (pithoi). Bowls are traditionally important elements of household pottery inventories and therefore, the most frequent vessel type; they are mostly of conical shape, with turban-shaped or faceted rim and flat base (figs. 11/1–8 and 12/9 and 10). Such bowls are particularly widespread throughout the region in the final stages of the Late Bronze Age (9th–8th century BCE; Gavranović 2011, 46ff; Jašarević 2018, 38). The bowls from the cave were made of quality refined clay tempered with powdered stone and sand that increased the hardness of the walls and prevented their breaking in the process of food preparation. They are well-fired, with black or brown, polished surface, and lack any decoration. The large storage jars are of biconical shape, with cylindrical or conical neck and small everted rim (fig.12/11–13); the fabric is similar to that of the bowls. The color varies from black to reddish, with the same type of polished surfaces. They are decorated only with incised lines between the neck and the shoulders. Of great interest and a rather rare occurrence is a pithos sherd with twisted rim (fig. 13/17). Pots and cups were infrequent, but examples with slightly conical or biconical shape were found (fig. 13/14–16, 19, and 20). A single sherd is decorated with a vertical, fingertip-impressed cord (fig. 13/16). Also, there is a fragment – unique for this region – of a twisted handle from a cup or beaker (fig. 13/20). The largest number of settlement sites in the area can be dated to the Final Bronze Age (Ha B2–3) based on their characteristic decorated ceramics (Jašarević 2018, with ref.), but this does not seem to be the case with the material from the Vuković Cave. Even though certain ceramic forms bear similarities, the pottery from the cave lacks decoration, which is common and incredibly varied at other sites, and can therefore be used as a chronological indicator. It is possible to approximately date the pottery, and thus the cave's occupation solely on the basis of the typo-chronological characteristics of the bowls to the eight century BCE, or the HaB3 period according to the Central European chronology. As the cultural deposits in the cave are badly preserved and lack evidence of long-term habitation, the assumption

is that this was a single, short period of occupation; this assumption will be discussed further below.

Mišarica Cave

In Debeljaci, south of Banja Luka, in the wider area of the lower course of the Vrbas River, there are two caves that yielded evidence of occupation. The Hajdučka Cave was temporarily or occasionally used by people who inhabited this area in the Late Bronze Age, while Mišarica Cave bears traces of a ritual activity from the same period (Periša 2002, 91). In this paper, special attention is paid to Mišarica Cave. It's located in the karst massif of Bijela stijena, on the left bank of the Čelinski. The entrance to the cave is from the east side and measures 7 m high and 8 m wide. The entrance hall leading to the first chamber is 15 m long, 6–7 m wide, and 5–7 m high, and is oriented in an east-west direction. In this part of the cave, several large stone blocks have fallen from the ceiling. The cave is decorated with stalactites of various size. The first chamber is connected to a second one by a corridor measuring 10 m long, 2.5 m wide, and 2.5–4 m high. The second chamber has a circular shape with a diameter of 9 m. The maximum height of the hall is 5 m. From this part, a narrow side channel – 6 m long, 1.5 m wide, and 1 m high – branches off to the north, at the end of which lies a siphon spring. This is also the end of the cave, which has a total length of about 65 m (fig. 7). The floor of the cave is flat, and is covered with a light brown sandy clay and sharp-edged rocks of various size (Periša 1991, 79; 2002, 92f). The cave is hydrologically active for most of the year. The water that springs from its mouth flows as a shallow stream towards the exit (entrance to the cave), from where it flows as a waterfall into the stream.

The entire ground surface of the cave is always flooded, except in the summer (Periša 1991, 81). A small-scale archaeological excavation was carried out in 1983 at the cave's mouth, next to the northern wall, and the entire cave was surveyed at the same time. In a trench measuring 4 x 2 m, which was excavated to a depth of about 0.7 m, a small amount of archeological material was found, mostly from the early modern period. At the far end of the cave, immediately beside the spring, a bronze axehead was found, while a second one was recovered from the spring pool (fig. 8; Periša 1991, 81, figs. 3 and 4; 2002, 94, fig. 6; Jamaković 2011, 100, fig. 6/1). Both of them belong to the canonic type of Late Bronze Age socketed axes with V-shaped ribs. Its main distribution area includes Transdanubia and the Western Balkans, with the highest concentration being found in the Sava–Drava interfluve area, where such axeheads first made their appearance at the beginning of the Br D period, increasing in number in the later Ha A period (Žeravica 1993, 96ff; Hansen 1994, 182; König 2004, 37ff; Jovanović 2010, 27; Gavranović 2011, 130ff; Blečić Kavur & Jašarević 2014, 38f; Gavranović & Jašarević 2017, 105; Dietrich 2021, 546). The territorial distribution of axeheads – especially in hoards in northern Bosnia – shows that many local and foreign stylistic elements were incorporated into newer types (Gavranović 2011, 130ff). This may well also be the case

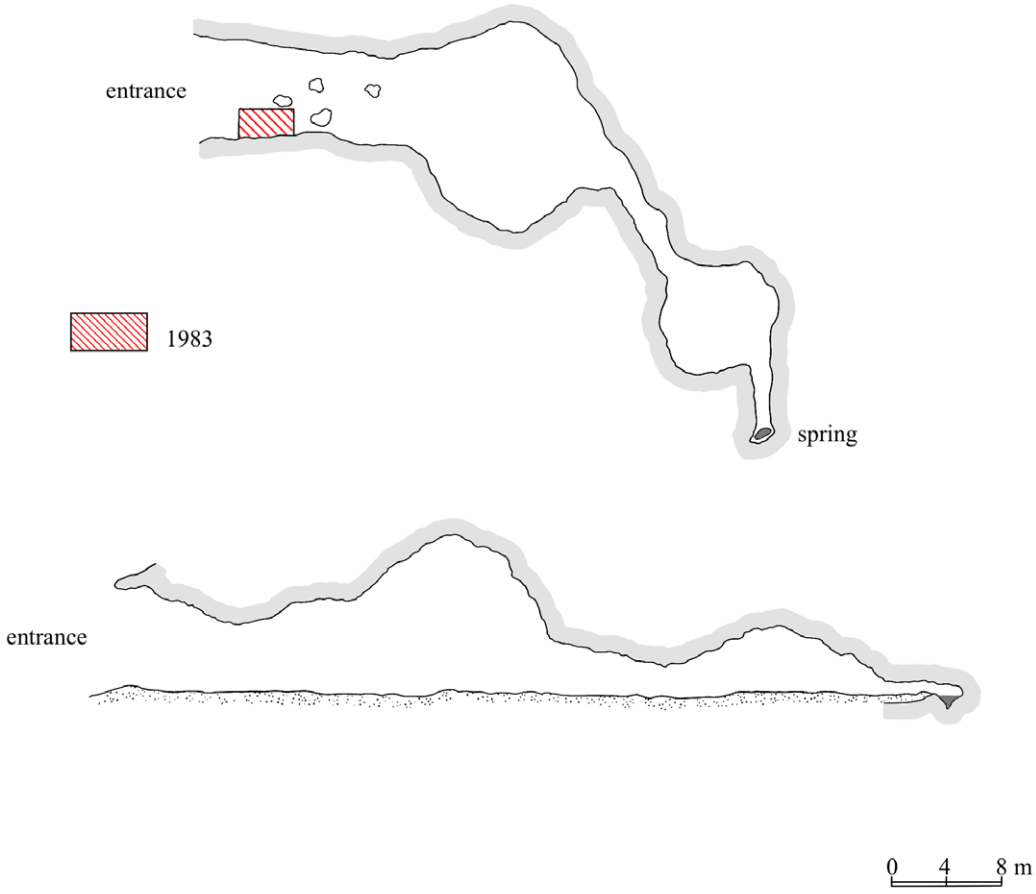

Figure 7. *Mišarica Cave plan and trench. Image Credit: D. Periša.*

for the somewhat unusual design of the first axehead, with its slightly curved outer V rim ornamentation.

Hrustovača Cave

This cave is located ca. 12 km south of Sanski Most, below the slopes of the Grmeč Mountain in the area of Hrustovo. Its entrance lies above the source of the Glibava Stream, which, after a short course, flows into the Sana River. This is the largest and most significant archaeological and speleological site in the study area. Morphologically, the cave consists of Triassic and Cretaceous limestones. The entrance and the greater part of the main channel lie in banked Triassic limestones (Upper Triassic), while the end of the cave is set into Cretaceous limestones (Polić 1940, 1f). Hrustovača Cave is very simple in shape, and consists of a long underground corridor and a smaller side channel. The length of the main channel is 725 m, while the width of the corridor is ca. 10 m, although there

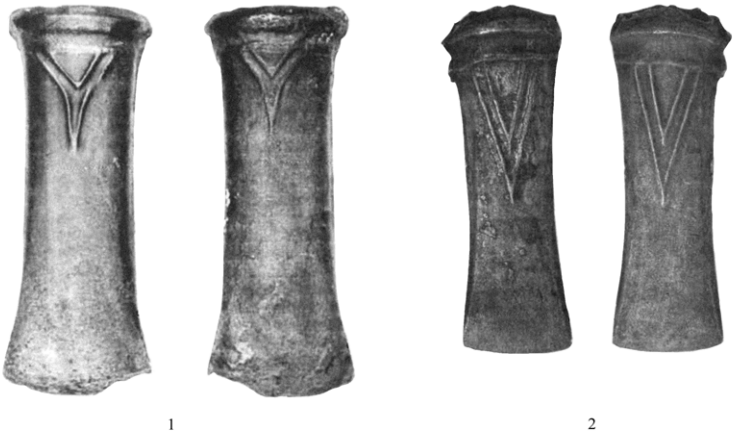

Figure 8. *Mišarica Cave, bronze axeheads. Image Credit: D. Periša.*

are several larger chambers measuring between 20 and 40 m wide. The height of the channel ranges from 3 m at the entrance to about 20 m in a hall located approximately one-third of the way down the corridor (fig. 9). The average height of the corridor is between 6 and 8 m. The profile of the main corridor has the shape of a tunnel with clearly profiled sides along almost its entire length. There are also several larger cracks through which water once flowed into the main underground flow. The cave floor is mostly flat and covered with a reddish–brown to black cave clay (Malez et al. 1988, 69; Mulaomerović 2001, 155f).

The cave was also the subject of paleontological research by Mirko Malez. Relatively rich paleontological material was collected in stratum b in the excavated test trench, but this almost exclusively consisted of the skeletal remains of cave bears (Malez et al. 1988, 74). The earliest description of Hrustovača Cave, as far as is known, was published by O. Krifka in Vienna (1886, 30f). The first scientific research was undertaken by the curators of the National Museum of Bosnia and Herzegovina in Sarajevo. With the research undertaken by Mihovil Mandić in 1939, Hrustovača Cave became one of the most notable archaeological sites of the Late Eneolithic Vučedol culture in Bosnia (Mandić 1939, 67f; Korošec 1946, 7; Benac 1964, 136; Dimitrijević 1979, 308; Marijanović 2003; Miloglav 2018, 114). Immediately after the end of World War II, the significance of the findings encouraged archaeologists to begin a large-scale excavation in the area of the cave's entrance. In 1947, Alojz Benac continued the excavation of the entrance area and provided a revised general stratigraphy of the site (Benac 1948, 5ff). Although the then methodology of archaeological excavations was significantly flawed from today's perspective, apart from the rich collection of artifacts, the chronological occupation of the cave was also partially problematic. While the upper layers were heavily disturbed, archaeological material indicates occasional occupation in the Roman and medieval periods (Benac

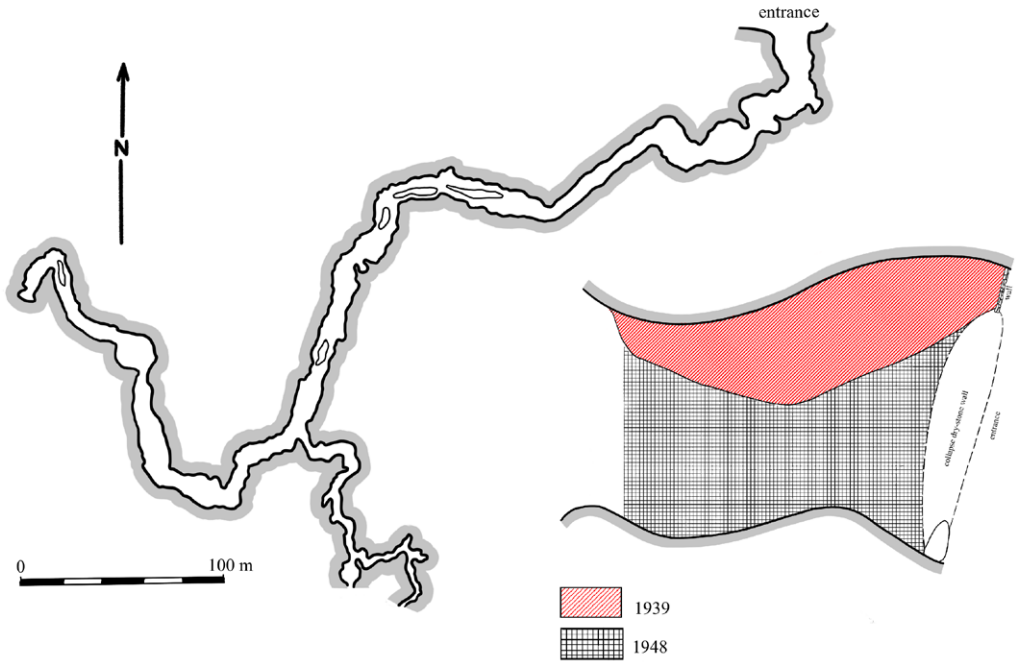

Figure 9. *Hrustovača Cave plan and trench. Image Credit: A. Benac.*

1948, 9). Evidence of occupation in the Late and Final Bronze Age was also recorded in the upper layers (Benac 1948), but the concentration of materials and the selected objects hint to ritual use of the site rather than profane, apart from occasional occupation related to cattle herding. The thickest and best-documented layers belong to use associated with the Vučedol culture (Mandić 1939; Korošec 1946; Benac 1948), defined in later literature as the Bosnian or Debelo Brdo–Hrustovača type of the late-phase Vučedol culture (Dimitrijević 1979, 308; Tasić 1995, 77). The maximum depth of the cultural layer was 1.7 m, with different cultural deposits distributed across different depths and zones (Benac 1948, 8f). For the purposes of this paper, particular attention is paid to the Late Bronze and Final Bronze Age horizons. The first traces of these layers were recorded by M. Mandić, who, on that occasion, defined them as belonging to a Hallstatt horizon. Among the ceramic and faunal finds, a bronze pin (fig. 10/4) and a silver spiral ring (fig. 10/5) were also found in the layer (Mandić 1939, 68f). Most of the bronze objects from the excavations of A. Benac were found in the entrance part of the cave, in the upper layers among the rocks (Benac 1948, 8).

Most of the bronze objects can be chronologically attributed to the Late Bronze Age with a high degree of certainty. A bronze pin with a disc and biconical ribbed thickening can be classified as belonging to the Myslechovice type (fig. 10/4; Říhovský 1979, 102), although, due to its individual characteristics, it represents an isolated variant. Such pins

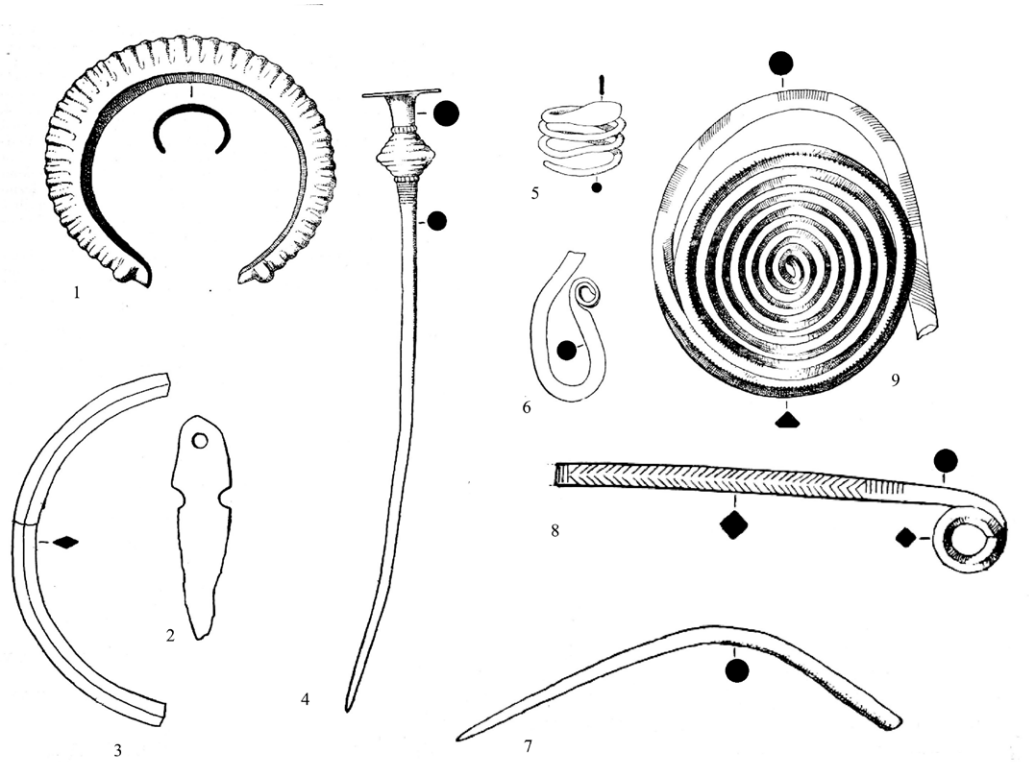

Figure 10. *Selection of bronze finds from Hrustovača Cave. Image Credit: F. Stare.*

are characteristic of the Moravia–Bohemia region, and are mostly dated to the Early Urnfield period, Blučina-Kopčany horizon – Br D (Říhovský 1979, 102ff; Salaš 2005, 108; cf. Gavranović 2011, 163). No comparable findings from neighboring regions are known for this pin (Gavranović 2011, 163). A hollow bracelet with a C-shaped cross-section and a ribbed or transversely grooved exterior also found at Hrustovača is among the most important finds of the Early Urnfield period in the southern Carpathian Basin (fig. 10/1; Stare 1953, 50; Gavranović 2011, 203). Several comparisons from Croatian hoards can be made to this bracelet, which was preserved in a complete state, while all the others were found fragmented and in hoards of mixed composition (Otok-Privlaka, Veliko Nabrđe, Gornja Vrba, Brodski Varoš, Podcrkavlje-Slavonski Brod, Malička: Vinski-Gasparini 1973. t. 28/32, t. 44/35 and 37, t. 51/17, t. 59/23–27, t. 79/17; Balen-Letunić 1985, 38). In terms of the regional distribution of this type of jewelry, the two Bosnian sites (Hrustovača and Kućišta, the latter being the find site of a Late Bronze Age hoard from northern Bosnia) are located on the southern periphery (König 2004, t. 4/80; Gavranović 2011, 203). Based on typo-chronological analysis, such bracelets can be attributed to the Ha A1 phase. Their use is characteristic of Bosnian hoards of the second phase (König 2004, 19), in hoards of phase II of continental Croatia – Veliko Nabrđe horizon (Vinski-Gasparini

1973, 87; Clausing 2004, 117; Perkić & Ložnjak Dizdar 2005, 74), in Serbian hoards belonging to phase II (Jovanović 2010, 66), or Hungarian hoards of the Kurd horizon (Mozsolics 1975, 20f). A less specific form is an undecorated bracelet with a rhomboid cross-section preserved in two fragments (fig. 10/3). Analogies are present in finds from hoards of the Early Urnfield period, with the territorial distribution being concentrated around the interfluve of the Sava and Drava Rivers (Perkić & Ložnjak Dizdar 2005, 76). The fragment of a violin bow fibula from Hrustovača Cave represents a unique find not only in the area, but also in the context it was recorded in (Stare 1953, 47; Vinski-Gasparini 1974, t. 5/1; Gavranović 2011, 176). Part of the fibula bow decorated with a fir branch pattern and incised bundles as well as the spring coil are preserved (fig. 10/8 and 9). The fibula has a conical foot end, which was probably once the head of a needle from which the fibula was then bent, with the bow having an unusual square cross-section. The most comparable fibulae examples to that from Hrustovača can be found in Slavonia and Syrmia (Vinski-Gasparini 1973, t. 90/1–4; Vinski-Gasparini 1974, 27; Vasić 1999, 12ff; Gavranović 2011, 176). The fragment from Hrustovača belongs to a smaller group that is distributed south of the Sava and across to the Adriatic coast (Gavranović 2011, 176). On the basis of typo-chronological analysis, the fibula has been placed in the Br D/ Ha A1 phase, or the thirteenth and early twelfth centuries BCE (Pabst 2018, 162). A less specific form of jewelry is a fragment of smooth wire of circular cross-section, with hammered and twisted ends (Stare 1953, 48), most likely a piece from a torc (fig. 10/6). Most parallels of twisted torcs with circular ends in the area south of the Sava date to the Ha B1 stage (11th–10th centuries BCE); examples include finds from the hoards from Tešanj and Bokavić (Gavranović & Sejfuli 2015, 77; König 2004, t. 32/3 and 4, t. 43/127–129). A bronze amulet belongs to a related category of ornaments whose precise function is not known (fig. 10/2). The upper part is perforated, presumably to allow it to be suspended, while the sides have characteristic circular cutouts, and the end is pointed (Stare 1953, 52). Among the bronze finds, an ingot fragment was also recorded (Benac 1948, 12, t. IV/12). Ingots of this type are present primarily in hoards of the Early Urnfield period (cf. König 2004).

Between profane and ritual

Caves are dark places, with no light. Engagement with darkness is a key aspect thereof. In order to see in a cave, one must rely on technology, usually lamps or torches (Mlekuž 2019, 49). The quality of light in such environs can be divided into three zones: light, twilight, and darkness (Moyes 2023, 319). The distinction between caves and shelters and their respective qualities of light are crucial to understanding cave contexts and to constructing convincing archaeological interpretations. Although rock shelters may be used for habitation, the use of dark zones of caves as living spaces is rare. According to William Farrand (1985, 23), the dark zones of true caves are useless even for temporary habitation except under extreme or desperate conditions (cf. also Moyes 2023, 319).

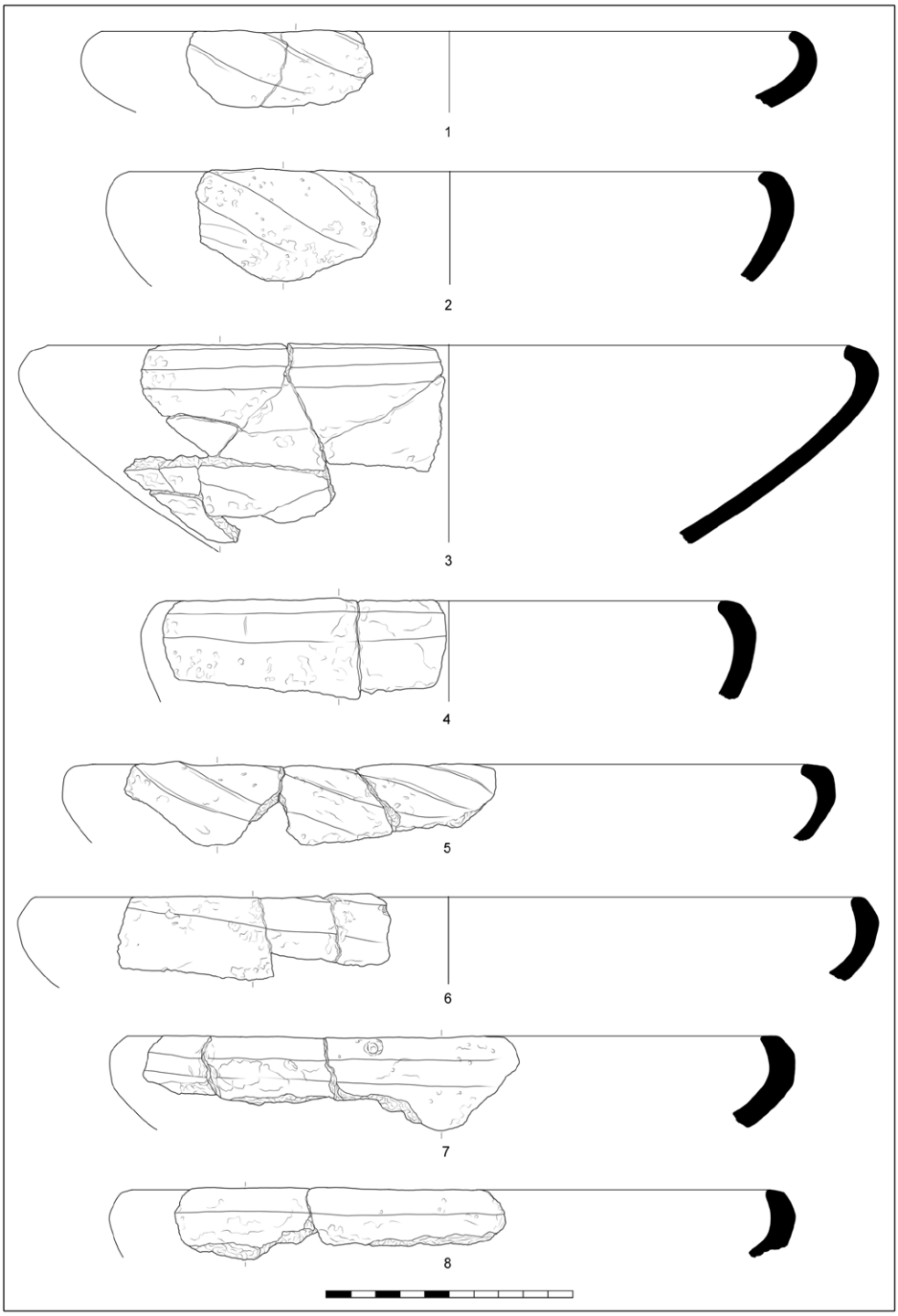

Figure 11. *Final Bronze Age pottery from Vukovića Cave. Image Credit: M. Bešlagić.*

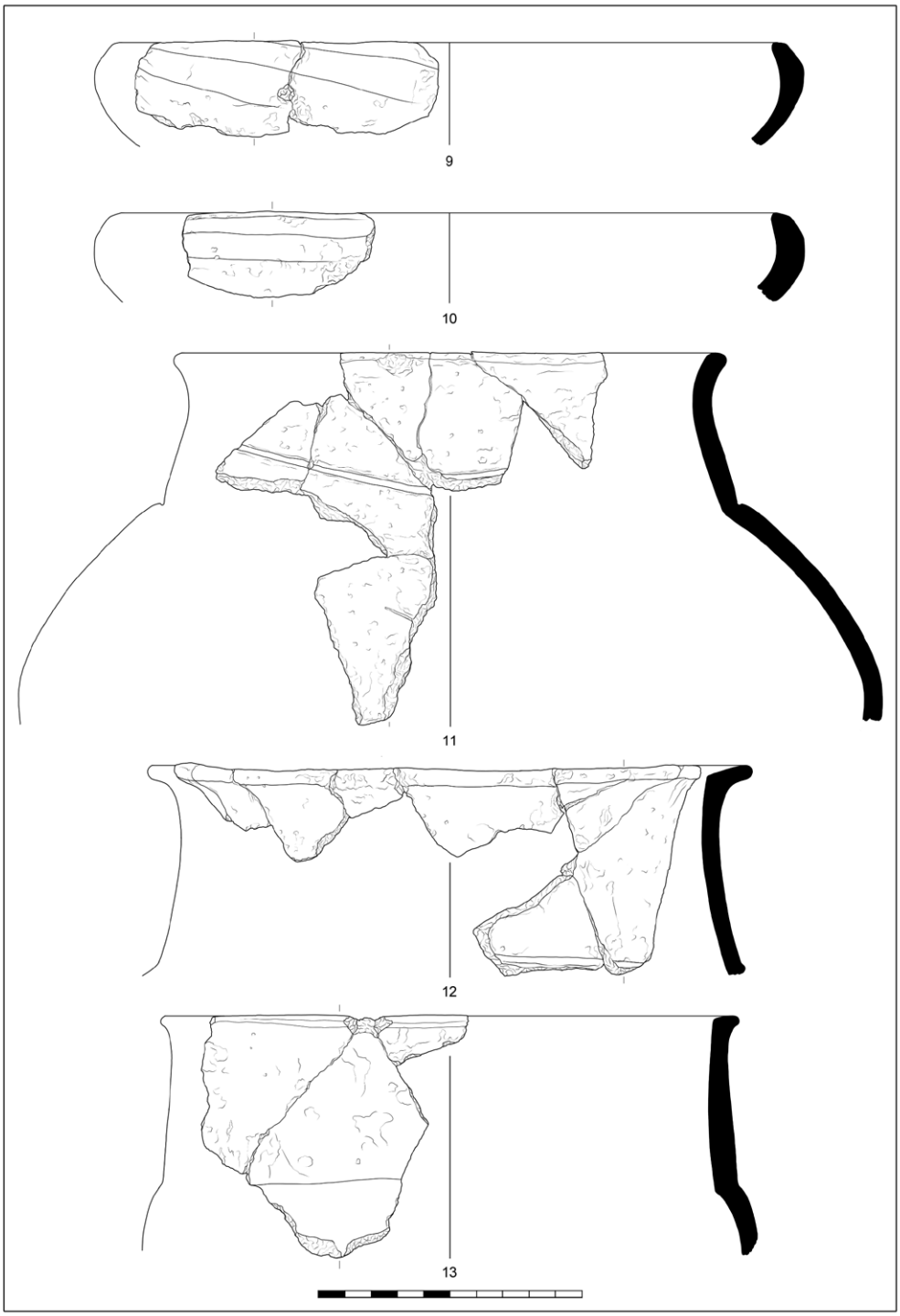

Figure 12. *Final Bronze Age pottery from Vukovića Cave. Image Credit: M. Bešlagić.*

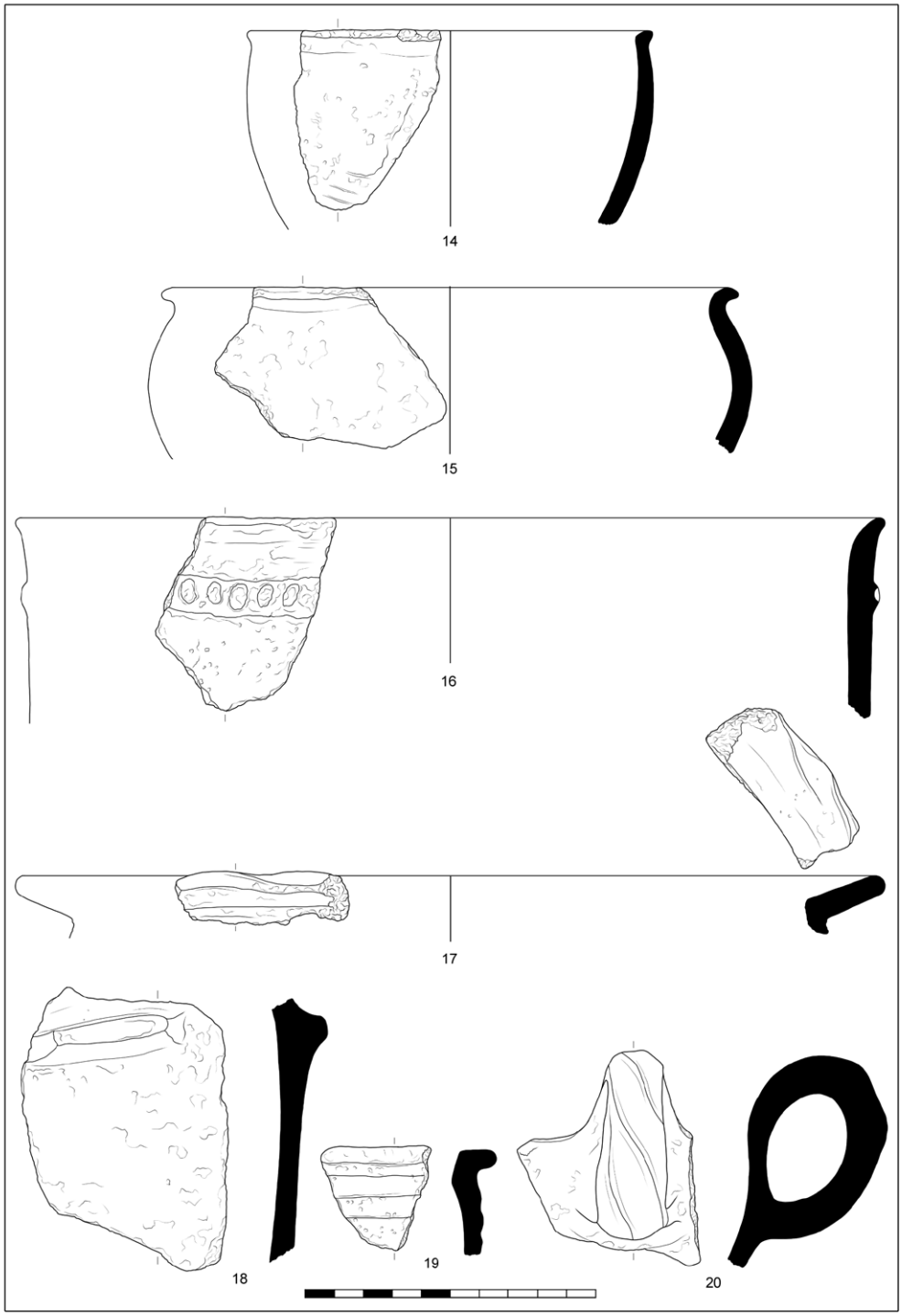

Figure 13. *Final Bronze Age pottery from Vukovića Cave. Image Credit: M. Bešlagić.*

Examples of such might include refuge in times of war or as shelters in extremely cold conditions. This is such a rare occurrence that if prehistoric people lived in dark zones, the question must be asked: Why? Why were caves so attractive to prehistoric people? In terms of human habitation, in caves, where light ceases, life ceases, and although evidence of 'prosaic' activities in the dark zones of the caves is relatively well known, in almost all cases intensive evidence of domestic activity is limited to the areas to which light can penetrate and their immediate exteriors (Moyes 2014, 6). This is certainly the case for the Neolithic and Eneolithic occupation of Rastuša and Hrustovačka Caves. Hrustovačka has yielded an incredible amount of artifacts from the Vučedol period, although all the material comes from the entrance part, and it is unknown whether the intensity of activity was comparable outside the cave. In fact, during the Neolithic and Eneolithic, cave and open-air dwellings would have coexisted as logical parts of a seasonal foraging strategy where caves offered convenient shelter near important sources of livelihood. In contrast, the types of caves bearing evidence of occupation in the Bronze Age usually lie on or beyond the margins of agricultural production; they are often situated on high hills and steep slopes, and could therefore never have competed with the proximity, locational flexibility, and efficiency offered by open-air settlement types. As a result, it is difficult to see how caves could have formed a logical element within agricultural survival strategies in this period. The surviving archaeological assemblages make it difficult to establish the exact nature of Late Bronze Age cave activities and the frequency with which caves were visited. The concentration of preserved bronze objects from Hrustovača and Mišarica Caves indicates their specific character. The find circumstances and makeup of the bronze artifacts from Hrustovača suggest that they are parts of a Late Bronze Age metal hoard of a mixed character; characteristic of northern Bosnia in the Late Bronze Age (König 2004). On the other hand, individual finds of two bronze socked axeheads from Mišarica cave also hint at the ritual activity in the context in which they were found. The deposition of bronze axeheads deep in the cave, in and beside the spring can be interpreted as a highly ritualized act in which object and space both play key roles. Ritual practice is therefore identified as something fundamentally different from (or even in opposition to) other types of activity. Water is the original source of all forms of life, a symbol of rebirth and regeneration. The cult of springs, rivers, lakes, and streams is a universal feature of all ancient cultures. As Ricardo Olmos argues, water plays a fundamental role in most rituals in all known religions. In the Mediterranean basin, the interiors of many caves are associated with water, and are directly linked to rituals of transmission and initiation in prehistoric and protohistoric communities (Olmos 1992, 132).

Much debate exists as to how – and to what extent – archaeology can distinguish between 'ritual' and 'profane' behavior, and how such ritual practices should be understood (Fontijn 2002, 13; Dietrich 2014, 470; Szabó 2019, 194). It is more appropriate to speak of different traditions in the interpretation of Bronze Age hoards, of which interpretation in ritual terms is but one (Bradley 1990, 15ff). In Central and Western Europe,

there has traditionally been less enthusiasm to see the deposition of hoards as an act of deliberate abandonment of objects, with interpretations of bronze finds as ritual deposits having been predominantly developed in Northern Europe (Kristiansen 2005). Others, however, have considered bronze hoards to be an important source of information on the organization of crafts, metalworking, and trade (Bradley 1990, 11ff; Huth 2024, 21f). Interest has particularly been focused on their content, and for this reason it seems that the study of hoards consisting of several objects is preferable to the study of the deposition of a single object (Fontijn 2002, 13). Throughout the Bronze Age, metal deposition in hoards is documented over a wide area covering Europe and extending into Eurasia. Hoarding particularly flourished in the Late Bronze Age, when the number of metal deposits – in the form of hoards or individual objects – increased spectacularly (Gori 2014, 270; Hansen 2016, 27; Borgna 2024, 11). Bronze Age hoards were composed according to certain patterns and norms. In some cases, the specific function of the deposited objects, their ornamentation, or their biography played a role in their selection; in others, the emphasis was on their weight and quantity (Turk 2001, 250f; cf. Hansen 2016, 25). Carefully selected objects were often subjected to specific treatment: bent, chopped, or broken into smaller pieces. Such intentional damaging of objects also followed certain patterns; in some cases the object was fragmented into pieces of approximately the same size or weight, in others, deposited jewelry, weapons, and bronze vessels were mercilessly smashed or dismembered to render them unusable. Similar 'violent behavior' toward objects often recorded in hoards belonging to different metallurgical circles is likewise the subject of a diverse range of interpretations, from that of ritual character (Nebelsick 2000, 163) to that of functional nature, as scrap fragments ready for recycling (Huth 2024, 24). The patterns of deposition did not only determine the composition of the hoard; there is increasing evidence that certain types of artifacts were deposited in an environment-specific manner (Brück 2016, 79; Szabó 2019, 192). The main argument for the ritual nature of the hoards was their 'selectivity', i.e., their contents having been selected according to specific cultural criteria, with the stored objects being carefully arranged; although the composition of the hoards varies from one region to another and from one period to another, certain patterns can still be identified, which stands as a strong argument for the interpretation of acts of deposition having been regulated by rituals. Hoarding can be understood as a ritual action: repetitive, formalized, involving bodies and objects, framing time and space, transformative and transformable, and thus socially – but also spatially – efficient. Comparison between a large number of hoards can allow us to reconstruct 'scripts'; i.e., the biographies of artifacts and the rituals to which they related. The deposits being compared must be temporally and spatially linked and part of the same cultural network of meaning (Gramsch & Meier 2013, 194). Scholars who favor a ritual background have repeatedly emphasized that the lavish array of valuables chosen for sacrifice was not simply a display of supernatural or mundane powers; behind the sacrality were rational economic and social interests. The individual or community making the deposit

simultaneously displayed its economic power and generosity through the abundance of sacrificial goods withdrawn from everyday use and circulation (Gramsch & Meier 2013, 195f; Turk 2024, 43). Seen from this perspective, Bronze Age hoards resemble what ethnographic studies call 'competitive exchange'; the greater the wealth an individual or community is able to destroy, the greater the prestige and social status that can be acquired from such an act. Some studies of the motives behind deposition have argued for strictly economic interests in the burial of sacrificial hoards. According to this model, if there was too much bronze in circulation, the burial or sacrifice of significant hoards equated to the deliberate withdrawal of significant quantities of metal from the exchange system, which stabilized and maintained the value of the bronze raw material and certain types of prestige objects. The main question relating to this is how hoards that could be attributed to either of these categories can be distinguished from each other, and how the reason behind their deposition can be identified (Szabó 2019, 195)? Hoards are conceptualized as sacrificial or votive deposits that were strongly intertwined with the social relations that characterized the world of chieftaincy and with the chains of gift exchange that were crucial to the economy and circulation of certain commodities. The study of the cultural biographies of deposited artifacts – how they were used, their original function, and their treatment during deposition – plays an important role in this. New studies have suggested that acts of deposition most likely played a key role in the construction and maintenance of cultural memory. Acts of deposition gave a place in the landscape a certain identity, ritual acts sacralized the chosen site, while ceremony and the assembly of special or highly valued objects created emotional and social memory. In this sense, hoards were significant building blocks of collective memory and imbued a given community with a sense of cohesion (Brück 2016, 76; Szabó 2019, 196). In recent years, interest in ritual practices in the past has grown, as archaeologists have sought to move away from narrowly functionalist interpretive frameworks. The way(s) in which 'ritual' has been used within archaeological discourse demonstrates the difficulties surrounding extreme positivist and idealist positions. Archaeologists have generally followed anthropological definitions of ritual, describing ritual action as 'highly formalized or structured modes of behavior' (Brück 2016, 314). Certain objects are defined as objects that have a ritual role because archaeologists were unable to understand them from a functional perspective. Thus, artifacts or actions that could not be assigned a practical role were often interpreted as evidence of ritual practice. What actually happens is that interpretation often defaults to 'ritual'; if sites or artifacts cannot be explained by contemporary functionalist reasoning, then they become relegated to the residual ritual category (Renfrew, 1985, 20). In the archaeological literature, it is common for the term ritual' to be used as an all-encompassing label for everything that defies a crude utilitarian explanation. Ritual is first of all a set of practices. If we term that which is everyday, familiar, and common 'domestic', then 'ritual' is something intentionally strange, in the sense that it defies functional or economic explanation and is unusual, striking, and symbolic when placed within its temporal and

spatial context (Hodder 1982, 164; Brück 1999, 319). There are no unusual objects in the hoards; they all have a functional role in everyday life. But, in the archaeological record, their collective biographies, the way they were deposited, treated individually or in groups, alongside their spatial and temporal contexts, confer upon them an unusual ritual act, which is outside the domain of the profane. William Walker explicitly argued against a simple division between utilitarian and non-utilitarian artifacts. Instead, he argued that the ritual aspects of artifacts are a product of their use in a ritual context; that normal, everyday artifacts take on special ritual meaning based on ritual use during the artifact's life (1998, 246). Ritual can also be treated as a special type of communication. Although ritual actions do not have to be repeated, they almost always are, and this is a key mechanism behind memory formation. In practical terms, if they are repeated, rituals have a greater chance of being identified archaeologically, as when we find material remnants of actions that were repeatedly performed over a certain period of time (Blake 2005, 104).

Conclusion

It is clear that ritual behavior can occur in a variety of contexts across a range of temporal, spatial, and social scales. Central to this approach is the notion that ritual practices and sites will be identified by their distinctly different and unusual formal characteristics (e.g., unusual spaces, dedicated 'ritual assemblages' of specialized implements or votive items). Prehistoric ritual was intentionally ambiguous, drawing on elements of domestic life and providing new insights and emphasis through distinctive types of performance or forms of ritualization. Ritual thus offered a different way of experiencing the domestic, and through it people could develop an understanding of their world that linked the everyday with the cosmological. Understanding ritualization is therefore key to identifying and interpreting prehistoric ritual in the archaeological record. Eating and drinking are everyday activities, but also part of ritual. In addition to temporality, spatiality, and social context, food consumption can become ritualized by consuming everyday foodstuffs in combination with special or highly valued types of objects, by consuming unusual forms of food, or by preparing food or ingredients in a special way (Tomkins 2009, 131ff). Viewed from a certain perspective, the set of vessels from Vukovića Cave can be interpreted as rather unusual. The cave is dark, extremely humid, with seasonal flooding, and limited interior and exterior space. No traces of a hearth or the use of artificial lighting have been confirmed. However, if the vessels were used as part of a ritual, this would have been temporally limited; there is no evidence of a longer stay or repetition of actions. Similar can be said for the deposition of metal goods in Hrustovača and Mišarica Caves; it seems likely that these are individual actions. But these actions are part of the broader cultural context of the Late Bronze Age, and it is in this milieu that they should be interpreted.

Caves occupy a distinctive place in the world of landscape and sensorial experiences due to their special morphological properties. Holley Moyes argued that the dark zones of caves do not offer high-quality opportunities for habitation but do offer high-quality

opportunities for hiding and secrecy. Due to the sensory deprivation brought on by darkness and silence, the dark zones of caves can help to invoke meditative states or stimulate otherworldly experiences, a type of affordance. Interestingly from an archaeological perspective, what we can observe is that cave dark zones were used almost solely as places of ritual or special function from the earliest stages of human development. Archaeological research on cave sites brings into focus the implicit and explicit uses of phenomenology in interpreting the archaeological record – perhaps more so than any other subfield of archaeology – because of the unneglectable properties of the cave environment itself. Caves are dark, cold, enclosed, often dank, and stunningly quiet or full of reverberation when humans are present. Bats often inhabit caves and the smell of guano is pungent and unmistakable. Speleothem formations adorn many caves, often serving as natural partitions of space. They may be labyrinthine and difficult to navigate due to the fact that, in the shadowy darkness, features in the environs are difficult to recognize and identify. However, in spite of their various morphologies and special characteristics, the one property of caves that is perhaps most impactful upon the human experience and behavior within them is darkness (Moyes 2023, 319). Interest in caves as potentially important sites in terms of archaeology remains somewhat modest in the history of archaeological research in Bosnia and Herzegovina, with their potential remaining largely unrecognized and inadequately valued. Research to date has been mostly limited in terms of both methodology and research questions, with typo-chronological interpretation of the material recovered having dominated interpretive approaches and discussion thus far.

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