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LETO 2018



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An Update On The Data About The Late Neolithic And Eneolithic In Friuli

Paola Visentini, Museo Archeologico, Civici Musei di Udine, Udine

V zadnjih letih so nam ponovno preučevanje starih najdb, nekaj slučajnih odkritij in nedavna izkopavanja omogočili prenovljen vpogled v najmlajše faze neolitika in eneolitika v Furlaniji. Obsežni podatki, ki so nam na voljo, nam za enkrat še ne omogočajo, da bi predstavili celovito sliko, vendar prikazujejo obsežno območje poselitve, ki ga v poznem neolitiku zaznamujejo padanski kulturni vplivi, medtem ko se v času eneolitika pojavijo značilni znaki povezav s čez alpskim in še posebej z balkanskim svetom.

Ključne besede: pozni neolitik, eneolitik, naselbinska tipologija, keramika, industrija kamnitih odbitkovnih orodij, industrija glajenih orodij, kovinske najdbe, poselitev, kulturni vplivi

In the last years, the re-examination of old finds, some casual discoveries and recent excavation works allowed us to update our knowledge on the latest phases of the Neolithic and Eneolithic in Friuli. The increasing data at our disposal do not allow to present an organic picture yet, but it depicts a vast occupation area characterised during the Late Neolithic by a Padan cultural influence, whilst during the Eneolithic significant signs of connections with the transalpine and especially the Balkan worlds have emerged.

Keywords: Late Neolithic, Eneolithic, settlement typologies, pottery, chipped lithic industry, polished lithic industry, metal artefacts, occupation, cultural influences

In the last years, the re-examination of old finds, some casual discoveries and recent excavation works allowed us to update our knowledge on the latest phases of the Neolithic and Eneolithic in Friuli (Tasca and Visentini 2010; Borgna et al. 2011; Visentini et al. 2015; Visentini 2018). The distribution of the finds demonstrate that funerary evidences are almost completely absent while settlements were limited, for now, to the high plain and piedmont areas, even though the numerous finds discovered out of context had a much wider diffusion on the territory.

At present, the data on the Late Neolithic environmental and palaeoeconomical aspects (Micheli in press) are being studied, whilst there

are data available for the last phases of the Eneolithic from the fortified site at Meduno-Sach di Sotto, located in the north-western part of the region (Visentini et al. 2015).

The Last Phases Of The Neolithic

Overall, the region has presented many evidences attributable to the last phases of the Neolithic, but they mainly are finds with scarce lithic and/or ceramic materials attributable to that period and usually not coming from stratigraphic excavations, as is the case of Molin Nuovo (Fragiacomo and Pessina 1995) and Gramogliano (Bastiani et al. 1997) in the province of Udine, and San Tomé di Dardago in the province of Pordenone (Pettarin et al. 1997). As for Trieste's



Figure 1. Aerial view of Palù di Livenza (PN).

karst, there are many caves and abris with Danilo-Vlaška elements which seem to also characterise a Neolithic advanced phase in that area, and sherds with Besenstrich-finished surface usually attributed to a period from the Late Neolithic to the Eneolithic. These are some of the sites: Grotta dei Ciclami (Legnani and Stradi 1963; Gilli and Montagnari Kokelj 1993), Riparo di Monrupino (Bertoldi 1996), Grotta Tartaruga, Grotta Cotariova, Grotta del Muschio, Grotta Azzurra, Grotta Gigante, Grotta di Trebiciano, Grotta del Mitreo, Grotta dell'Orso and Grotta del Pettiroso (Barfield 1999).

Unfortunately, because of the absence of certain stratigraphies, a precise picture of the Late Neolithic phenomenon in this part of Northern Italy cannot be drawn (Visentini 2018) and now it seems complicated to even define a precise chrono-cultural context and the eventual participation to the phenomenon of the site at Palù di Livenza (PN) (Figure 1), now

attributed to the Late Neolithic. In effect, preliminarily, the remarkable complex of materials found during the research and the excavations carried out during the 1990s seems to be ascribable to the Late Neolithic; this inhabited area is characterised by cultural aspects with a predominant coarse ware with ribs, whilst the Western and Square-Mouthed Pottery elements are rare (Figure 2). Only recent stratigraphic research activities carried out by the Superintendence have started to clear up the picture: they brought to light some SU characterised by the considerable prevalence of coarse ware with plastic decorations (impressed ribs and hollow bosses) associated with rare SMP and Western elements dating back to around the first centuries of the 4th millennium BC (Micheli in press). The planned in-depth analysis of the excavation works could reveal the presence of an earlier occupation phase.

As for the easternmost territories, the rare elements of Western tradition only sporadically

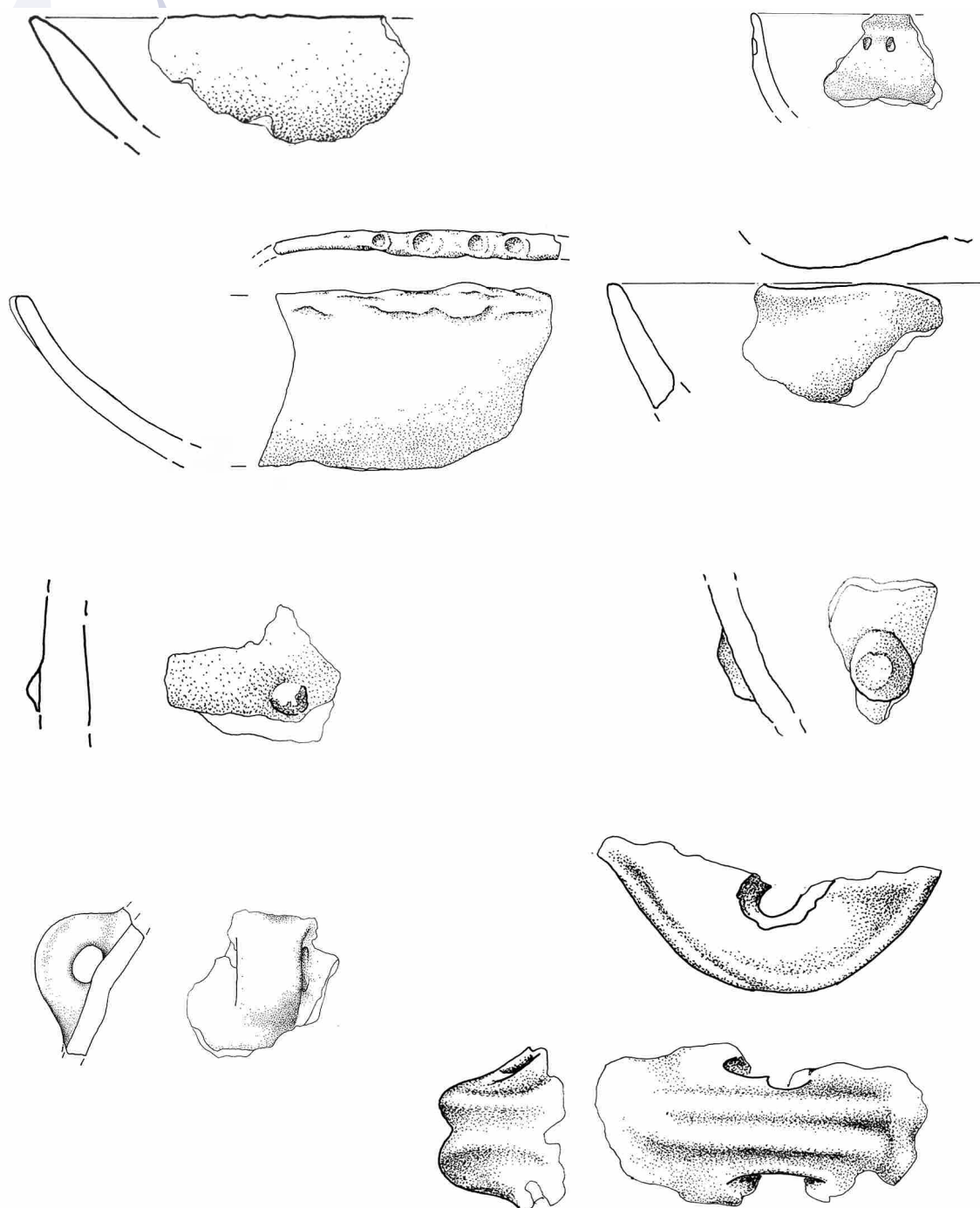


Figure 2. Palù di Livenza (PN). Pottery from SU 6 (after Visentini 2018).



Figure 3. Location map of main copper age sites in Friuli Venezia Giulia (modified after Tasca & Visentini 2010): 1. Aquileia e Monastero (UD), 2. Marano Lagunare (UD), 3. Piancada (UD), 4. Muzzana del Turgnano (UD), 5. Carlino (UD), 6. Teor (UD), 7. Torsa (UD), 8. Pocenia (UD), 9. Porpetto (UD), 10. Castions di Strada (UD), 11. Medea (GO), 12. Monte Brestovez (GO), 13. San Lorenzo Isontino (GO), 14. Capriva (GO), 15. Monte Quarin (UD), 16. Gramogliano (UD), 17. Pavia di Udine, 18. Pozzuolo del Friuli (UD), 19. Carpeneto (UD), 20. Baldasseria, Pradamano (UD), 21. Molin Nuovo (UD), 22. Martignacco (UD), 23. Roveredo di Varmo (UD), 24. San Vito al Tagliamento (PN), 25. Venchiaredo (UD), 26. Sedulis e Cjastelar di San Giovanni di Casarsa (PN), 27. Zoppola (PN), 28. Pordenone, 29. Palu di Livenza (PN), 30. San Tome di Dardago (PN), 31. Gradisca di Spilimbergo, 32. San Daniele del Friuli (UD), 33. Sant'Odorico (UD), 34. Mereto di Tomba (UD), 35. Fagagna (UD), 36. Colloredo di Montealbano (UD), 37. S. Eliseo di Caporiacco (UD), 38. Palude di Sequals (PN), 39. Meduno (PN), 40. Tarcento (UD), 41. Ciondar des Paganis (UD), 42. Foran di Landri (UD), 43. Grotta di Cladrecis (UD), 44. San Pietro al Natisone e Ponte San Quirino (UD), 45. Velika Jama (UD), 46. Gabrovizza (UD), 47. Colle Mazeit, Verzegnis (UD), 48. Rividischia (UD), 49. Sammardenchia (UD), 50. Muina, Ovaro (UD), 51. Castellazzo di Dorbedo (GO), 52. Nogaredo al Torre (UD), 53. Buttrio (UD), 54. Anaret e Borgo Ampiano (PN), 55. Grotta dell'Edera, Caterina e Azzurra (TS), 56. Grotta del Pettiroso e del Mitreo (TS), 57. Grotta dell'Ansa (TS), 58. Grotta Teresiana (TS), 59. Grotta della Tartaruga (TS), 60. Grotta degli Zingari e Gigante (TS), 61. Grotta Ciclami, Lonza e Riparo di Monrupino (TS), 62. Grotta Cotariva e dell'orso (TS), 63. Grotta delle Gallerie (TS), 64. Grotte di San Canziano (Slovenia), 65. Abisso di Trebiciano (TS), 66. Grotta del Muschio (TS), 67. Rive d'Arcano (UD), 68. Sterpo di Bertio (UD).

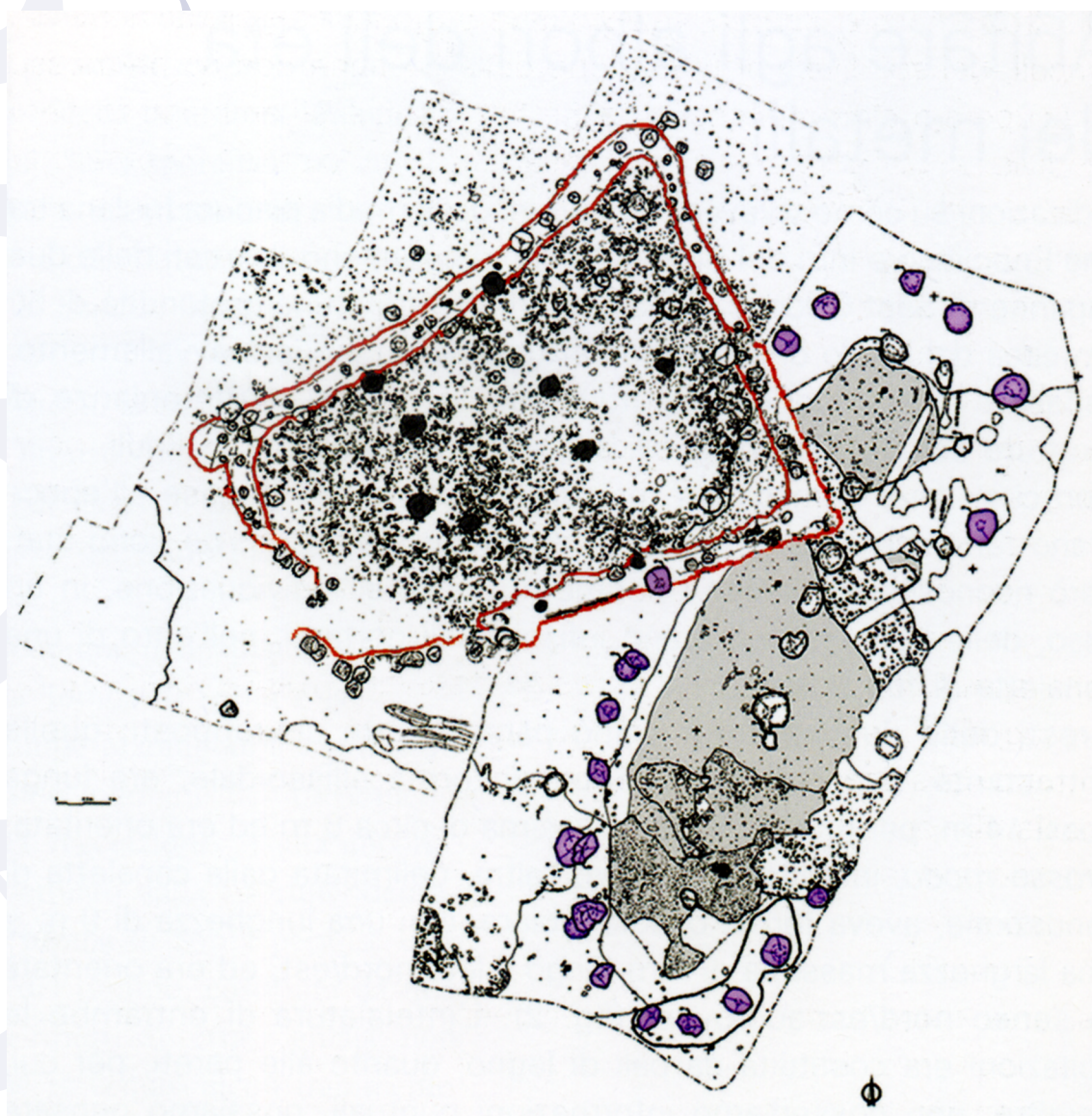


Figure 4. The remains of two Eneolithic huts (after Simeoni 2011).

reached Trieste's karst, but they were not grafted onto the SMP matrix, as is the case of Grotta delle Gallerie (TS), where there are pottery materials attributable to the final phase of the SMP. On the contrary, Western traits have been documented in the Ljubljana marshes, at the site of Maharski Prekop, Slovenia (Greif and Montagnari Kokelj 2002, Fig. 3) and in nearby Carinthia, where, following alternative itineraries,

SMP elements such as four-spouted vessels, pin-taderas, and Western traits such as double-perforated handles and flat spindle whorls, reach the site of Kanzianiberg (Pedrotti 1990).

In summary, especially thanks to pottery complex found at Palù di Livenza (PN), the pottery production during the Late Neolithic in Friuli is characterised by vessels with coarse - and only rarely medium-ware, and almost exclusive-

ly plastic decorations. There are bowls with impressed rims, impressed mouth, conical bosses and hollow bosses right under the rim, and jars, non-articulated and extremely deep forms decorated with parallel series of impressed ribs, impressed ribs right under the rim and impressed ribs combined with hollow bosses. There are few four-spouted vessels and the elements of Western tradition are rare. Incised decorations are scarce if not completely absent.

As for the lithic industry, the provision systems, especially at Palù di Livenza, show the prevalence of raw materials coming from the province of Belluno and the Tagliamento's valleys, whilst only 40% of flint comes from the *Piattaforma Veneta* (Dal Santo 2003). The technological aspects remained almost unvaried as compared to those highlighted in the third SMP style, with a variant constituted by the rise in the laminar production probably due to the connections with the Western world, which have been observed also in the pottery production (Bianchin Citton et al. in press). Probably because of the interest in new raw materials, the retouched artefacts are numerically scarce: some contexts documented the presence of elements ascribable to the SMP world, such as the tanged arrowheads and shoulders, or to the Western world, such as the transversal tranchets.

Settlement Aspects, Funerary Evidences And Out-Of-Context Finds Attributable To The Eneolithic

Evidences referring to the Eneolithic are much more considerable (Figure 3). Two pits containing pottery artefacts found in the high plain of the province of Udine could be attributed to the settlement aspects of its ancient phase. According to the typological comparison between materials, the most ancient pit seems to be the one found in the area surrounding the burial mound at S. Odorico di Flaibano (UD). Deep bowls with distinct rims have been compared with those found in the Ljubljana Marshes, at Maharski prekop, a site dating back to the first half of the IV millennium BC. The pit at Carpeneto, near Pozzu-

olo del Friuli, not far from Udine, probably dates back to a slightly later period, between the mid-4th and mid-3rd millennia BC. It was surveyed by the Superintendence in 2005. The sherd of a vessel with sinuous profile and vertical tunnel handle, and two rim's sherds, one probably belonging to a shallow bowl while the other to a bowl with narrow neck, can be compared to the finds from Hočevarica and Maharski prekop, in the Ljubljana Marshes, and an artefact found at Podmol, in the Slovenian karst (Borgna et al. 2011).

At S. Odorico di Flaibano, the remains of two Eneolithic huts have been found (Figure 4). The most ancient hut has an elliptical plan and it is approximately N-S oriented. It is delimited by a row of postholes, which is double on the North side, and it presents a line of six posts, probably used to bear the weight of the ca. 13 x 5 m roof. From a stratigraphic point of view, the other structure, delimited by a ditch, seems to be partially overlapping the first one. It has a S-W oriented and 9 x 6 m trapezoidal plan. The materials collected during the excavation works mostly come from the most recent structure: sherds of walls decorated with bosses, polished and fingertipped ribs, or transversal-notched impressions, tongue-like handles, sherds of bowls' rims, among which there is a bowl with inward-curved walls and a tube-shaped handle that reaches the rim. The common elements have been identified in Eneolithic sites in Austria and Slovenia, namely the Late Beaker Culture site of Oggau-Wipfing (Neugebauer and Neugebauer-Maresch 2001), and the inhabited areas of the Ljubljana Marshes ascribable to the Parte and Založnica's Somogyvár-Vinkovci *facies* (Vitri et al. 2012).

The biggest number of data has been collected in the settlement of Meduno-Sach di Sotto, located on the high plain in the province of Pordenone, between 292 and 297 m a.s.l., on a river terrace at the confluence of the Meduna and Rugo torrents. The settlement area is delimited east, west and south by a steep slope that reaches the watercourses. Northwards the rolling plain ends with a rectilinear embankment preserved for 115 in length and delimit-



Figure 5. Aerial view of Meduno Sach di Sotto (PN) (after Visentini et al. 2015).



Figure 6. Meduno Sach di Sotto. A rectilinear embankment preserved (after Visentini et al. 2015).

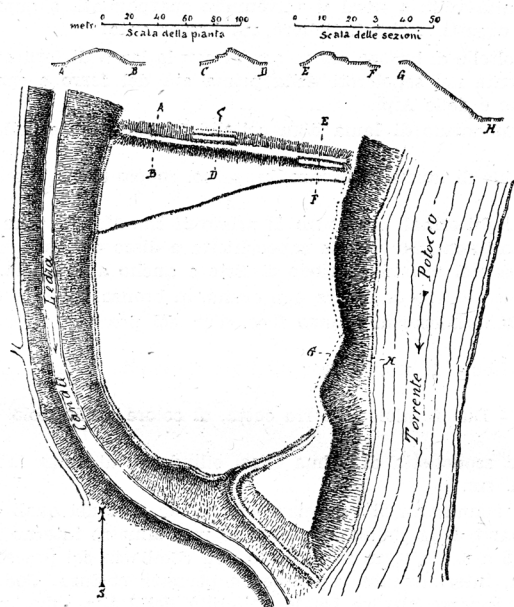


Figure 7. Survey map of Rive d'Arcano (UD) (after Quarina 1943).

ed by a ditch on its outer side (Visentini et al. 2015) (Figures 5 and 6). This type of settlement was already known in Friuli since the first years of the 20th century, with some typological variants in two towns in the province of Udine: Rive d'Arcano (Figure 7), near San Daniele del Friuli, where northwards of the morainal promontory there is a rectilinear embankment, and Ponte San Quirino, near Cividale (Figure 8), that is also the originating site of the Eneolithic lithic industry (Gerdol and Stacul 1978, 70-80). Conversely to those two sites, the village of Meduno was not surveyed by Lodovico Quarina who, in the 1930s, was inspired by the research works of Giovanni Battista De Gasperi (Marinelli 1922) and, most of all, Achille Tellini (Tellini 1900), and described many of those emerging protohistoric structures. At that time the embankment was probably clearly visible, as it was only interrupted by one rural road, just like now. But given the similarity between the two above-mentioned settlements, Meduno-Sach di Sotto could be included in the category Quarina named "Castellieri (hillforts) near watercourses" (category C) (Quarina 1943). In truth, now we know that it is

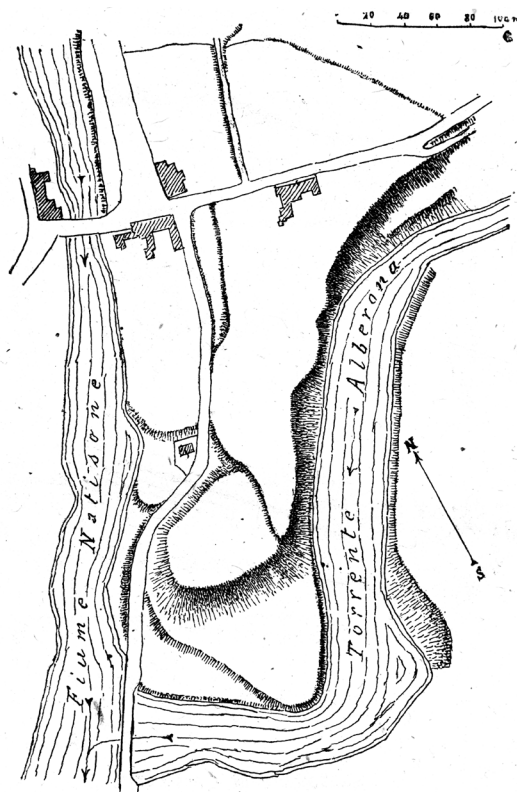


Figure 8. Survey map of Ponte San Quirino (UD) (after Quarina 1943).

a type of settlement known throughout Western and Central Europe under the name of "éperon barré" or "barred spur", although the term indicates a vast and various complex of settlements protected by embankments which seem to have appeared during the early metal ages in that area (Càssola Guida 2011).

As previously said, at Meduno the defensive embankment runs for 115 m in length and 6-7 m in width. It is composed by a modest silt core and characterised, especially in the northern part, by the presence of big boulders probably gathered from the western borders of the site or the Meduna riverbed (Figure 9). The earthwork is characterised on the outside by the presence of an open conical ditch more than 2 metres deep, as recorded in the western edge (Figure 10). According to the present research, in addition to the various pottery and metal sherds of

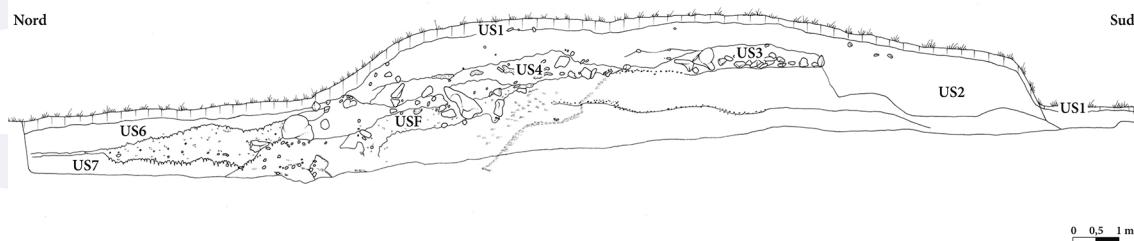


Figure 9. Meduno, Sach di Sotto. Section N-S of the embankment and the ditch (after Visentini et al. 2015).

recent age and attributable to a series of interventions to farm the embankment and plant trees, the only element surely belonging to the most recent prehistoric times can be ascribed to an advanced phase of the Ancient Bronze Age. It is a sherd of a vessel with a tongue-like handle and a central impression, found in the southern part of the defensive structure in a fragmentary stratigraphic unit.

The defensive embankment was probably built and used in a prehistoric period corresponding to the one documented in the structures found in the southern part of the river terrace. The typological comparison of the materials demonstrates it, while the two radiocarbon dates available do not completely confirm the hypothesis: while the date of the embankment layers, although ancient, can be located between 3498 and 3096 BC (cal 2 σ)¹, and it is pretty close to that of the structures dug in the southern part of the terrace, the date obtained from a coal ore found in a layer of the ditch outside the embankment is located between 4038 and 3793 BC (cal 2 σ)², that is to say a period corresponding in Friuli to a Late Neolithic phase, which has not been observed in the gathered archaeological materials.

Little can be said about the structures inside the settlement. The coring activity systematically carried out throughout the river terrace and some test pits signalled a series of structures con-

centrated only at the south-eastern border of the area, where, as previously said, pits and trenches have been found. Only few dozens of centimetres of those structures were preserved because of the farming activity and the strong washing away of the terrain surface.

From a chrono-cultural point of view, because of the scarce number of archaeological materials found in the structures and the heavy fragmentation, the interpretative analysis is quite limited. The lithic industry on chipped flint is characterised by scarcely laminated materials and the use of lithotypes mostly of local origin, being those two aspects already observed in other sites ascribable to the first metal ages in Friuli (Castiglioni et al. 2003) and generally in Northern Italy (Barfield 2001). Despite the restricted number of retouched artefacts, in the technological structure there is a prevalence of flat retouched tools and *substratum*. Generally, some typologies reproduce the Eneolithic ones known in Northern Italy and those of the Beaker *facies*, such as segments, triangular and tanged arrowheads and dagger blades, unfortunately preserved only in their mesial portion. As for the data concerning the polished-stone industry, the artefact belonging to the axe-hammer typology has been made with raw materials of local origin, while the other axe sherd, after a petrographic analysis, shows that the Eneolithic groups were interested in the raw material sources generally located in Central Europe.

The pottery production allows us make some observation on the site from a cultural point of view: such evaluations generally sup-

1 Unless otherwise noted, all the dates are indicated in radiometric calibrated chronology, calculated with OxCal version 4.3 following the INTCAL13 curve and selecting the intervals with 2 sigma. Embankment SU6 GrN-22818 4560±50 BP.

2 Embankment SUF GrN-22755 5120±50 BP.



Figure 10. Meduno, Sach di Sotto (PN). The ditch.

ports the hypothesis by which the Eneolithic pottery repertoires of the Friuli Venezia Giulia region probably had less connections with the contexts of the other regions of Northern Italy and on the other hand shared more similarities with the eastern ones. By cross-checking the information of the pottery production with the albeit limited absolute chronology elements available, two life phases of the settlement can be identified. The initial one is represented by Structures 1, 2 and 9, and according to the radiocarbon date of Structure 9, it is dated between 3090 and 2906 BC (cal 2 σ)³ (Figures 11-13). The most recent one can be traced in Structure 5, dating between 2835 and 2476 BC (cal 2 σ)⁴ (Figure 14). The vessel production coming from the most

³ Pit 9: GrN-27804.4370 $\pm$ 35 BP.

⁴ Pit 5: GrN-27803.4050 $\pm$ 30 BP.

ancient structures and represented by the various sherds with flaring rim and externally thickened edge decorated with instrumental impressions, refers to the complexes found in Slovenia or the easternmost ones in Friuli.

As for the palaeoeconomical data, they attest the existence of farmed fields, together with the knowledge and exploitation of the territories around the site, characterised by a mixed oak grove. The few faunal finds discovered especially in the trenches dug in the embankment, shows that the main domestic species were farmed and wildlife species were hunted, as documented by some traces of impact found on the lithic artefacts. The textile production is documented by a clay spindle whorl, and the leather tanning activity has been prudently proposed after the discovery of many acorns which produce tannin as

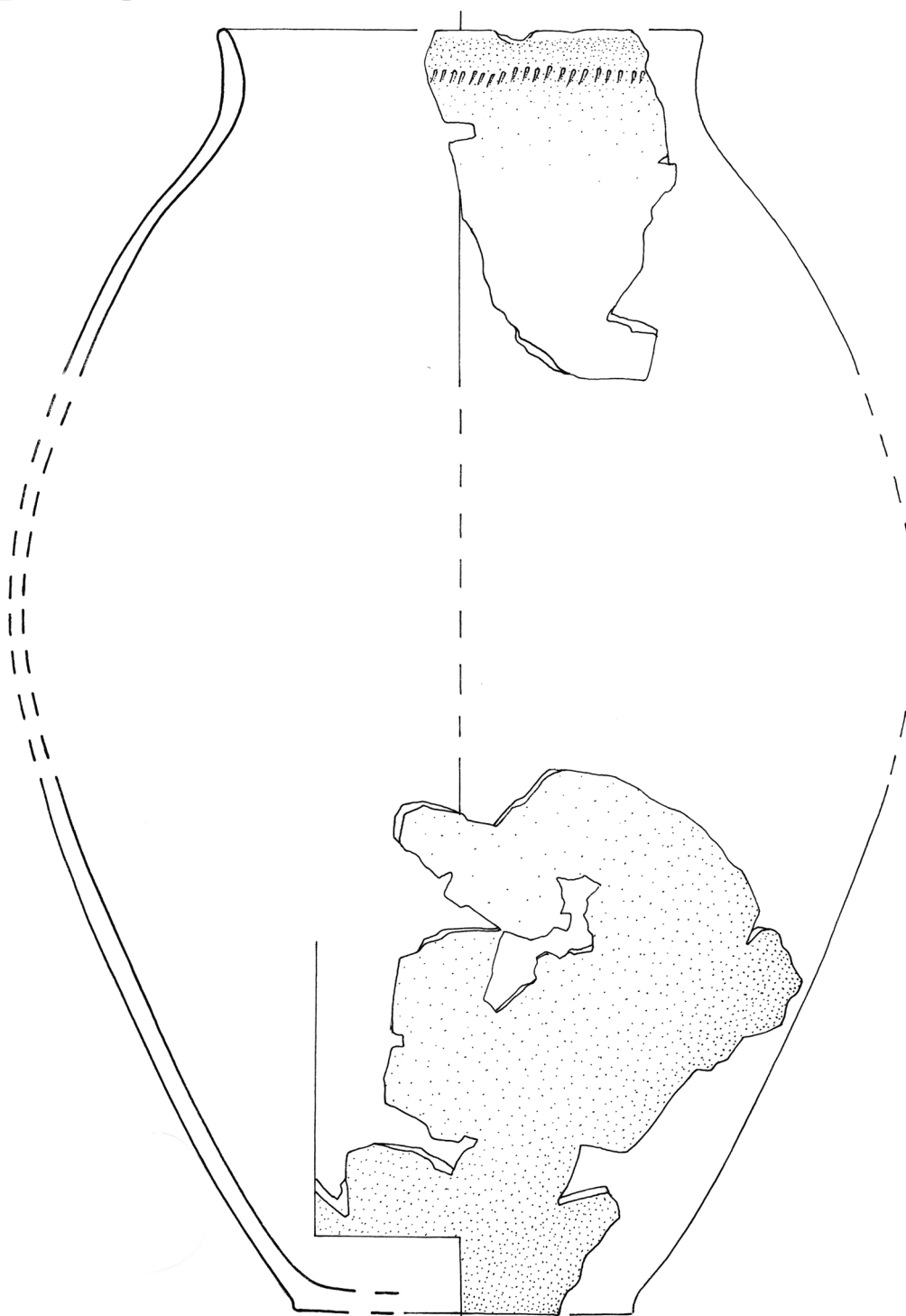


Figure 11. Meduno, Sach di Sotto (PN). A reconstructed pot from Pit 9 (after Visentini et al. 2015, scale 1:2).

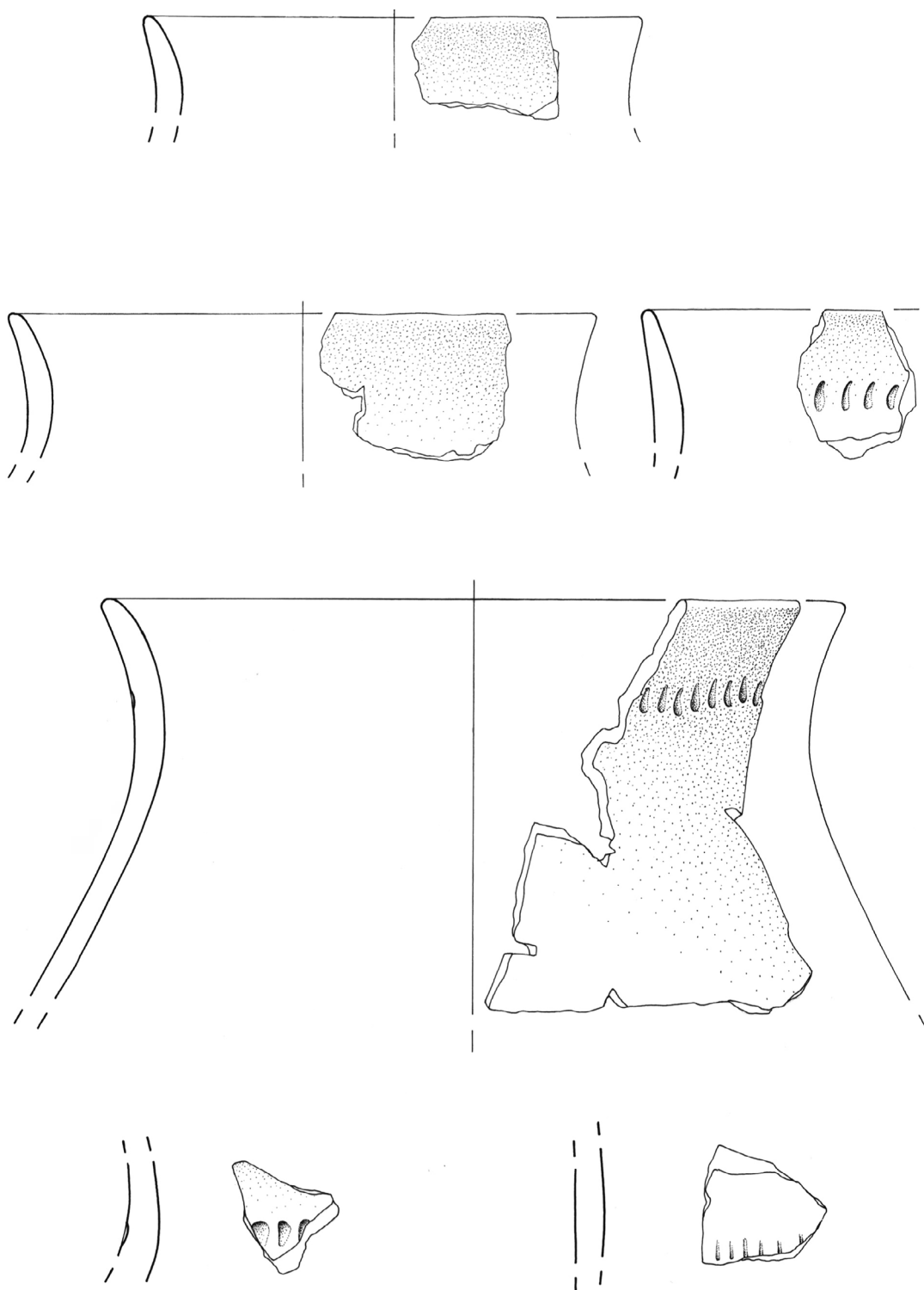


Figure 12. Meduno, Sach di Sotto (PN). Pottery from Pit 9 (after Visentini et al. 2015, scale 2:3).

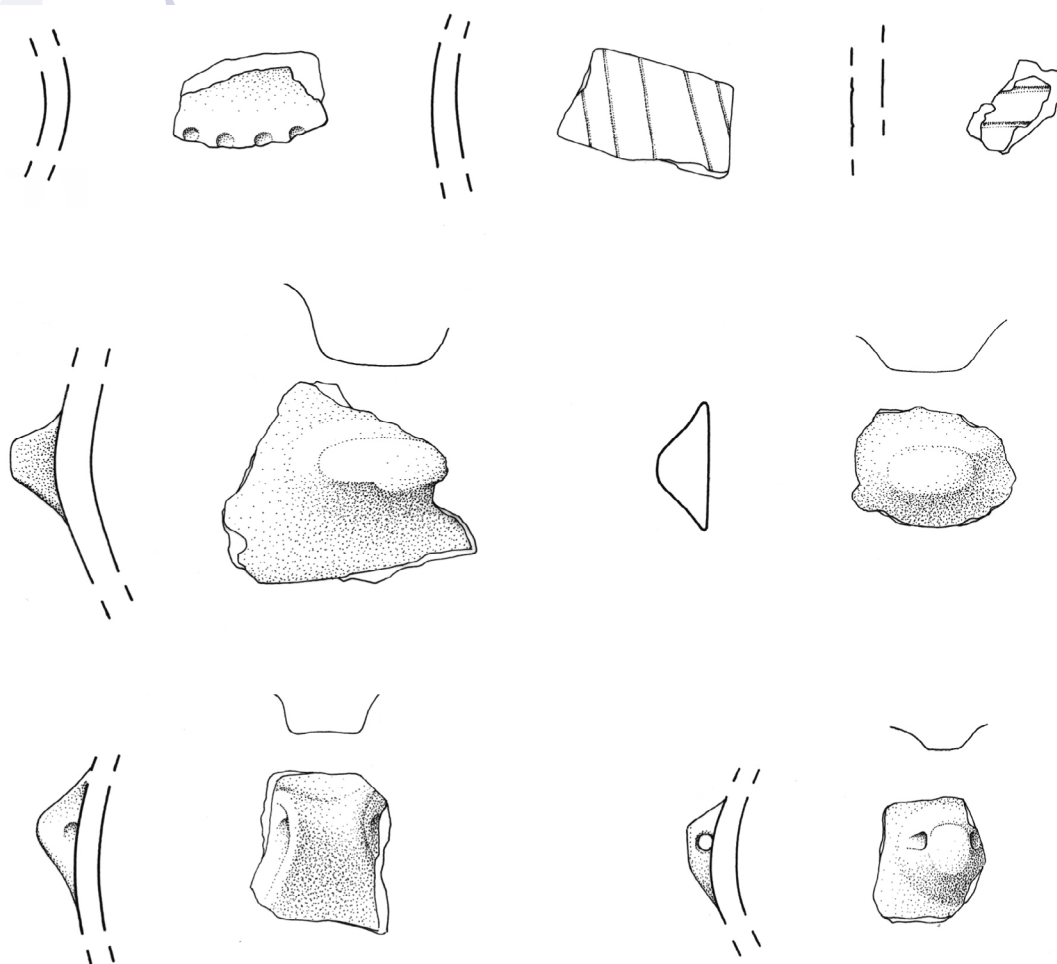


Figure 13. Meduno, Sach di Sotto (PN). Pottery from Pit 9 (after Visentini et al. 2015, scale 2:3).

a by-product if they are correctly processed, and the presence of signs of wear on some lithic artefacts due to said activity.

Little can be said about the funerary evidence of that period. They exclusively come from a cave in eastern Friuli, Ciodar des Paganis, where a human metacarpal was found and then lost (Feruglio 1916), two pendants, one made of sandstone and the other serpentine, a pierced canid tooth, a small pearl of calcarenite and a polished stone axe. Those materials suggests that the cave was used as a sepulchre between the Eneolithic and the Bronze Age (Bressan 1982), as doc-

umented in similar contexts in the Italian Pre-alps.

In conclusion, the overview of the materials found out of context, despite their uncertain chrono-cultural ascription and functional context, significantly expands the Eneolithic occupation area in Friuli. An example is represented by the chipped flint elements, such as the various lunates and dagger blades sporadically found especially in the Friulian lowlands (Montagnari Kokelj 1990).

Furthermore, the limited lithic complexes found at Norgaredo al Torre, San Tomé di Dardago, Anaret, Molin Nuovo, Ponte San

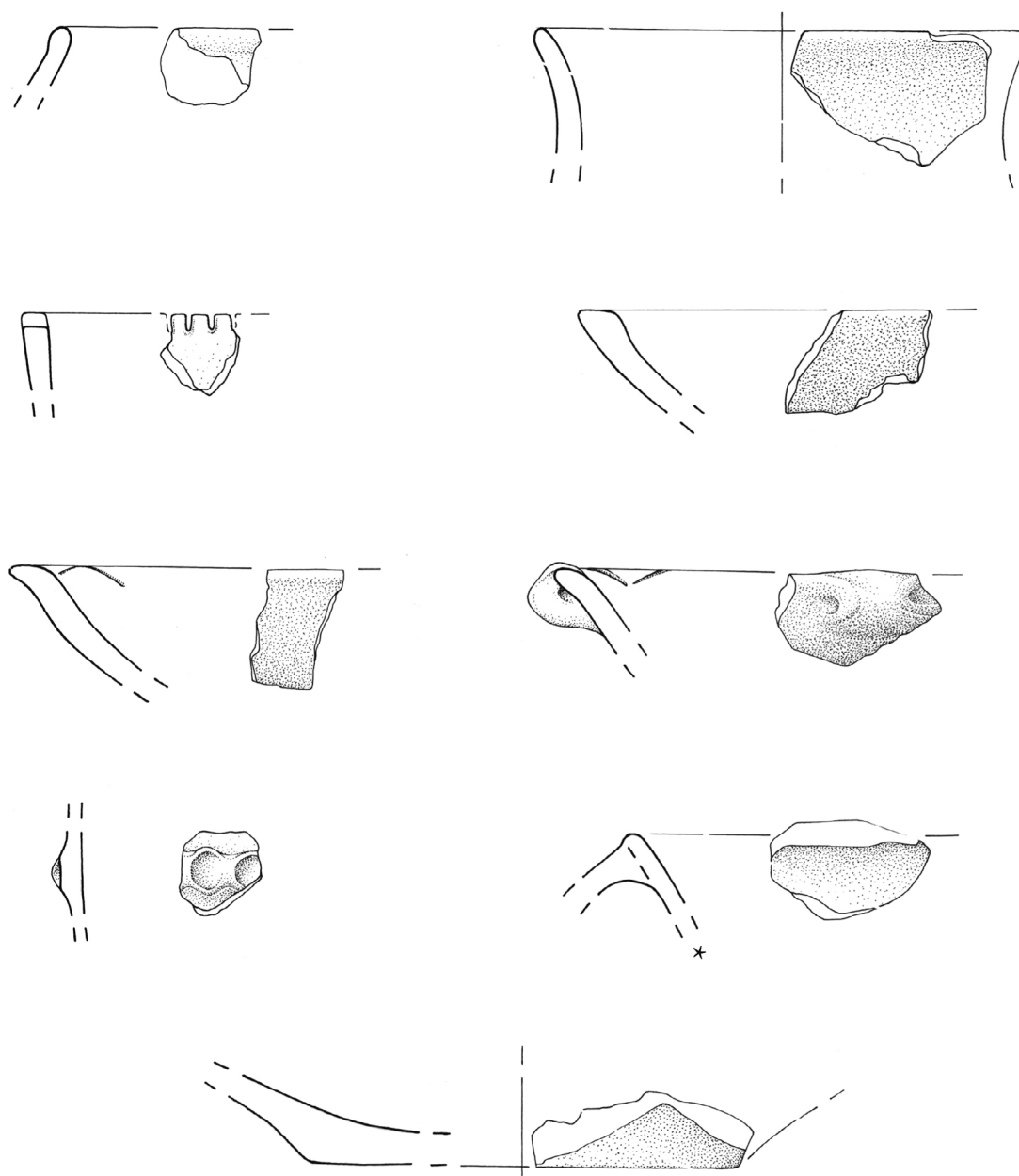


Figure 14. Meduno, Sach di Sotto (PN). Pottery from Pit 5 (after Visentini et al. 2015, scale 2:3).

Quirino and Gramogliano, such as those found during the excavation works at Meduno, and Carpeneto, provide the framework to the structure of the lithic industry in that period. A vast use of local raw materials has been observed; sometimes the silicate limestone was used to

produce summarily retouched instruments, as is the case of Anaret in the province of Pordenone, Gramogliano and Molin Nuovo in the province of Udine. The production of flakes and large flakes seems to have been the main goal of the lithic industry at those sites. The cores are main-



Figure 15. Polished stone shaft-hole axes: 1. San Tomè, Dardago (PN), 2. Meduno, Sach di Sotto (PN), 3. Gradisca, Provesano (PN), 4. Fagagna, Torrente Lavia (UD), 5. Rive d'Arcano (UD), 6. S. Eliseo, Caporiacco (UD), 7. Colloredo di Montalbano (UD), 8. Sammardenchia, Pozzuolo del Friuli (UD).

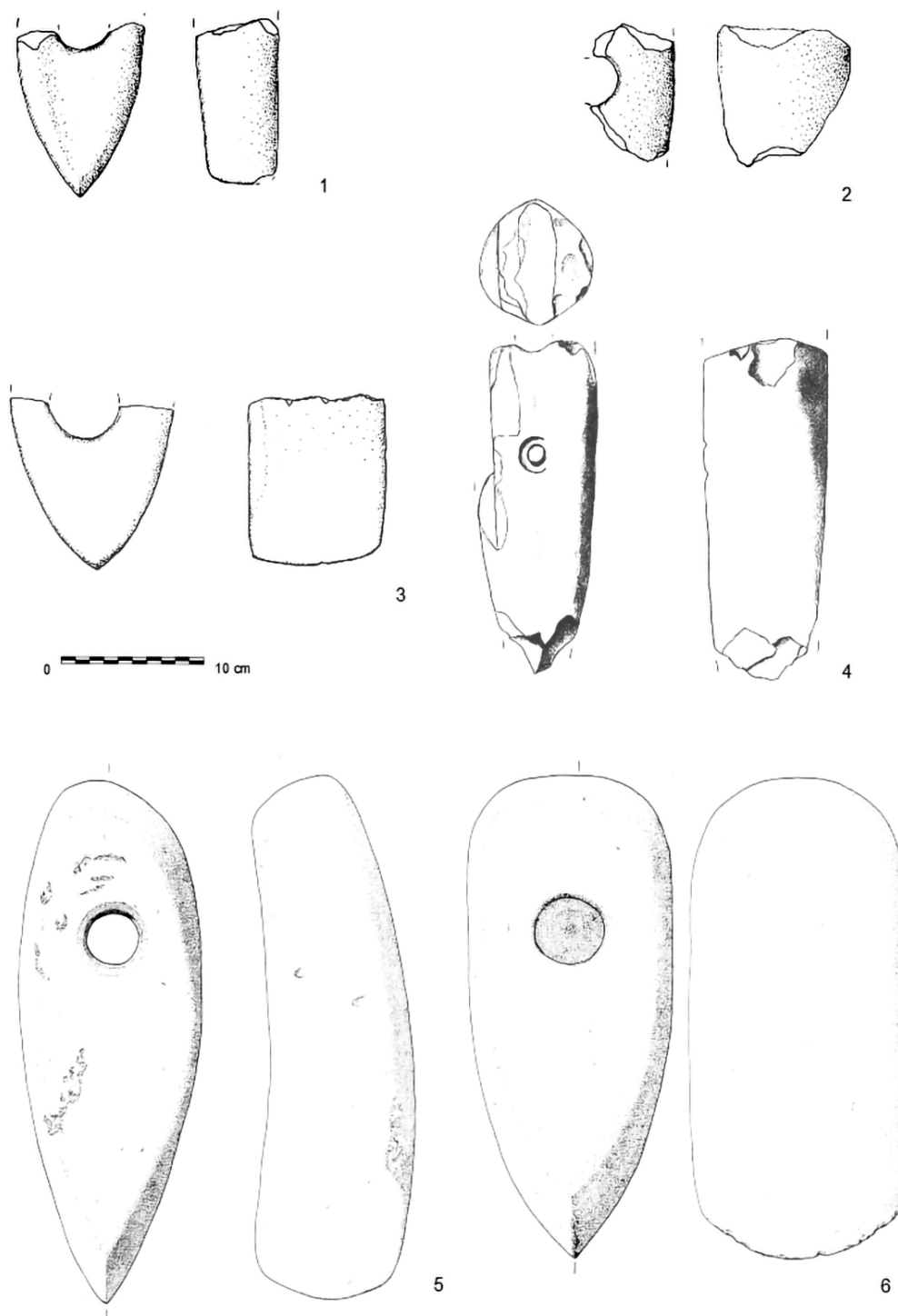


Figure 16. Polished stone shaft-hole axes: 1 and 2. Cjastelar, San Giovanni di Casarsa (PN), 3 and 4. San Giovanni di Casarsa (PN), 5 and 6. Roveredo, Varmo (UD).



Figure 17. Polished stone shaft-hole axes: 1. Torsa (UD), 2. Pavia di Udine, 3. Aquileia (UD), 4. Castions (UD), Baldasseria (UD).

ly polyhedral with flakes and they were usually intensively exploited. The blade production is mainly documented at Meduno, where there are the secondary products for the use of blade cores and most of the instruments were created on laminar supports.

As for the polished stone, in the region more than 30 axe-hammers have been found, 21 of which in the provinces of Udine and Porde-

none⁵. Some of those artefacts call attention to the presence of this typology of artefacts in settlements on high grounds which later became *castellieri* sites. That is the case of the castelliere of Casarsa (PN) where in addition to a lithic industry ascribable to the Eneolithic, four sherds

⁵ The morphological features and recent archaeometric studies concerning the polished stone axe found near Castions di Strada testify long-distance connection systems covering all Central Europe and dating back to the 5th millennium BC (Bernardini et al. 2012).

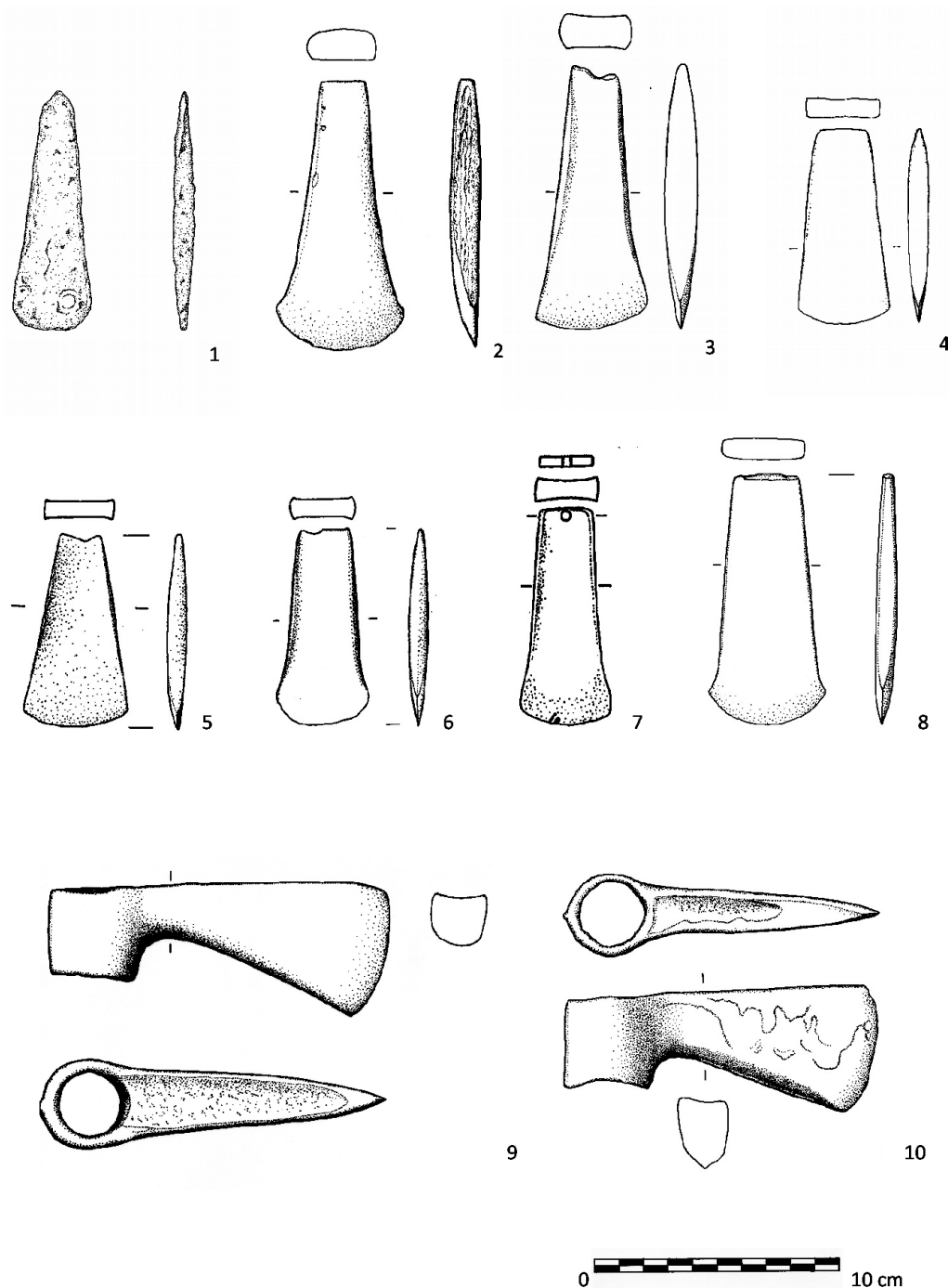


Figure 18. Copper axes: 1. Sterpo of Bertiole 2. Škocjan / S. Canziano, Tominčeva jama / Grotta Tominz, 3, 8, 9. "Aquilaia"; 7. Aquileia, loc. Monastero; 4. Gabrovizza di Savogna; 5. Muina di Ovaro; 6. S. Giovanni di Casarsa, loc. Sedulis; 10. S. Daniele, loc. Fornace (n. 1 drawing D. De Tina, nn. 2, 3, 6, 8, 9, 10 drawings G. Tasca; nn. 4-5: Giumlia Mair 2006: figg. 1-2; n. 7: Vitri 2004: fig. 6/2).



Figure 19. Copper axe from Sterpo of Bertolo (UD) (Archaeological Museum of Udine).

of pierced axes have been found (Corazza et al. 2006), the *castelliere* of Gradisca sul Cosa, and most of all the already described *castelliere* of Meduno-Sach di Sotto (Visentini et al. 2015).

On many of those finds a preliminary lithological analysis has been conducted by observation with stereomicroscope and in diffractometry, which showed especially the use of serpentinites, highly diffused rocks, even on a regional level, as the interest for HP metabasites, diffused in the Neolithic context was probably decreased (D'Amico et al. 1996). The collected data on polished stone Copper Age shaft-hole axes suggest a change in the raw material procurement strategies to the exploitation also of local or medium-distant raw material sources, often testifying to new directions of contacts (Figures 15-17).

In conclusion, there are around ten copper axes⁶, often the results of old finds which were not documented, coming from a vast area between the lowlands, with a particular concentration in the area of Aquileia, and central Carnia (Tasca and Visentini 2010). It is a series of flat

axes and some Kozarac-type axes, vastly diffused in Austria and generally in Eastern Europe. The analyses (XRF and SEM/EDS) conducted by A. Giumlia-Mair (2006) on three artefacts from Carnia (Muina di Ovaro), the right bank of the Tagliamento river (Sedulis di S. Giovanni di Casarsa) and the area of Cividale (Gabrovizza di Savogna), determined the intentional presence of elements in traces similar to those known in deposits in the Austrian area or in the Slovenian Styria, implicating some relations with the northern and eastern side of the Alps, and especially the area of Salzburg, one of the main districts for the extraction of copper (Figures 18-19).

Conclusions

As previously said, in the recent years an increase in the data on the late Neolithic and Eneolithic phases in Friuli allowed us to update our knowledge about that period, even though we cannot draw an organic picture yet.

In Friuli and throughout Italy, the Late Neolithic brought a loss in the cultural identity, specifically in terms of territory, consistency and solidity, which characterised the Middle and Recent Neolithic. That is particularly evident in the pottery repertoire, where the differences on a ter-

⁶ An addition to the set could be represented by the flat trapezoidal axe of ca. 10x3,2x1 cm recently donated to the Archaeological Museum of Udine by Aldo Macor, to whom we hereby express our gratitude, and sporadically found at Sterpo of Bertolo.

ritorial base seems to be less clear than how they were described in the past (Visentini 2006). On the other hand, now a common matrix crucially emerges; it can be recognised by the presence of especially coarse ware pottery characterised by plastic decorations such as fingertipped ribs, conical and hollow bosses, on which Western and Padan elements have been added (Visentini 2018).

As for the Eneolithic, relevant traces of relations with the transalpine world, and especially the Balkans, can be found by looking at the raw materials which were used and the typological similarities of the pottery and metallic artefacts. In that phase, the formation of settlements defended by embankments which later found their peak in terms of diffusion during the Middle Bronze Age, suggests that they were used as a shelter because of a general situation characterised by uncertainty, or to control the surrounding territory or a route.

Translated by Elena Modotto

Povzetek

V zadnjih nekaj letih nam je ponovno preučevanje starih najdb, med njimi nekaj priložnostnih odkritij in iz nedavnih izkopavanj omogočilo, da smo posodobili svoje znanje o najbolj poznih fazah neolitika in eneolitika v Furlaniji. Distribucija najdb kaže na skoraj popolno odsotnost dokazov funerarnega značaja in območje poselitve, omejeno na višje ležečo ravnino in območje Piemonta, čeprav veliko najdb, odkritih sicer izven konteksta, izkazuje veliko širšo prostorsko razprostranjenost. Trenutno se podatki o paleoeconomijskih in okoljskih vidikih poznega neolitika v Furlaniji analizirajo na osnovi preučevanja najdišča Palù di Livenze (LN), arheološko najdišče, ki ponuja zanimive podatke tudi v smislu kulturne pripadnosti najdb. Med izdelki iz gline so značilne posode grobe zrnivosti - redko so srednje zrnivosti - in okrašene skoraj izključno s plastičnimi okrasi. Odkritih je bilo zelo malo posod s štirimi izlivi; elementi t.i. zahodne tradicije so redki. Vrezani okrasi so redki, če že ne skoraj popolnoma odsotni. Kar zadeva kamnito industrijo lahko rečemo, da preskrbovalni sistemi, zlasti v Palù di Livenza, kažejo razširjenost uporabe surovin, ki prihajajo iz pokrajine Belluno in iz doline Tilenza, medtem ko samo 40 % kremena prihaja iz pod-

ročja Piattaforma Veneta. Tehnološki vidiki so ostali skoraj nespremenjeni v primerjavi s tistimi, ki so bili poudarjeni v tretjem SMP slogu, pri čemer je bila varianta, ki je nastala zaradi vzpona laminarne proizvodnje, verjetno posledica povezav z zahodnim svetom, kar se opazi tudi v proizvodnji keramike.

Kar zadeva eneolitik, pa razpoložljivi podatki večinoma prihajajo iz najdišča Meduno - Sach di Sotto (PN), ki se nahaja na rečni terasi ob sotočju dveh rek. Lokacija odlikujejo strma pobočja proti severovzhodu in jugozahodu, na severu pa je obdan z nasipom in z zunanjim obodnim jarkom. Ta vrsta naselbine je v zahodni in srednji Evropi poznana pod imenom »éperon barré« ali »barred spur«. Za kamnito industrijo odbitkovnih orodij so značilni redko laminirani primerki in uporaba litotipov, večinoma lokalnega izvora. Ti značilnosti sta bili opaženi tudi na drugih najdiščih in se lahko pripišejo začetkom kovinskih obdobij v Furlaniji in na splošno v severni Italiji. Na splošno nekatere tipologije reproducirajo eneolitske trende, znane v severni Italiji in v fazah zvončastih čaš, kot so krožni segmenti, trikotne in ostale puščične konice ter različna rezila. Lončarska proizvodnja podpira hipotezo, da so eneolitski keramični repertoarji iz dežele Furlanije-Juljske krajine najverjetneje imeli manj povezani z drugimi območji severne Italije; več podobnosti se kaže z lončarsko produkcijo območij na vzhodu. Z navzkrižnim preverjanjem informacij o proizvodnji keramike z razpoložljivimi absolutno kronološkimi podatki, ki so na voljo, je mogoče identificirati dve fazi poselitve. Prva, zastopana s strukturami 1, 2 in 9, sodi glede na radiokarbonski datum iz strukture 9 med 3090 in 2906 pr.n.št. (Cal 2σ). Novejšo pa je mogoče zaslediti v strukturi 5, ki sega od 2835 do 2476 pr.n.št. (Cal 2σ).

Za zaključek lahko ugotovimo, da gradivo, ki je bilo odkrito izven konteksta, kljub negotovi kronološko-kulturni umestitvi in funkcionalnemu kontekstu, bistveno razširi eneolitsko poselitveno območje v Furlaniji. To so razni kremenasti odbitki, kot so npr. noži, bakrene in polirane kamnite sekire.

Summary

In the last years, the re-examination of old finds, some casual discoveries and recent excavation works allowed us to update our knowledge on the latest phases of the Neolithic and Eneolithic in Friuli. The distribution

of the finds shows an almost total absence of funerary evidences and the occupation zone limited to the upper plain and the piedmont area, although many finds found out of context had a much wider diffusion over the territory.

At the moment, the data of the palaeoeconomical and environmental aspects concerning the Late Neolithic in Friuli, are being analysed through the study of the site of Palù di Livenza (PN), a site which provides interesting data also in terms of cultural materials. The clay production is characterised by vessels with coarse ware - rarely medium ware - and almost exclusively plastic decorations. There are few four-spouted vessels and the elements of Western tradition are rare. Incised decorations are scarce if not completely absent. As for the lithic industry, the provision systems, especially at Palù di Livenza, show the prevalence of raw materials coming from the province of Belluno and the Tagliamento's valleys, whilst only 40% of flint comes from the Piattaforma Veneta. The technological aspects remained almost unvaried as compared to those highlighted in the third SMP style, with a variant constituted by the rise in the laminar production probably due to the connections with the Western world, which have been observed also in the ceramic production.

As for the Eneolithic, the available data mostly come from Meduno - Sach di Sotto (PN), a site located on a fluvial terrace at the confluence of two rivers. It is characterised by steep slopes to the North-East and South-West, and it is defended to the North by an embankment with an external ditch. This type of settlement is well-known in Western and Central Europe under the name of "éperon barré" or "barred spur". The lithic industry on chipped flint is characterised by scarcely laminated materials and the use of lithotypes mostly of local origin, being those two aspects already observed in other sites ascribable to the first metal ages in Friuli, and generally in Northern Italy. Generally, some typologies reproduce the Eneolithic ones known in Northern Italy and those of the Beaker *facies*, such as segments, triangular and tanged arrowheads and dagger blades. The pottery production supports the hypothesis by which the Eneolithic ceramic repertoires of the Friuli Venezia Giulia region probably had less connections with the contexts of the other regions of Northern Italy and on the other hand shared more similarities with the eastern

ones. By cross-checking the information of the ceramic production with the albeit limited absolute chronology elements available, two life phases of the settlement can be identified. The initial one is represented by Structures 1, 2 and 9, and according to the radiocarbon date of Structure 9, it dates between 3090 and 2906 BC (cal 2σ). A more recent one can be traced in Structure 5, dating between 2835 and 2476 BC (cal 2σ).

In conclusion, materials found out of context, despite their uncertain chrono-cultural ascription and functional context, significantly expands the Eneolithic occupation area in Friuli. Those are chipped flint elements, such as the various reports of lunates and dagger blades, the copper and polished stone axes.

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Arheološke raziskave na najdišču Školska Tumba v Mogili v letu 2014 (Severna Makedonija)

Alenka Tomaž, Univerza na Primorskem, Fakulteta za humanistične študije,
Inštitut za arheologijo in dediščino, Koper
Goce Naumov, Muzej na Makedonija, Skopje

Arheološke raziskave v Pelagoniji (Severna Makedonija) so po nekaj desetletnem premoru v zadnjem desetletju doživele ponoven zagon. V članku predstavljamo rezultate arheološkega izkopavanja na lokaciji Školska Tumba v vasi Mogila, ki jih je izvedla makedonsko-slovenska ekipa v letu 2014. Rezultati so bistveno dopolnili dosedanje poznavanje neolitske poselitve obravnavanega prostora, kakor tudi srednjeveških aktivnosti na območju samih prazgodovinskih *tumb* v regiji.

Ključne besede: neolitik, naselbina Školska Tumba, Mogila, Severna Makedonija

Archaeological research in Pelagonia (North Macedonia) has undergone afresh restart over the past decade after being paused for several decades. In this article we present the results of an archaeological excavation at the location Školska Tumba in the village of Mogila, carried out by the Macedonian-Slovenian team in 2014. These results significantly enriched the existing knowledge on Neolithic settlement of this area as well as medieval activities at prehistoric tell settlements in general in the region.

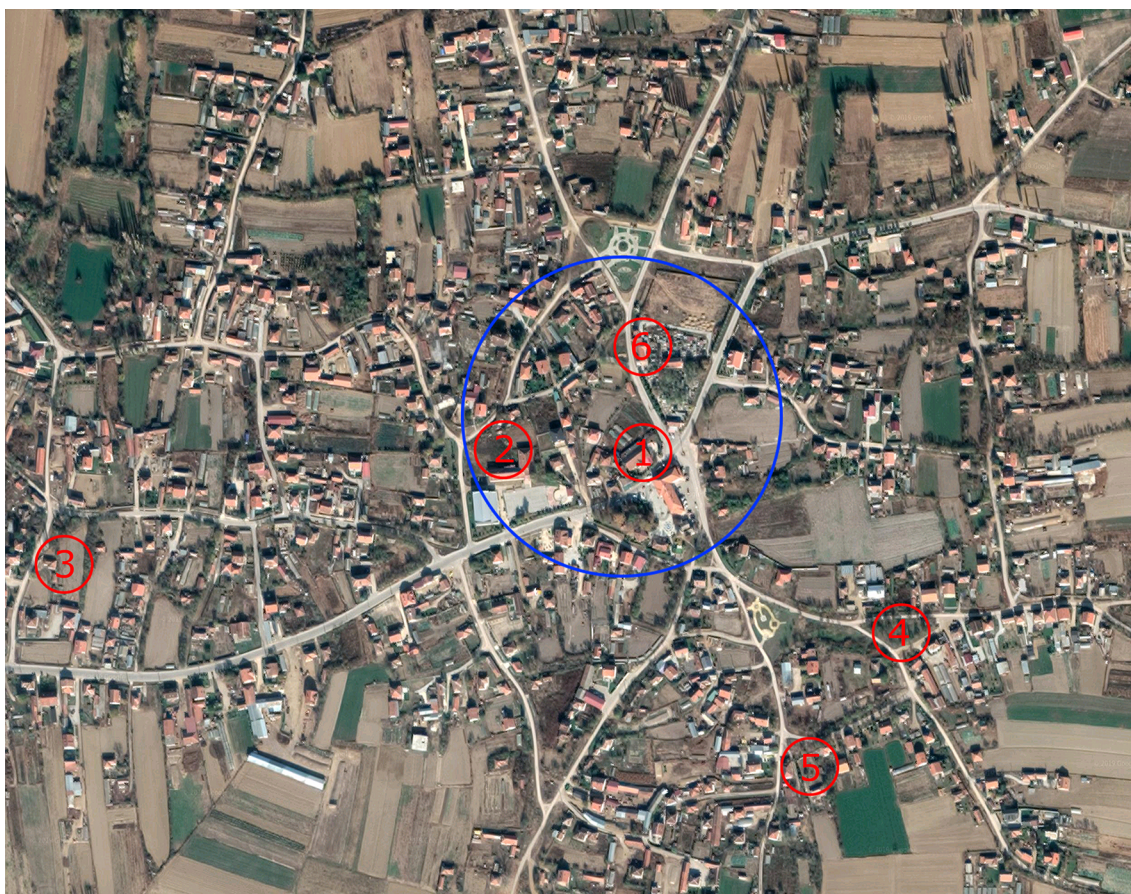
Keywords: Neolithic, Settlement Školska Tumba, Mogila, North Macedonia

Pelagonija je v arheološki literaturi od nekdaj poznana kot območje številnih arheoloških najdišč. Čeprav je regija bolj poznana po antičnih in srednjeveških lokacijah, so izjemno zanimiva tudi najdišča, ki sodijo v prazgodovinsko obdobje (Simoska in Sanev 1976). Le-ta so bila v preteklosti večkrat raziskovana, tako, da razmeroma dobro poznamo njihovo časovno umestitev, kakor tudi kulturne značilnosti materialne kulture skupnosti, ki so naseljevale obravnavano območje. Večji del teh najdišč predstavljajo t.i. *tumbe* – zaradi intenzivne sosledne poselitve umetno ustvarjeni griči, katerih nastanek lahko največkrat vezemo za neolitsko obdobje, v posameznih primerih pa so kontinuirano poseljeni še času eneolitika in v bronasti dobi¹. Železnodobna naselja in nekropole na lokacijah

tumb do sedaj niso poznani. V redkih primerih so sicer zabeleženi primerki antične keramike, vendar pa ni nikakršnih dokazov, da bi bili antični objekti grajeni na samih *tumbah*. Vezano na srednjeveško poselitev območja, se morda zdi posebno zanimivo tudi opažanje, da so nekropole tega časa pogosto vezane na lokacije prazgodovinskih *tumb*, kar je verjetno povezano predvsem z njihovo geografsko mikro-morfologijo. Višina teh umetno ustvarjenih gričev in izdvajanje od okoliških močvirnatih predelov je namreč omogočala srednjeveškim skupnostim varen prostor za pokopavanje, skupaj s simboličnim pomenom obrednih prostorov v domeni krščanske ideologije (Naumov et al. 2014, 345–372).

Arheološke raziskave na prazgodovinskih najdiščih - *tumbah* so bile v Pelagoniji dokaj številne in so se izvajale v več etapah, ki pa so na žalost le redke potekale kontinuirano (Naumov

¹ V tekstu uporabljamo izvirni izraz *tumba*, saj v slovenskem izrazoslovju za ta tip arheološkega najdišča ni strokovno ustreznega izraza.



Slika 1. Mogila, Aeroposnetek vasi Mogila z označenimi lokacijami: 1. »Tumba Sredselo«, 2. »Školska Tumba«, 3. »Šemoska Tumba«, 4. »Ronjevska Tumba«, 5. »Rekovčanska Tumba«, 6. »Tumba Selska crkva«.

2009, 19-27). Prvi znani podatki o *tumbah* izhajajo iz raziskav ameriškega arheologa Vladimira Fewkesa, ki je poleg izkopavanj na najdišču Crnobuki, izvedel tudi rekognosciranje prazgodovinskih naselbin na področju Bitole ob Crni Reki, vključno z lokacijami Raštani in Bitola (Andonovski 1954; Galović 1967). Skoraj istočasno je britanski arheolog W. A. Heurtley izvedel pregled in manjša izkopavanja na kar nekaj prazgodovinskih najdiščih na prostoru današnje Makedonije, vključno z najdišči, kot so Optičari, Karamani, Čepigovo (Heurtley 1939). Velik raziskovalni interes za pelagonska prazgodovinska najdišča se je pojavil po drugi svetovni vojni. Prva izkopavanja po vojni je izvedel Josip Korošec na lokaciji Grgur Tumba, vendar rezultati

njegovih izkopavanj žal niso bili objavljeni. Prvo temeljno arheološko raziskavo ene od neolitskih naselbin v Pelagoniji predstavlja izkopavanje Miodraga Grbića in njegove ekipe na lokaciji Tumba pri Porodinu. Raziskava je bila objavljena v monografiji, v kateri je prvič podan podroben uvid v eno izmed pelagonskih *tumb* kakor tudi v neolitsko najdišče v Makedoniji na splošno (Grbić et al. 1960).

Zlata doba preučevanja prazgodovine Pelagonije je nastopila v sedemdesetih letih 20. stoletja, ko je Dragica Simoska skupaj še z nekaterimi kolegi, med njimi Voislav Sanev, Jovan Todorović in Blagoje Kitanoski, inicirala sistematična rekognosciranja in sondažna izkopavanja na številnih lokacijah v centralnem delu Pelagonije

(Simoska in Sanev 1976). Takrat so se vršile sistematične raziskave na najdiščih Veluška Tumba pri Porodinu, Mogila, Optičari, Trn, Karamani, Dobromiri, Radobor in drugje (Simoska in Sanev 1975; Simoska et al. 1976; Simoska in Sanev 1977; Simoska et al. 1979; Simoska 1986; Simoska 1988; Simoska in Kuzman 1990; Simoska 1996b). V prilepškem delu Pelagonije je na najdiščih Slavej, Topolčani in Pešterica raziskoval Blagoje Kitanoski, kar sta kasneje nadaljevala Aleksandar Mitkoski in Duško Temelkoski (Kitanoski 1977; Kitanoski et al. 1978; Kitanoski et al. 1980; Kitanoski et al. 1983; Kitanoski 1989; Kitanoski et al. 1990). Raziskave pa so se izvajale tudi na najdiščih, katera ne moremo označiti kot *tumbe* (Temelkoski in Mitkoski 2001; Mitkoski 2005; Temelkoski in Mitkoski 2006; Temelkoski in Mitkoski 2008).

Intenzivne arheološke raziskave v 70-ih letih 20. stoletja so omogočile definiranje značilnosti t.i. pelagonskega neolitika, kar je kasneje v kulturno-zgodovinski maniri privedlo tudi do kulturne opredelitve t.i. veluško – porodinske kulturne skupine. Značilna, bogato okrašena belo slikana lončenina in avtentični antropomorfni modeli hiš so to skupino naredili regionalno prepoznavno in jo izdvojili kot specifično celoto, ki se je neodvisno razvijala tekom celotnega neolitika (Naumov 2010). Po obdobju intenzivnega dela Dragice Simoske in Blagoje Kitanoskega v 70-ih letih 20. stoletja, je zanimanje za neolitska najdišča Pelagonije vse do drugega desetletja 21. stoletja nekoliko zamrlo. Šele tedaj Pelagonija kot specifičen arheološki fenomen ponovno postane središče zanimanja širše strokovne javnosti. Tako so bile manjše arheološke raziskave izvedene na lokaciji Veluška Tumba, katerih rezultati še niso publicirani, v sodelovanju s Poljsko akademijo znanosti pa so bili izvedeni rekognosciranje, topografske meritve in geofizikalno skeniranje na lokacijah Dobromiri, Trn in Mogila (Naumov et al. 2014, 345–372). Rezultati teh raziskav so ponudili nova spoznanja o naselbinskem karakterju *tumb*, ugotovljena je bila koncentrična razporeditev hiš okoli osrednje zgradbe naselja kakor tudi prisotnost obo-

dnega jarka (Naumov et al. 2014, 345–372). Novo obdobje raziskav kakor tudi presenetljivi rezultati so še dodatno stopnjevali interes za raziskave neolitika na tem področju, kakor tudi namero, da se k raziskavam pristopi interdisciplinarno. V luči tega je bilo vzpostavljeno sodelovanje s paleobotaničnim laboratorijem na Karlovi univerzi in Univerzo Južne Bohemije z namenom, da se pridobi uvid v neolitsko vegetacijo, klimo in geologijo območja (Naumov 2016a). Istočasno so se začela tudi ekstenzivna rekognosciranja, modeliranje in kalibriranje obstoječih radiokarbonskih datacij ter geodetsko mapiranje in GIS modeliranje lokacij *tumb* v centralni Pelagoniji. Enako pomembno je bilo tudi definiranje časovnega sosledja njihovega nastanka (Naumov in Stojkoski 2015, 169–183; Naumov 2016b).

Eden od rezultatov je tudi izvedba testnege sondiranja na lokaciji Školska Tumba, v osrednjem delu neolitske naselbine v vasi Mogila. Čeprav so bile raziskave po obsegu skromne, velikosti vsega 4 x 4 m, pa so prinesle povsem nova spoznanja o neolitskem obdobju Pelagonije in na novo revidirale stratigrafijo in materialno kulturo najdišča, ki je bilo že dlje časa poznano v strokovni literaturi (Simoska et al. 1979). Spričo obsežnosti odkritega arheološkega gradiva v nadaljevanju predstavljamo samo najbolj izpovedne rezultate.

Kratka zgodovina raziskav neolitske naselbine v Mogili

Vas Mogila se nahaja v centralnem delu Pelagonije, približno deset kilometrov severno od Bitole. Neolitska poselitev v Mogili je bila prvič evidentirana ob arheološkem rekognosciranju po drugi svetovni vojni (Simoska in Sanev 1976). Takrat se je delno registriral njen obseg, kasneje pa, ko je nastajala »Arheološka karta na Makedonija«, se je definirala tudi njen končen obseg (Simoska 1996a, 36). Glede na arheološko karto je v vasi registriranih 8 neolitskih mikro-lokacij: Tumba Sredselo, Školska Tumba, Šemoska Tumba, Ronjevska Tumba, Rekovčanska Tumba, Tumba Selska crkva, Tumba Trnska-Mogilska idr. (slika 1). Šest od njih se nahaja v sami vasi,

tako, da je težko definirati ali so v prazgodovini le-te delovale ločeno ali ne. Glede na značilnosti ostalih neolitskih lokacij v Pelagoniji, je zelo verjetno, da ta območja predstavljajo le posamezne dele ene velike naselbine, katera je bila vsled časa razčlenjena in pozidana z manjšimi gradnjami, ulicami, javnimi zgradbami in privatnimi hišami v vasi (Naumov et al. 2014, 345–372). Ravno tako ne gre izključiti možnost, da so k veliki centralni naselbini sinhrono ali v kasnejših prazgodovinskih obdobjih gravitirala tudi manjša naselja – *tumbe*, kot je to primer pri Optičarjih in Trnu (Naumov in Stojkoski 2015, 169–183; Naumov 2016).

Prva izkopavanja na področju Mogile so bila izvedena v letu 1975 na Tumbi Sredselo, leta 1977 pa so sondirali še na lokaciji Školska Tumba (Todorović et al. 1980; Simoska 1996a, 36). Tekom leta 1980 je bila izpeljana še ena izkopavalna kampanja, ki se je osredotočila na srednjeveške sloje in pokope (Veljanovska 1996/97). Najnovejše raziskave v tem delu Pelagonije je v letu 2013 izvedla makedonsko-poljska ekipa, ki je na več različnih lokacijah v okolici Mogile izvedla geofizikalna skeniranja (Naumov et al. 2014, 345–372), arheološko sondiranje pa je na periferiji lokacije Školska Tumba v letu 2014 izvedla makedonsko – slovenska ekipa. Sondažna raziskava je bila usmerjena v prepoznavanje stratifikacije naselbine, katere rezultati bodo podrobneje prikazani v nadaljevanju. V letu 2015 je makedonsko-češka raziskovalna ekipa izvedla še paleobotanična sondiranja in GIS modeliranje neolitskih naselij oz. *tumb* na širšem prostoru centralne Pelagonije (Naumov in Stojkoski 2015, 169–183; Naumov 2016).

Čeprav je bilo nekaj malega o neolitski naselbini v Mogili znanega že pred tem, so šele arheološke raziskave v 70-ih letih 20. stoletja podale temeljna spoznanja o sami naselbini, kar so na nek način potrdile tudi raziskave v letu 2014, zato jih želimo na tem mestu tudi nadrobneje prikazati. Za našo raziskavo so bila posebnega pomena predvsem izkopavanja, izpeljana v letu 1975 pod vodstvom Dragice Simoske, ki so se osredotočila na prazgodovinsko lokacijo Tum-

ba Sredselo, na predelu Mogile, kjer je sama mikrolokacija tudi najvišja. Ob tej priliki je bila evidentirana celotna stratifikacija odloženih plasti na prostoru izgradnje sedanje zdravniške ambulante, nedaleč od lokacije sondiranja v letu 2014. Tekom raziskav je bilo tedaj ugotovljeno, da je debelina kulturnega sloja na tem mestu 6,05 m (Simoska et al. 1979, 9–30), kar je predstavljalo eno najvišjih stratifikacij neolitske naselbine v Pelagoniji na sploh. Odložene plasti in ostaline so bile tedaj umeščene v tri neolitske faze in pa ločeno v srednji vek. Najstarejša faza naselbine naj bi pripadala zgodnje neolitski poselitvi Pelagonije, saj so bile v njenih plasteh odkrite arheološke ostaline in materialna kultura, ki je značilna za ta čas, med njimi monohromna in beloslikana keramika, kamniti artefakti, žrtveniki ipd. Kamnita orodja so bila maloštevilna, medtem ko se je keramično posodje ohranilo v obilici. Evidentirane so bile različne oblike posod kot so npr. kroglaste, polkroglaste, konične in bikonične posode z različnimi dekorativnimi motivi, od barbotina, belo slikanimi linijskimi črtami in sigmami do posod s črno obarvanim ustjem (Simoska et al. 1979, 9–30). Tudi naslednja, nekoliko mlajša faza je vsebovala karakteristične neolitske elemente, pri tem, da je bilo številčnejše kamnito orodje, pestrejši pa je bil tudi ornamentalni izraz na posodju. Odkrite so bile tudi figurine in antropomorfni modeli hiš. Posodje, ki je bilo oblikovno sicer podobno predhodnim oblikam, je okrašeno z arkadnim barbotinom, vertikalnimi plastičnimi rebri, bradavicami ter z belimi slikanimi izdolženimi trikotniki, romboidi ter širokimi in krožnimi trakovi. Najmlajša neolitska faza je bila v precejšnji meri poškodovana s srednjeveškimi jamami in grobovi, zato je bilo njen nastanek časovno težko opredeliti. V njej so se v enaki meri nahajale srednjeveške kot neolitske najdbe, pa tudi takšne, ki bi jih lahko pripisali kasnejšim prazgodovinskim obdobjem (Simoska et al. 1979, 9–30).

Podobna stratigrafska sekvenca in višina odloženih plasti in ostalin je bila evidentirana tudi na lokaciji Školska Tumba, ki se nahaja v neposredni bližini lokacije Tumba Sredselo (Todoro-

vič et al. 1980). Iz tega lahko sklepamo, da ti dve lokaciji morda predstavljata le del ene same večje naselbine, katera je bila v kasnejših obdobjih prepolovljena z recentno cesto in zgradbami. V letu 1988 je bila v neposredni okolici Školske Tumbe odkrita in raziskana srednjeveška nekropola (Veljanovska 1996/97). Rezultati teh raziskav, kakor tudi tistih iz 70-ih let 20. stoletja, potrjujejo uporabo lokacije kot prostor pokopavanja. Že v 70-ih let 20. stoletja je bilo odkrito večje število grobov, datiranih v širok časovni razpon od 6. do 19. stoletja. Zgodnejši izmed grobov naj bi bili povezani z vpadi Gotov v Pelagonijo, kar je potrjeno tudi s pomočjo materialne kulture.

Po petindvajsetletnem raziskovalnem premoru, se je v letu 2013 ponovno pristopilo k raziskavam *tumb* v okolici Mogile z uporabo novih arheoloških metod in tehnologij. Makedonsko-poljska ekipa je izpeljala geofizikalno skeniranje na lokacijah Tumba Sredselo in Ronjevska Tumba, ki so potrdile obstoj podzemnih objektov in krožno organiziranih jam (Naumov et al. 2014, 345–372), v letu 2015 pa je makedonsko-češka ekipa vršila vzorčenje s pomočjo vrtin na prostoru med lokacijama Ronjevska Tumba in Tumba Sredselo (Naumov 2016a). Rezultati vrtanja so pokazali, da se je ohranila znatna količina peloda tudi v kulturnih slojih izven gabaritov naselja *tumbe*. Z ozirom na globino odkritih keramičnih najdb pa se lahko predpostavi tudi domneva, da se je na obeh lokacijah življenje odvijalo tudi izven naselja, kar pomeni, da je prostor aktivnosti teh prazgodovinskih skupnosti obsegal bistveno večje območje, kot se je predvidevalo do sedaj (Naumov 2016a). Istega leta se je izvedlo tudi detajlno rekognosciranje Pelagonije, pri čemer so bila odkrita številna nova najdišča, hkrati pa so bile potrjene in natančneje locirane tudi nekatere od že poznanih lokacij *tumb* (Naumov in Stojkoski 2015, 169–183; Naumov 2016a). V teh raziskavah, katerih cilj je bil opredeliti gostoto prazgodovinskih naselij *tumb* s pomočjo GIS modeliranja, je bil zaobjet celoten areal današnje vasi Mogila. Rezultati so pokazali, da prostor Mogile skupaj s tistim na lokacijah Ribarci, Trn in Optičari, predstavlja enega izmed

najgostejše naseljenih območij v prazgodovini, ko centralna naselja oz. *tumbe* dosegajo skupno površino tudi do 8000 m². Okoli njih so se formirala manjša naselja, za katera pa bo mogoče šele s prihodnjimi raziskavami potrditi ali ovreči predpostavko časovne pripadnosti in sicer, ali so bile sinhrono s centralno naselbino oziroma ali so nastale v drugih prazgodovinskih obdobjih.

Vsi dosedanja rezultati raziskav kažejo na to, da je območje, ki ga zajema vas Mogila igral ključno vlogo v neolitiku Pelagonije in predstavlja enega od centrov prvih kmetovalskih skupnosti na tem prostoru. To so potrdila tudi ponovna arheološka sondiranja makedonsko-slovenske ekipe v letu 2014. Poleg tega, da smo z rezultati sondiranja potrdili številna predhodna spoznanja, smo uspeli pridobiti tudi povsem nove podatke o načinu formiranja neolitskih *tumb*, kakor tudi o razvoju neolitskih in srednjeveških skupnosti na tem prostoru.

Izkopavanje na lokaciji Školska Tumba v letu 2014

Po daljšem raziskovalnem premoru so se v letu 2014 na najdišču Mogila vršile arheološke raziskave v obliki sondiranja, katere sta vodila dr. Goce Naumov (Muzej na Makedonija) in doc. dr. Alenka Tomaž (Univerza na Primorskem, Fakulteta za humanistične študije, Inštitut za arheologijo in dediščino). Raziskave so se osredotočile na zahodno periferijo lokacije Školska Tumba, ki se nahaja v centralnem delu vasi, na katerem stoji osnovna šola "Goce Delčev" ter nekaj stavb, ki se nahajajo vzdolž treh ulic (slika 2). Ta del neolitske naselbine je bil v novejših obdobjih v veliki meri poškodovan z gradbenimi posegi, tako da mikrolokacija daje vtis, kot da je od osrednjega centralnega dela naselja nekoliko oddvojena. Spričo podobnosti v arheološkem gradivu obeh lokacij, bi lahko sklepali, da sta obe le del ene večje naselbine, saj odražata obeležja, značilna za večja naselja v Pelagoniji. Bodoče raziskave bodo to domnevo lahko še dodatno utemeljile, že tiste iz leta 2014 pa kažejo številne argumente temu v prid.



Slika 2. Mogila, pogled na mikrolokacijo arheološkega testnega sondiranja (Školska Tumba), na dvorišču osnovne šole »Goce Delčev« (foto: Goce Naumov, arhiv UP FHŠ IAD).

Pri arheološki raziskavi (tako pri samih terenskih raziskavah kakor tudi pri dokumentiranju arheološkega gradiva) so sodelovali tudi drugi arheologi in študentje iz obeh držav Makedonije in Slovenije. Arheološko sondiranje je potekalo na prostoru dvorišča osnovne šole »Goce Delčev« v velikosti 4,0 x 4,0 m v juniju in juliju leta 2014. Pred samim posegom je bil prostor raziskave zatravljen, na sami lokaciji pa ni bilo vidnih recentnih poškodovanj ali preoblikovanj terena. Pogoji za izvedbo terenskega dela so bili optimalni. Metodologija arheološkega testnega sondiranja je temeljila na stratigrafskemu odstranjevanju sosledja odloženih plasti in arheoloških ostalin, ki so bile dokumentirane kot samostojne stratigrafske enote. Grajene arheološke ostaline (mlajših obdobj)

so se ohranjale »in situ«, odstranjevala se je le zemljina. Za dokumentiranje arheološke stratifikacije je bila poleg klasične opisne dokumentacije uporabljena tudi klasična foto-dokumentacija, ki je bila izdelana s pomočjo A – stativa (slika 3), kar pomeni, da je bila fotografija izdelana vedno iz iste pozicije, kar je omogočilo boljšo primerljivost fotodokumentacije. Vse arheološke ostaline so bile v celoti georeferencirane v Gauss-Krügerjevem sistemu, kar pomeni, da so jim bile določene x, y in z koordinate v absolutnem geodetskem sistemu (slika 4), digitalno izrisane ter fotografsko dokumentirane z vertikalno fotografijo, kar je omogočilo tudi natančen izris načrta posameznih faz naselbine.



Slika 3. Mogila, pogled arheološko testno sondo z instaliranim fotografskim A-stativom (foto: Aleš Ogorelec, arhiv UP FHS IAD).



Slika 4. Mogila, delo na terenu (georeferenciranje arheoloških ostalin) – merjenje s totalno postajo (foto: Aleš Ogorelec, arhiv UP FHS IAD).

Stratigrafija

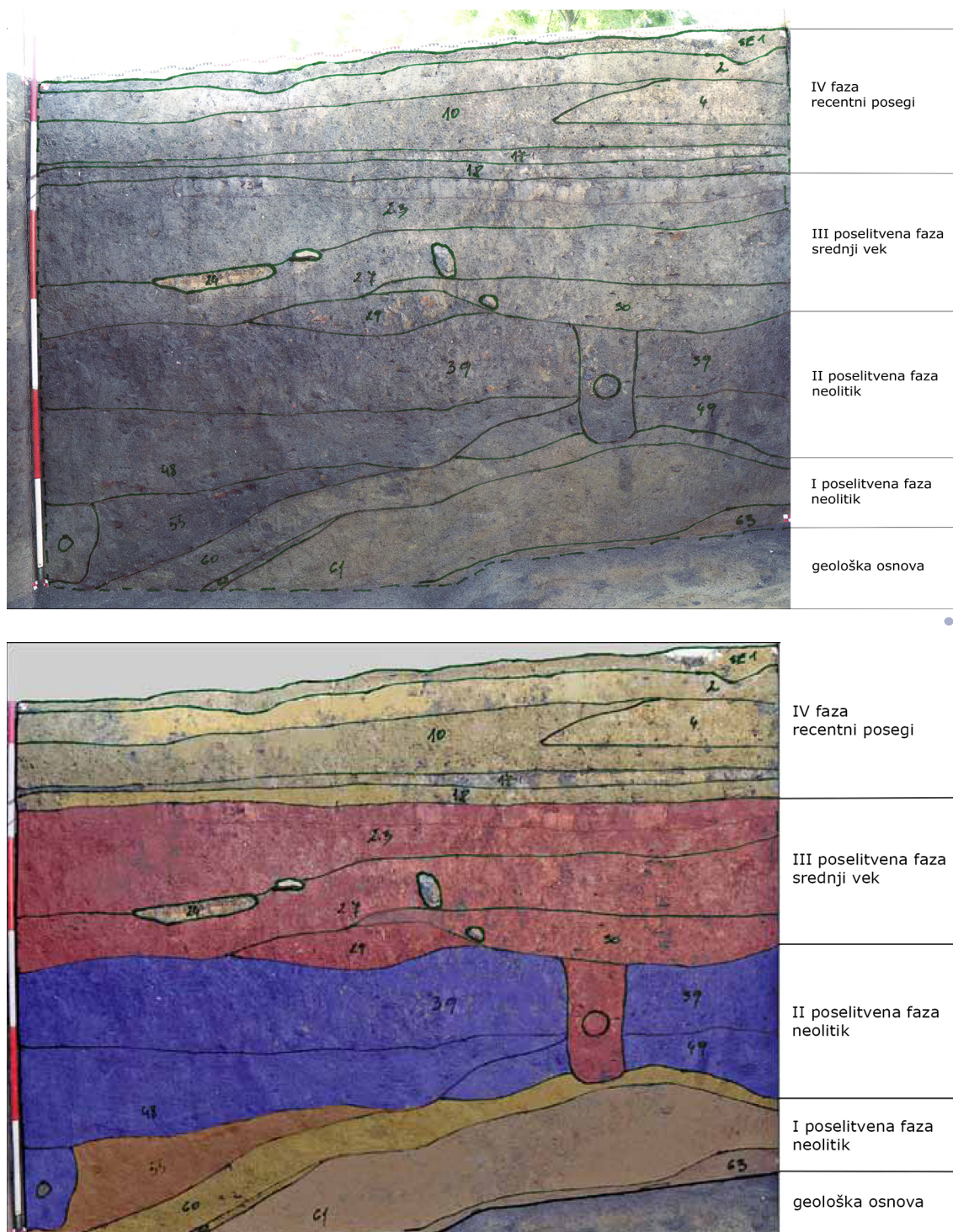
Stratifikacija plasti in arheoloških ostalin je v raziskani sondi obsegala razpon od geološke osnove do povsem recentnih ostankov v skupni

debelini 2,90 m. Ugotovljena debelina kulturne plasti je sicer dosti manjša od tiste, dokumentirane z izkopavanji leta 1977 (6,09 m). Takšna razlika v debelini pa niti ne preseneča, saj so izkopavanja v letu 1977 potekala na najvišjem prostoru *tumbe*, medtem ko so raziskave v letu 2014 zaobjele le prostor njene periferije. Pri tem je potrebno poudariti še, da so recentni gradbeni posegi in pa srednjeveške jame v večji meri poškodovale večino evidentiranih neolitskih plasti in ostalin. Vsem okoliščinam navkljub pa je stratigrafija omogočila vpogled v jasno zamejene arheološke kontekste, obseg materialne kulture pa je opredelil karakter te izjemno zanimive naselbine.

Rezultati izkopavanj potrjujejo jasno sosledje štirih poselitvenih faz (horizontov), v katerih so bile evidentirane številne stratigrafske enote, ki označujejo arheološke kontekste različnih ostalin objektov in plasti. Pri njihovem odstranjevanju in dokumentiranju so bila upoštevana vsa načela arheološke stratigrafije z uporabo Harrisove matrike, kar je omogočilo precizno lociranje odkritih arheoloških kontekstov kakor tudi jasen uvid v samo stratigrafijo naselbine. Na ta način pridobljeni podatki podajajo lažje berljiv in primerljiv pregled arheološke dokumentacije odkritih kontekstov, vsaj v tistem delu območja, kjer ni bilo kasnejših posegov.

Štiri poselitvene faze so bile najjasneje izražene v severno-zahodnem profilu, kjer so srednjeveški in recentni posegi le v manjši meri poškodovali spodaj ležeče plasti (slika 5).

Najstarejša (1.) poselitvena faza je obsegala neolitske plasti in arheološke kontekste, ki so se odložili tik nad naravno geološko osnovo. Odkriti arheološki konteksti so bili tu ohranjeni najboljše, čeprav so tudi tu plasti vsaj še delno poškodovane s srednjeveškimi jamami. V prvi poselitveni fazi je bilo evidentiranih več arhitekturnih ostalin, nekaj neolitskih jam kakor tudi plasti, ki jih lahko povezujemo z naravnimi geološkimi procesi, ki so se odvijali v najzgodnejših fazah naselbine. Najnižja plast prve poselitvene faze je bila sestavljena iz mivkastega peska, v katero so bile vkopane posamezne zgodnje neolitske jame. V njih so bili odloženi posamezni



Slika 5. Mogila, stratifikacija plasti v S profilu, oznake stratigrafskih enot ter faziranje stratigrafije (izdelali: Alenka Tomaž, Goce Naumov in Aleš Ogorelec, arhiv UP FHS IAD).

odlomki fine lončenine, odlomek modela hiše, noga žrtvenika, sekira in žrmlje. Zunaj teh jam, takoj nad geološko osnovo, pa so bili odloženi odlomki fine polirane in belo slikane keramike, kamnita orodja, sekire, keramični projektili za frače, perforirani keramični diski, keramične figurine in obdelan jelenov rog, kar jasno opredeljuje neolitski karakter te poselitvene faze. Nad njo so bile odkrite arhitekturne ostaline, ki v neolitiku Pelagonije predstavljajo novost. Izkazovale so se kot ostanki polkrožne zgradbe (objekta), zgrajene iz tanjših lesenih kolov (evidentirani kot vkopi za količe). Na območju sonde so bile sicer odkrite samo ostaline polovice zgradbe (druga polovica je segla izven izkopnega polja). Notranjost objekta je bila poškodovana z nekaj manjšimi jamami. Zgradba je bila postavljena na umetno izravnani prostor, kateri se je na vzhodnem delu naglo spuščal. Na tem predelu je bila odkrita koncentracija nekoliko masivnejših kolov, kateri bi lahko delovali kot nosilci za leseno platformo. Spričo dosedanjih podatkov je nemogoče potrditi, da sta ti dve konstrukciji medsebojno povezani, čeprav, glede na njuno bližino, takšne možnosti ne gre izključiti. Na mestu, kjer teren naglo pada, je za to fazo značilno sosledje temnejših tankih plasti. Te so rezultat delovanja (dviganja in padanja) vodne gladine, kar kaže na številne poplavne dogodke, ki so značilni za Pelagonijo še danes. Takšni procesi premeščajo zemljo in v njej odložene najdbe, zaradi česar se formirajo zelo tanke in lečasto odložene naplavinke plasti. Zraven njih se je nahajala najnižja izkopna točka v sondi, kjer je bilo zaznано tudi poniranje vode iz geološke osnove. Glede na geološke značilnosti Pelagonije in tudi same lokacije *tumbe* je bilo zaznано, da samo geološko osnovo terena sestavlja vodni peskovit oz. mivkast sediment, ki je verjetno nastal kot posledica morskega delovanja na prostoru Pelagonije pred nekaj milijoni let. Samo dno sonde pa je nedvomno pokazalo, da so bila naselja prvih poljedelcev v Pelagoniji, t.i. *tumbe*, formirane na naravno privzdignjenih terasah iznad zamočvirjenih območij.

Drugo poselitveno fazo lahko ravno tako pripišemo neolitskemu obdobju, čeravno je zanjo značilno, da je bila precej poškodovana s srednjeveškimi jamami; precej poškodovana pa je tudi njena zgornja površina, na kateri se pojavljajo še dokaj številni srednjeveški odlomki. V drugi poselitveni fazi je bila odkrita posoda, ki je značilna za četrto fazo veluško-porodinske kulturne skupine, pa projektili za fračo, in še drugi odlomki neolitskih posod (slika 5). Lahko jo razumemo kot najmlajši arheološki kontekst z jasnimi neolitskimi obeležji, ki je bil odkrit na prostoru raziskav. Poleg že omenjenih najdb, pa so bili v drugi poselitveni fazi odkriti tudi številni drugi neolitski artefakti, večinoma premeščani po plasteh. Med njimi so bila razmeroma številna kamnita orodja, odlomki keramičnega posodja, tipičnega za faze 2.–4. veluško-porodinske kulturne skupine, kakor tudi deli antropomorfnih modelov hiš, figurine, projektili za fračo, ploščati diski s perforacijo idr.

Nad njo se je nahajala tretja poselitvena faza, katero na osnovi arheoloških najdb časovno lahko uvrstimo v srednji vek (slika 5). V plasteh te faze so bili sicer evidentirani tudi odlomki neolitske keramike, kar dokazuje, da so srednjeveške jame pogosto posegle tudi v neolitske plasti, zaradi česar so se neolitske najdbe sekundarno odložile v višje ležečih srednjeveških kontekstih. Za razliko od predhodnih raziskav pa v arheološki kampanji v letu 2014 ni bil odkrit niti en srednjeveški pokop. V tej poselitveni fazi ni bilo evidentiranih niti arhitekturnih ostalin z izjemo nekaj jam in jarkov, kar kaže na to, da ta predel naselbine v srednjem veku ni bil uporabljan kot prostor za bivanje ampak kot prostor gospodarskih aktivnosti. Mnoštvo odkritih srednjeveških pekačev namreč nakazuje, da je bil prostor namenjen pripravi in uživanju jedi, v prvi vrsti kruha (G8). Spričo dejstva, da so bili v predhodnih izkopavanjih odkriti številni skeletni pokopi, bi lahko morda sklepali, da so bili odkriti pekači namenjeni uživanju hrane ob pokopu oz. drugim pogrebnim običajem. Vsekakor pa bi bilo potrebno omenjene hipoteze v prihodnje preveriti še na drugih lokacijah naselja, morda na naj-

višji točki *tumbe*. Tako bi lahko na eni strani preverili deponiranje pekačev v plasti, na drugi pa prisotnost bivališč, kar bi morda podalo povsem drugi uvid v srednjeveško materialno kulturo tega naselja. Preostale najdbe te poselitvene faze obsegajo še odlomke drugih tipov srednjeveškega posodja (predvsem lonce ipd.), nekateri izmed njih so tudi okrašeni z vrezi. Izstopa morda primerek sklede, okrašene z antropomorfno upodobitvijo, ki sodi v čas 12. oziroma 13. stoletja (G1). Poleg keramičnih najdb so bili v tej fazi odkriti še odlomki steklenih zapestnic (G4–5), deli kovinskih ploščic (G2), odlomki puščic (G7), nožev in keramičnih pip (G3). Najdbe izkazujejo časovni razpon od srednjega veka do otomanskega obdobja.

Najmlajša, četrta poselitvena faza se je formirala kot rezultat novejših gradbenih aktivnosti, saj se je v njenih plasteh nahajal odpadni gradbeni material in pa najdbe zadnjih dveh stoletij (slika 5), v njej pa so bile evidentirane še neolitske najdbe kakor tudi srednjeveško keramično posodje.

Arhitekturne ostaline

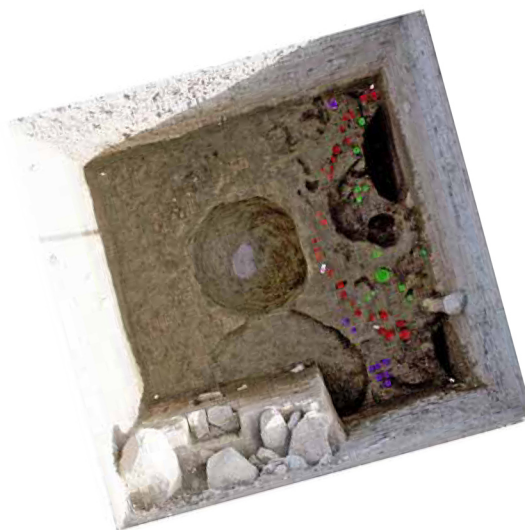
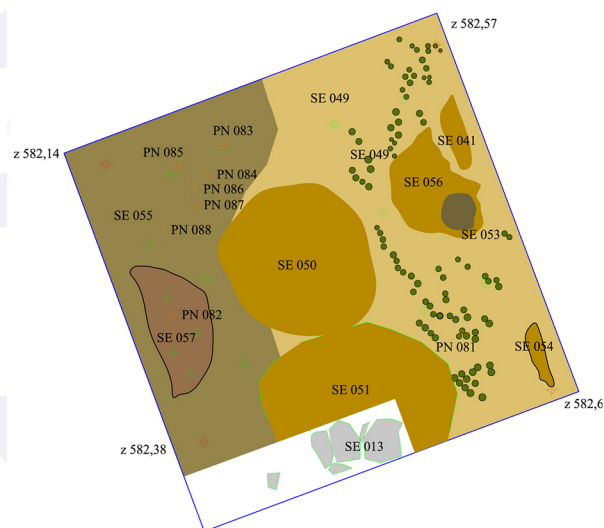
Prostor raziskav je bil razmeroma majhen, temu ustrezno pa so bile razmeroma skromne tudi odkrite arhitekture ostaline.

V srednjeveških naselbinskih fazah ni bilo arhitekturnih ostalin, ki bi kazale na prisotnost bivanjskih objektov ali gospodarskih zgradb. V zgornjih dveh poselitvenih fazah je bil evidentiran jarek, sledi ožgane ilovice in mnogotere vko-pane jame, katere pa žal ne podajo mnogo informacij o življenju v srednjem veku. Prisotnost jam sicer potrjuje, da so imele prazgodovinske *tumbe* v srednjem veku poleg funerarnega tudi posvetni značaj, saj so lahko bile uporabljane tudi kot prostor odpada. Ostaja pa vprašanje, ali so evidentirane odpadne jame povezane z obredjem pokopavanja ali pa morda z naselbino, katere sledi do sedaj še niso bile odkrite. Med srednjeveškimi jamami izstopata dve. V eni od njih je bil pri dnu jame odkrit pokop psa (slika 6a), tik pod njim pa skoraj v celoti ohranjen vrč (slika 6b). V drugi jami je bila odkrita lobanja goveda.

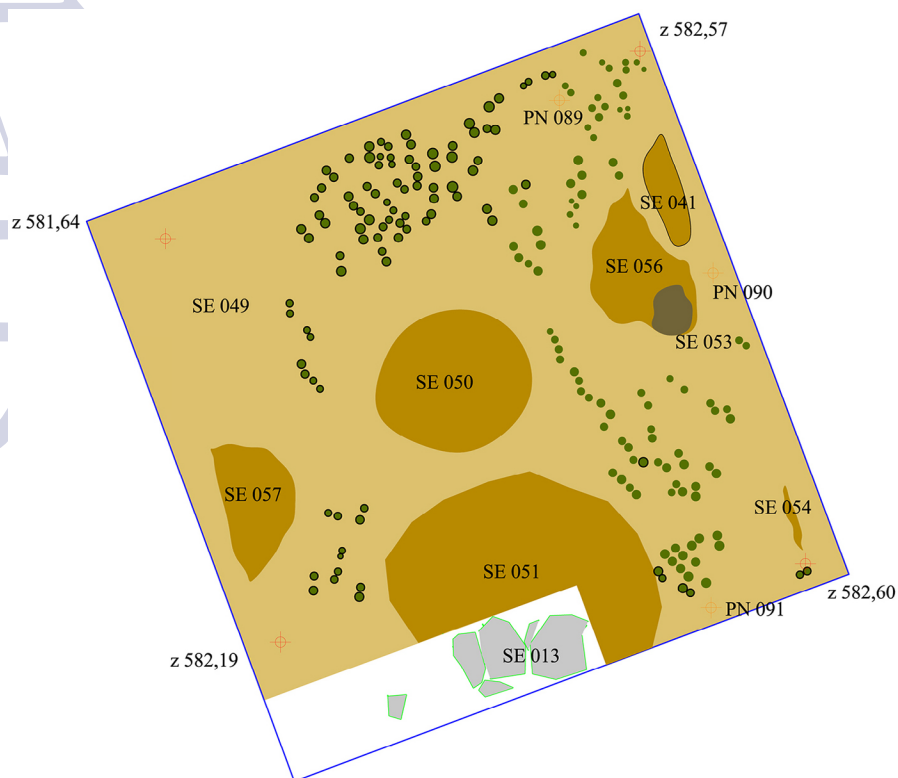


Slika 6. Mogila, srednjeveška jama SE 50 z ostanki pasje lobanje (a) in v celoti ohranjenega vrča (b) (foto: Aleš Ogorelec, arhiv UP FHŠ IAD).

Na celotnem prostoru Mogile niti v eni od raziskav do sedaj niso bile evidentirane ostaline srednjeveških bivanjskih objektov, zato se tudi ne more potrditi, da je bil prostor v srednjem veku uporabljen kot naselbinski prostor. Takšna odsotnost stavb bi sicer lahko bila planirana, ali pa se tako odraža njihovo uničenje ob izgradnji recentnih bivališč in javnih zgradb. Vsekakor bi bilo smiselno to hipotezo preveriti z raziskavami na najvišji središčni točki naselja. Po drugi strani pa je bilo na več lokacijah evidentirano, da so se pelagonske prazgodovinske *tumbe* v srednjem veku pogosto uporabljale kot prostor pokopavanja, v bližini katerega je bila zgrajena cerkev, zaradi česar se je ustvarilo mnenje, da veljajo za prostor, kateri ni bil namenjen profanim aktivnostim in bivanju. Odprto ostaja tudi vprašanje, v katerem časovnem odseku srednjega veka



Slika 7. Mogila, izris načrta arhitekturnih ostalin krožnega objekta iz najstarejše neolitske poselitvene faze in pripadajoča fotodokumentacija (izris in foto: Aleš Ogorelec, arhiv UP FHŠ IAD).



Slika 8. Mogila, izris načrta potencialne lesene platforme in arhitekturnih ostalin krožnega objekta iz najstarejše poselitvene faze (izris: Aleš Ogorelec, arhiv UP FHŠ IAD).

je imelo naselje takšen status oziroma ali morda ni možno, da bi bili v prihodnje morda lahko odkriti tudi bivanjski objekti iz tega časa.

Neolitske arhitekturne karakteristike

V posameznih fazah neolitske poselitve so bile evidentirane arheološke ostaline, ki podajajo nekatere ključne informacije v zvezi z neolitskimi arhitekturnimi karakteristikami. Za razliko od srednjeveških plasti, so bili v neolitskih plasteh ugotovljeni nekateri objekti in pa jame, katere je mogoče povezovati z življenjem v naselbini. V najzgodnejši fazi so bile odkrite ostaline polkrožne konstrukcije, sestavljene iz tanjših vkopanih kolov (slika 7a, b), vendar pa v njeni okolici kakor tudi ne v pripadajočih neolitskih plasteh ni bila odkrita večja količina lepa, ki bi lahko nakazovala na kakšno večjo zidano in z glino ometano konstrukcijo. Evidentirana konstrukcija bi morda lahko predstavljala del gospodarske stavbe ali pa del nekakšnega bivanjskega objekta, kateri ni imel standardnih obeležij neolitske arhitekture – gradnja iz lesenega prepleta in ožgane gline – lepa (glede na to, da gre za izrazito vodno okolje, morda takšen način gradnje niti ne gre predvideti). Med raziskavami sta bili registrirani dve fazi gradnje, tako, da je možno, da je bil objekt bodisi popravljen oziroma razširjen (slika 7b). Poudariti je potrebno še, da je bila med dvema koloma na južni strani objekta odkrita kamnita sekira, kar bi lahko bilo rezultat njenega namernega deponiranja v tem delu objekta. Pri tem naj izpostavimo še, da je bila omenjena stavba postavljena na ravnem prostoru, ki je omogočal stabilno statično konstrukcijo, pri čemer nagel padec terena v neposredni bližini lahko nakazuje na možnost, da je bil teren, na katerem je bil postavljen objekt, namerno zravnčan.

Na prostoru, kjer teren naglo pada, je bila v nadaljevanju evidentirana večja koncentracija na gosto postavljenih kolov, nekoliko debelejših od tistih, kateri so sestavljali ovalno zgradbo na platoju (slika 8). Lahko bi se predpostavljalo, da so le-ti nosili leseno platformo, za katero pa zaenkrat še ne moremo potrditi, da je bila sočasna z zgradbo na zravnčanem platoju. V kolikor bi

bili obe stavbi sočasni, obstaja velika verjetnost, da sta bili v medsebojni povezavi, lahko pa da je bila druga stavba zgrajena kot razširitev k ovalni zgradbi. V primeru stavbe z debelejšimi koli obstaja velika verjetnost, glede na mikrolokacijo in stratifikacijo plasti, da gre za stavbo na koleh. Na žalost je bil odkrit le relativno majhen del konstrukcije, tako, da rekonstrukcija celotne zgradbe žal ni možna, kakor tudi ni možno opredeliti njenega namena. V vsakem primeru pa je potrebno možnost stavbe na koleh razumeti kot realno na prostoru Pelagonije, spričo pogostih poplav in zamočvirjenosti okoliškega prostora. Tovrstne zgradbe na koleh so se gradile v Mogili tudi še v času po 2. svetovni vojni, zato ne gre izključiti možnost, da so takšne stavbe obstajale tudi pred tem, morda že v neolitskem obdobju. Vsekakor se v prihodnjih raziskavah ta hipoteza lahko potrdi ali ovrže, čeprav že sedaj razpolagamo s časovno sinhronimi analogijami, da so naselbine, ki so locirane zraven vode, lahko narejene na koleh (Kuzman 2013, 297–430).

Poleg arheoloških ostalin, ki jih lahko povežemo z nekdanjo arhitekturo, so bile v najstarejši neolitski fazi odkrite tudi nekatere manjše jame. V eni od njih so bili odkriti odlomki fine keramike, kamnita klina ter manjši odlomek keramične »hiše«, za katerega pa se ne da ugotoviti, če pripada varianti z antropomorfnim cilindrom ali kakšni drugi varianti. Glede na to, da je bilo v okolici jam odkritega izjemno malo gradiva, kakor tudi dejstvo, da v ostalih jamah gradiva takorekoč ni, bi lahko sklepali, da so bile zgoraj omenjene najdbe v jamo odložene namerno. Jama predstavlja najzgodnejšo antropogeno aktivnost na prostoru raziskave; pod njo so se namreč nahajale samo plasti brez arheološkega gradiva oz. geološka osnova.

Arheološke najdbe²

Na najdišču, majhnim dimenzijam sonde navkljub, so bile odkrite številne drobne arheološke najdbe, ki nam nudijo informacije, vezane na ekonomske in duhovne vidike tako praz-

² Najdbe v tekstu so označene s črko G, kar označuje gradivo in pa zaporedno številko. Posebej ne navajamo slike, na kateri se nahaja.



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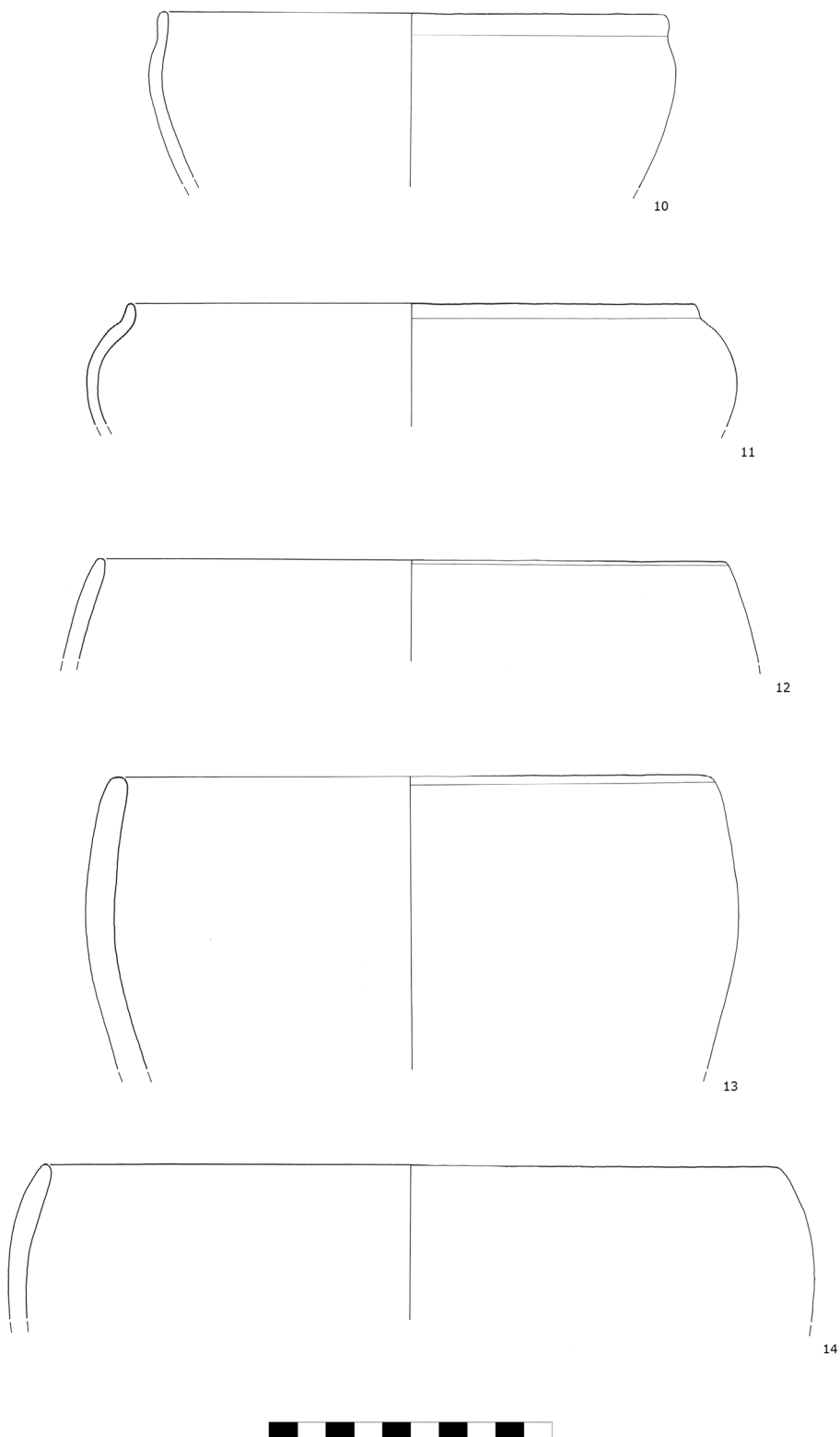


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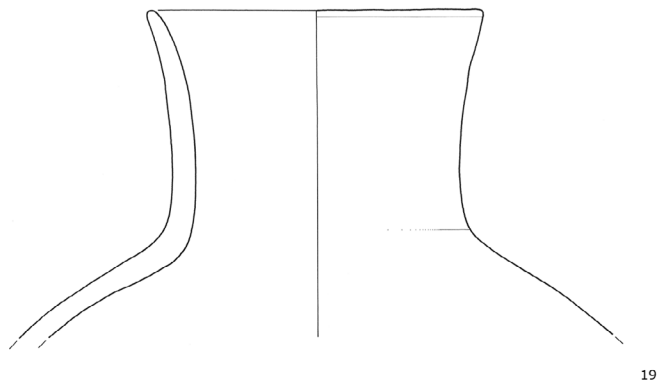
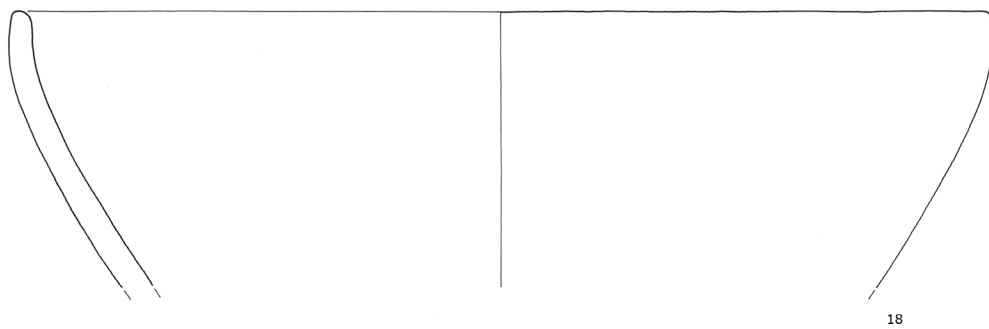
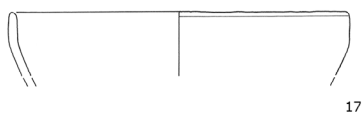
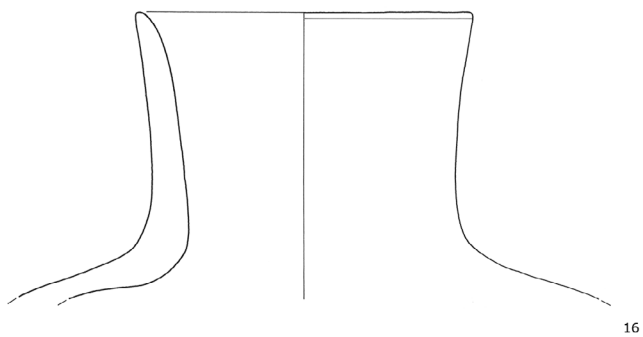
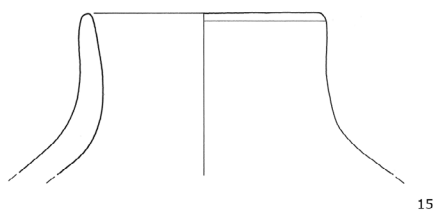


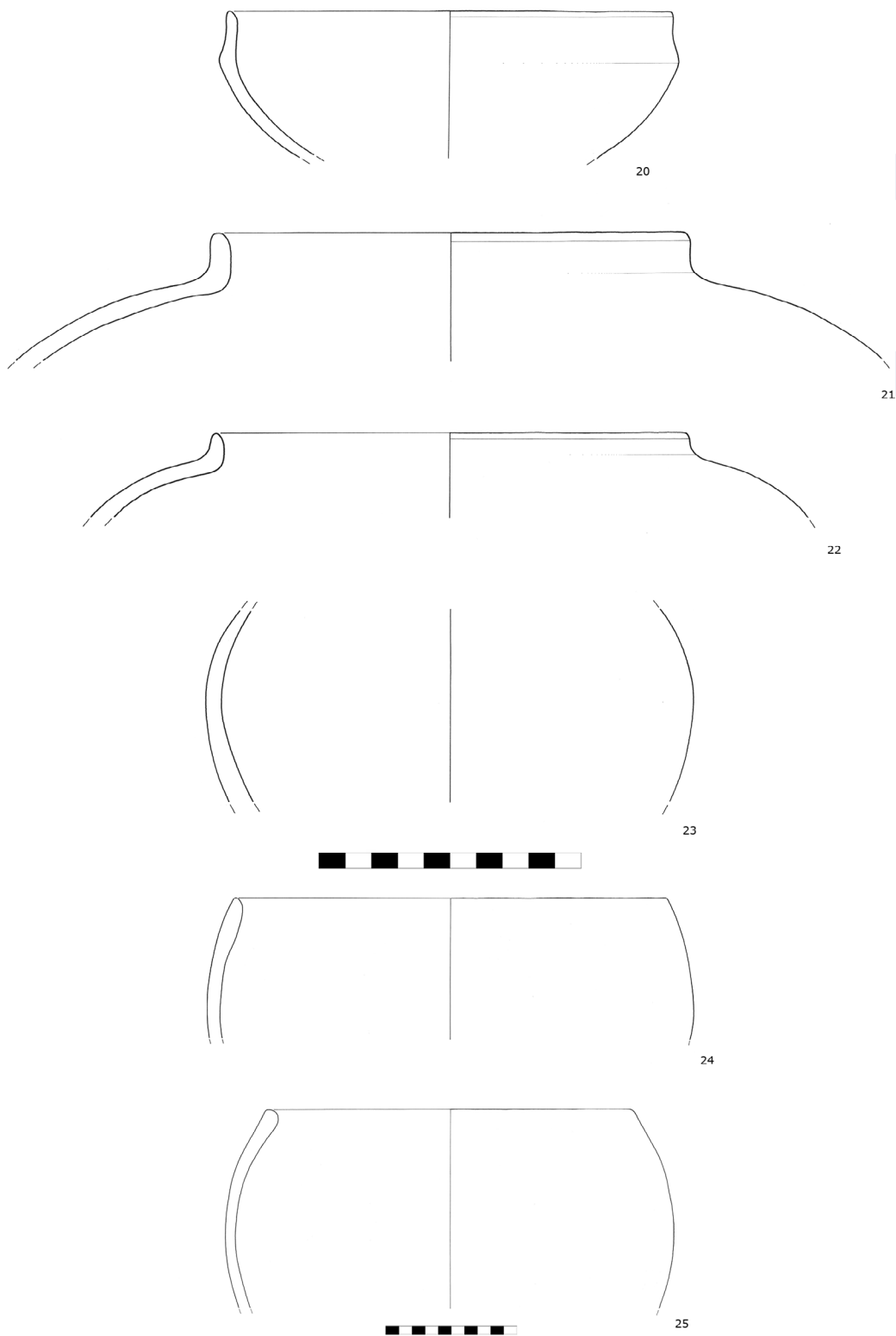
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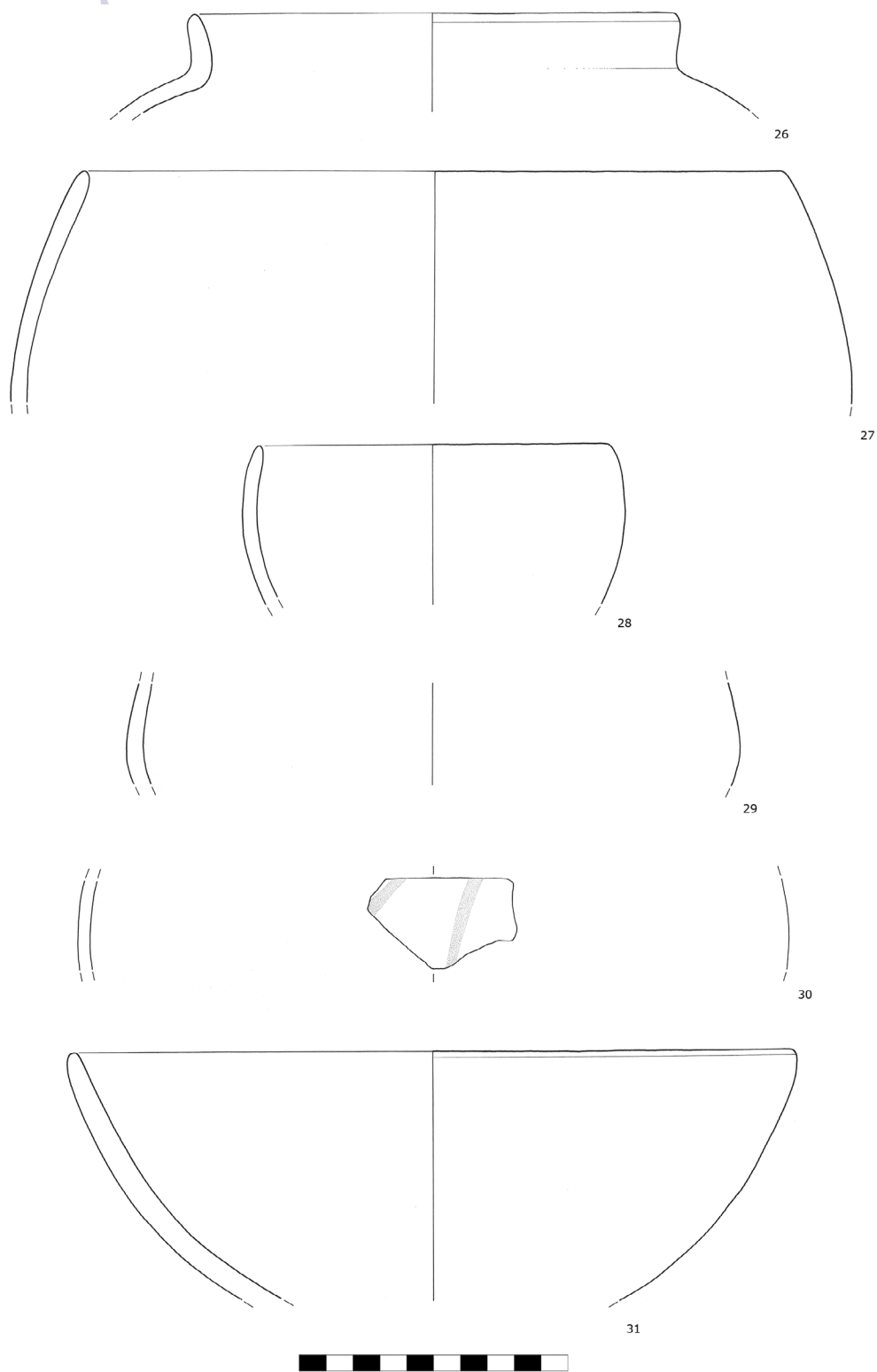


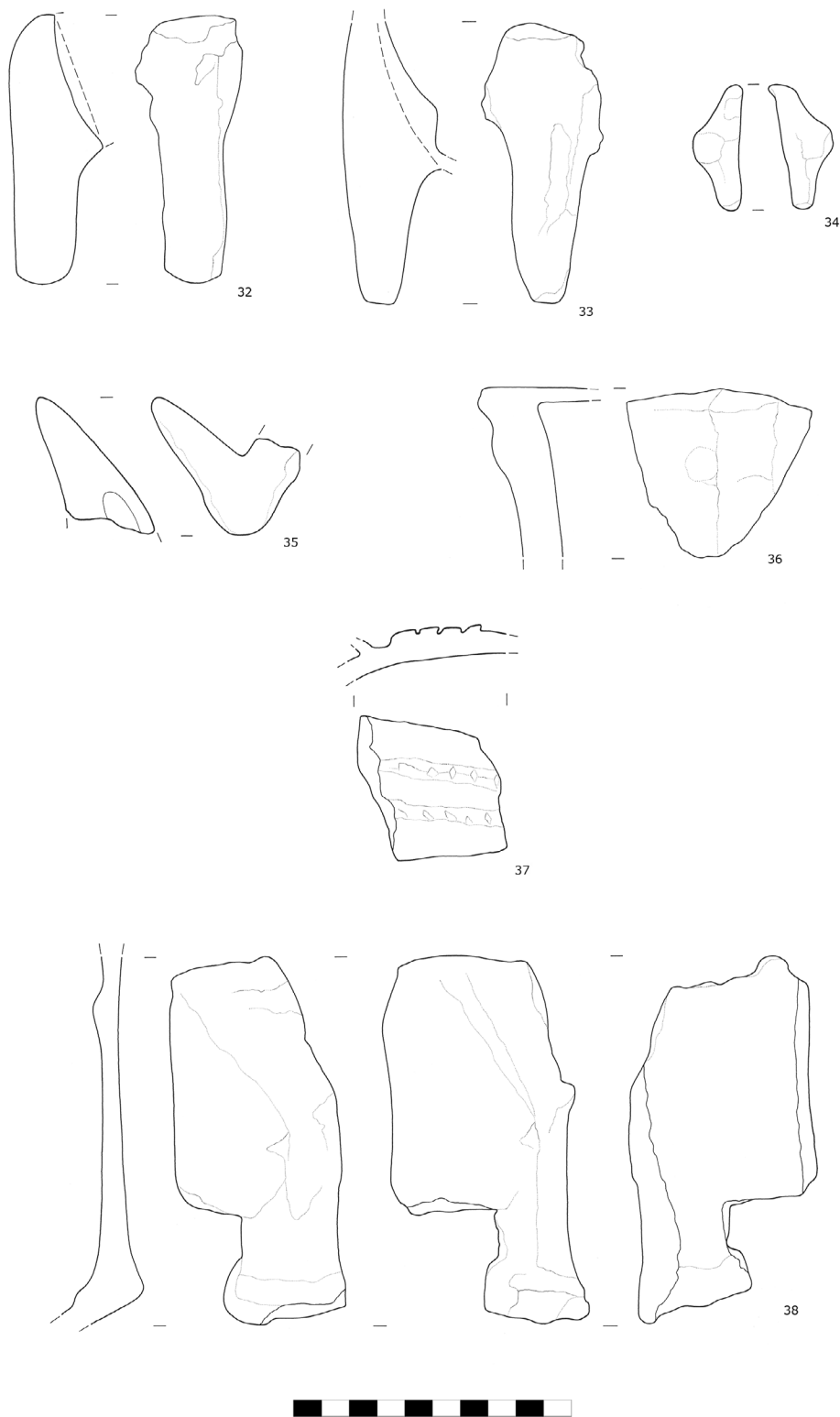


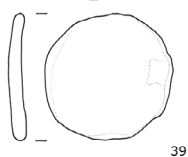
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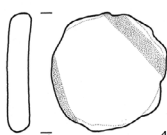




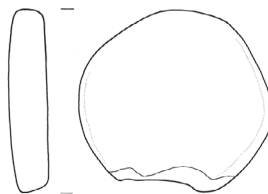




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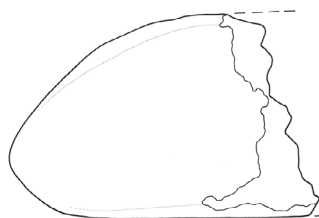
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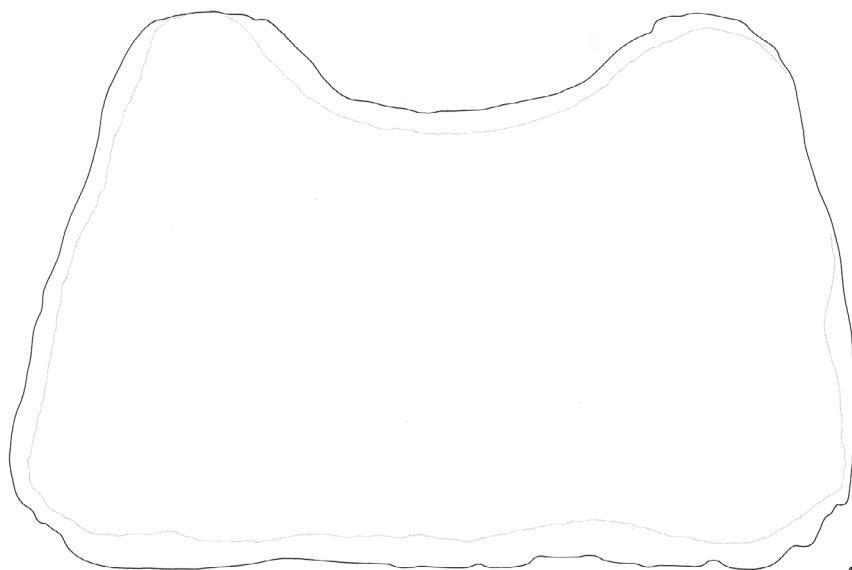
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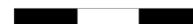
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godovinske – neolitske kakor tudi srednjeveške skupnosti, ki sta bivali in soustvarjali življenje na tem prostoru. Na lokaciji Školska Tumba je bilo odkritih več kulturnih faz, kot že povedano, ki jih lahko datiramo v neolitsko obdobje in srednji vek. Najdbe obeh obdobjev so za interpretacijo zelo zanimive, čeravno je srednjeveškega gradiva z ozirom na neolitski zbir razmeroma malo. Takšno razmerje med količinama najdb je bilo sicer tudi pričakovano, saj neolitske plasti predstavljajo osnovno formacijo prazgodovinske *tumbe*, na vrh katere so se kasneje odložile srednjeveške plasti. V nadaljevanju najprej prikazujemo izbor najznačilnejših srednjeveških najdb, podrobneje pa predstavljamo neolitsko arheološko gradivo³.

Srednjeveške najdbe

Med srednjeveškimi najdbami prevladujejo številni odlomki keramičnega posodja (G6, G8, G9). Dominirajo odlomki pekačev t.i. črepenj, ki so v glavnem zelo standardiziranih oblik in načina izdelave. Praviloma so plitki, večjih dimenzij in imajo debela ostenja, nekateri izmed njih pa imajo tudi eno ali dve odprtini na sredi (G8). Med ostalo keramiko je najpogostejše za beleženo posodje nekoliko bolj grobe fature in kroglastih oblik, občasno okrašeno z razčlenjenimi plastičnimi rebri. Med srednjeveškim posodjem velja posebej omeniti v celoti ohranjeno amforo, ki je bila odložena na dno večje jame (G9). Keramike fine fature in t.i. glazirane keramike je med srednjeveškimi najdbami malo. Izpostaviti velja tudi primerek posode z antropomorfnim slikanim okrasom, ki na prostoru Makedonije predstavlja izjemno redkost (G1). V kontekst keramičnih predmetov lahko prištejemo tudi nekaj primerkov keramičnih pip, ki pa jih je potrebno datirati v nekoliko kasnejše, otomansko obdobje (G3).

Kovinske najdbe so za razliko od keramičnega gradiva precej redkeje. Med njimi so še najpogostejši deli nožev, konice puščic in žebelji (G7). Za slednje ostaja nejasno, ali so ti predmeti pripadali krstam pokopanih, spričo dejstva, da

so bili nekdanj v bližini odkriti številni srednjeveški grobovi. V zadnji izkopavalni kampanji sicer ni bil odkrit niti en grob ali del oziroma parcialni pokop človeškega skeleta, kar je lahko tudi posledica bodisi majhnega obsega izkopavanj, lokacije sonde, oziroma njene pozicije na periferiji, kjer je bilo lahko tudi že zamočvirjeno okolje. Poudariti je potrebno, da na prostoru raziskav niso bile odkrite ostaline srednjeveških grajenih objektov, tako da je težko dokazljivo tudi, ali ti žebelji pripadajo kakšni grajeni konstrukciji ali ne. Prav tako je bilo odkritih nekaj kovinskih ploščic, za katere morda lahko predvidevamo, da so pripadale nekakšnemu lesenemu predmetu (zaboj, vrata ipd.) (G2).

Med ostalimi srednjeveškimi najdbami naj izpostavimo še dele steklenih zapestnic, ki so narejene v standardnih tehnikah, značilnih za tovrstne srednjeveške izdelke (G5). Narejene so iz tordirane vlečene steklene paste, tako da ustvarjajo izgled prepleta. V posameznih primerih so tudi večbarvno obarvane zaradi estetskega učinka (G4). Tovrstne zapestnice in še nekateri drugi predmeti omogočajo natančnejše datiranje evidenciranih plasti v srednji vek.

Neolitske najdbe

Največji del odkritih arheoloških najdb pripada neolitskemu obdobju, kar niti ni presenetljivo, saj se je naselbina začela razvijati že v zgodnjih fazah neolitika. Med najdbami prevladujejo odlomki keramičnih posod, diskoidni ploščki, keramične krogle za frače, keramične figurine, antropomorfni modeli hiš, žrtveniki, kamnita orodja na klinah in odbitkih, glajene kamnite sekire, žrmlje, gladilci, glineni modeli kruha, uteži, vijčki idr. V tekstu in na slikah predstavljamo le osnovna obeležja odkrite neolitske materialne kulture, hkrati pa izpostavljamo tiste vidike materialne kulture, ki opredeljujejo osnoven vpogled v gospodarski in duhovni svet neolitskih skupnosti, ki so nekdanj živele na prostoru vasi Mogila. Najdbe tako ne bodo predstavljene naddrobno, skozi svoje tipološke karakteristike in arheološke kontekste, ampak predstavljamo samo njihove glavne značilnosti.

³ Najdbe so izrisali in grafično obdelali Ljubo Fidanoski, Goce Naumov in Janja Tratnik Sumi. Postavitve v table je delo Aleša Ogorelca.

Keramično posodje predstavlja najboljše-nejši zbir odkritih najdb, zato je pri njegovemu izgledu in načinu izdelave zaznati tudi največ variacij. Gledano v splošnem, keramična produkcija najdišča sledi tehnološkim in stilističnim tradicijam neolitske keramike v Pelagoniji in se v veliki meri navezuje na tipe, definirane tekom starejših raziskav v Mogili. Kakor na drugih bližnjih neolitskih najdiščih tako tudi na lokaciji Školska Tumba dominira monohromna keramika, oblikovana pretežno v kroglaste posode. Tiste iz starejše poselitvene faze imajo blago navznoter uvito ustje, kar v celoti odgovarja tipološkim karakteristikam zgodnje neolitske keramične produkcije na Balkanu (npr. G12, G13, G14, G23–G25, G27–G30). Prisotno je tudi posodje, katerih ustje je izvlečeno rahlo navzven, kar je predvsem obeležje posod s fino fakturo in tankim ostenjem (npr. G10, G20, G26). Pri nekaterih kroglastih posodah je ustje kratko in navpično izvlečeno navzgor (npr. G11), medtem ko imajo druge visok cilindričen vrat, značilen tudi za kasnejše faze veluško – porodinske skupine (npr. G15, G16, G19, G21–G22).

Število bikoničnih posod, katere so prisotne v obeh neolitskih fazah, je razmeroma majhno (npr. G20). Za njih je značilno, da imajo največkrat fino fakturo in tanko polirano površino ostenja, ki je črne ali temno sive barve. Poleg teh posod so prisotne tudi skodele z grobo ali fino fakturo, katere imajo neredko precej velike dimenzije (npr. G17–G18, G31). Dna so pri večini posodja oblikovana ravno, čeprav so lahko tudi blago privzdignjena. V tem kontekstu je potrebno omeniti tudi nekaj primerkov fragmentiranih nog, ki pripadajo bodisi ritonom oz. posodam na treh oz. štirih nogah (npr. G32–G33). Ročaji na posodah so praviloma redki, kar je ena od osnovnih značilnosti starejših in srednje neolitskih najdišč v Pelagoniji. Ponekod so prisotne tudi zankaste aplikacije, katere bi lahko delovale kakor ročaji, čeprav se ne more izključiti tudi njihova dekorativna vloga. Za razliko od njih, elipsoidnih aplik s tanjšimi vertikalnimi in horizontalnimi perforacijami praktično ni, kar je presenetljivo, glede na to, da se le-te pogosto po-

javljajo na drugih neolitskih lokacijah v Makedoniji, kakor tudi širše na Balkanu.

Tehnološke značilnosti lončenine oziroma faktura njihove izdelave je bila pri večini posodja groba, čeprav ni malo niti tistih s polirano površino. Med posodjem z grobo fakturo dominirajo monohromne posode s široko odprtim ustjem, ki so lahko blede rjave, rjave ali sive barve (npr. G17, G18, G31). Njihove dimenzije sicer močno variirajo, so pa bili zelo pogosti večji lonci, ki so se najverjetneje uporabljali za shranjevanje in pripravo hrane. Posodje s fino fakturo je največkrat temno rdeče, oker in sive barve, medtem ko v mlajši neolitski fazi dominira predvsem posodje s črno obarvano in polirano površino. V glavnem so to kroglaste posode s tankimi ostenji, redkeje pa tudi takšne z bikoničnim profilom.

Posodje lahko opredelimo v različne variante z vidika oblike kot tudi z vidika okrasa. Nekateri primerki posodja, grobe fakture, so okrašeni z barbotinom. Lahko so okrašeni z neorganiziranim barbotinom, pri katerem je grob premaz iz gline nanesen na ostenje v naključni obliki, lahko pa tudi s t.i. organiziranim barbotinom, kjer je bil glinen nanos razporejen v pravilne linije s pomočjo prstov (npr. G13, G18, G25). V vseh evidentiranih primerkih je bil barbotin nanesen na trup posode, torej pod največjim obodom, kar morebiti nakazuje tudi na njegovo funkcionalno vlogo. Na posameznih primerkih grobega posodja je bil okras izdelan s tankimi, s prstnimi odtisi razčlenjenimi plastičnimi rebri, ki spominjajo na vrstico. Tovrsten ornament je poznan na keramiki številnih drugih neolitskih najdišč v Makedoniji in na Balkanu, dokumentiran pa je tudi na najdiščih kasnejših prazgodovinskih obdobj. Poleg plastičnih okrasov je neolitsko posodje iz Mogile okrašeno še z vrezanimi okrasi tankih plitvih linij in odtiskovanjem nohtov. Za razliko od barbotina pa so te dekorativne tehnike dosti bolj redke. Tudi posode s slikanim okrasom so precej redke. Slikan okras je izveden z belo barvo, motiv pa največkrat prikazuje tanke ravnolinijske in krivolinijske črte, katere so značilne za faze velušina – porodin I – IV (npr. G30, G40). Tako redko pojavljanje belo-slikane kera-

mike ne preseneča, glede na to, da je bila raziskovalna sonda locirana na sami periferiji naselbine. Arheološke plasti in faze poselitve so na tem delu naselbine precej tanjše, kar kaže na to, da je bilo samo življenje na periferiji precej manj intenzivno kot v njenem centralnem delu. Pri izkopavanjih v 70-ih letih, ki so bila izvedena v centralnem delu naselbine, je bilo namreč odkritega precej več slikanega posodja s karakterističnimi motivi, značilnimi za zgodnji neolitik Pelagonije (Simoska et al. 1979, 9–30).

Obseg ostalih izdelkov iz keramike je glede na produkcijo keramičnega posodja relativno maloštevilčen. Med nje sodijo razna funkcionalna orodja kakor tudi predmeti, namenjeni simbolični komunikaciji in obredju. V drugo skupino predmetov sodijo keramične figurine, antropomorfni modeli hiš in modeli hiš, narejeni v obliki mizic oziroma t.i. žrtveniki. Figurine obsegajo nekaj antropomorfnih in zoomorfnih upodobitev, izdelanih v domeni pelagonskih neolitskih tradicij. Antropomorfne figurine so malih dimenzij in največkrat so ohranjeni ostanki glave in nog. Glave so izrazito stilizirane, prikazan je nos, kateri predstavlja edin prisoten element na obrazu. Ena od teh figurin ima ohranjen tudi del telesa, na katerem so vrezane linije kot tudi desna roka, v kateri je izdelana perforacija. Noge so izdelane v standardni obliki brez posebej nakazane steatopigije. En primerek noge je precej porozen in zaradi tega v precejšnji meri poškodovan, medtem ko ima druga votlo notranjost (npr. G34). Za razliko od njih, drug primerek predstavlja sestavni del desne polovice fragmentirane figurine. Takšno namerno fragmentiranje figurin je prisotno tudi drugje v Pelagoniji, precej pogosto pa je tudi v drugih predelih Makedonije (Naumov 2015). Zoomorfne figurine so redkejšje, odkrit je bil vsega en primerek (npr. G35) in sicer predstava rogate živali; podobne so bile odkrite tudi ob starejših izkopavanjih (Simoska in Sanev 1976; Simoska et al. 1979, 9–30).

V okvir človeških upodobitev sodijo tudi antropomorfni modeli hiš. Najdenih je nekaj odlomkov cilindrov in delov hiš. Na enem od bolj ohranjenih cilindrov je ohranjen tudi ob-

raz v njegovem spodnjem delu. Ohranjena je trikotno oblikovana spodnja čeljust (brada), ki se zaključuje s ušesom (npr. G38) izvedba upodobitve je tipična za antropomorfne modele v Pelagoniji (Naumov 2014). Oči in usta so izdelani s pomočjo elipsastih aplikacij, nos je poškodovan. Upodobitev nosa je prikazana na enem od drugih primerkov, le da ta močno spominja na upodobitev tega dela obraza, kateri se sicer praviloma nahaja na antropomorfni posodah in ne na modelih hiš (npr. G36). Pri izkopavanjih so bili odkriti tudi posamezni odlomki zadnjega dela glave, kjer je izdelana aplikacija v obliki zanke in rebro na tilniku. Oboje predstavlja karakteristično upodobitev na antropomorfni modelih hiš v Makedoniji (npr. G36). Z notranje strani je izdelan navpični kanal, ki pelje do odprtine na temenu, kakor tudi nekaj vodoravnih vdolbin, katere so nastale kot odtis lesene armature, ki je služila kot pomagalo pri izdelavi cilindra. Iz skupine primerkov antropomorfni modelov hiš so bili odkriti tudi nekateri odlomki strehe, na katere so aplicirani dekorativni motivi, tipični za tovrstne najdbe in kateri najverjetneje predstavljajo odtise določenih likov ali pa upodobitev strešne kritine neolitske hiše (npr. G37).

Modeli keramičnih hiš v Pelagoniji nimajo samo antropomorfni obeležji, ampak pogosto predstavljajo nekakšne male mizice z arhitektonskimi značilnostmi, katere so v arheološki literaturi pogosto poimenovani kar kot žrtveniki (Naumov 2011, 89–129). Tovrstne najdbe, specifične za Pelagonijo, so bile odkrite tudi v Mogili in to v najstarejših plasteh naselbine. Eden takih odlomkov je bil odkrit tudi v manjši jami, vkopani v glineno geološko osnovo. Tukaj je potrebno opozoriti, da so takšni trikotni motivi prisotni tudi na t.i. antropomorfni modelih hiš, tako, da je v tem trenutku težko opredeliti ali morda ta odlomek ne pripada tej varianti. Če vzamemo v obzir, da antropomorfne variante kot tudi žrtveniki predstavljajo bivališča oziroma gospodarske objekte, bi lahko sklepali, da takšno deponiranje odlomka modela hiše predstavlja določeno simbolično aktivnost. Med najdbe, ki bi lahko imele simbolična obeležja, sodi tudi en prime-

rek keramičnega »hlebčka«, ki je prelomljen na polovico (npr. G47). Takšni predmeti so značilna pojava med neolitskimi najdbami na prostoru Republike Makedonije, tako da je povsem možno, da je kruh na specifičen obreden način povezan s skupnostjo; predmet pa izraža tudi njegovo simbolno vlogo (Naumov 2008, 185–204).

Orodja predstavljajo dokaj številčno skupino artefaktov, ki so lahko izdelani iz kamna ali keramike. Med keramičnimi predmeti so najpogostejše manjše krožne ploščice, izdelane iz ostrenje razbitega posodja. Nekateri izmed njih imajo v središču izdelano perforacijo, na nekaterih so ohranjene sledi belega slikanega ornamenta (npr. G39–G41, G43). Njihova funkcija ostaja še vedno nejasna, čeprav se predpostavlja, da so bili uporabljeni bodisi kot podstavki ali kot uteži (Simoska in Sanev 1975, 25–85). Sicer pa so imele uteži konično obliko, nekatere izmed njih so bile tudi okrašene z vrezi (npr. G42). Te uteži so se najverjetneje uporabljale kot uteži za ribiške mreže, ali pa so bile uporabljane pri tkanju, čeprav sledi uporabe, ki bi kazale na njihovo uporabo, ni. V kontekst tkalske dejavnosti bi morali soditi tudi kroglasti vijčki, odkriti v različnih plasteh (npr. G43). Med izdelke iz žgane gline sodijo tudi t.i. projektili za frače, ki predstavljajo eno izmed številčnejših skupin predmetov. So prepoznavna značilnost neolitske gospodarske ekonomije v Pelagoniji, namreč drugje v Makedoniji so bodisi redki ali pa sploh niso prisotni. Njihova elipsoidna oblika in velikost sta dokaj standardizirani in ne odstopajo od ustaljenih načinov izdelave (npr. G44–G46). Med zanimive keramične predmete sodi tudi večji podstavek z vboklo zgornjo površino (G48), katerega namembnost za enkrat še ni povsem pojasnjena.

Med kamnitim orodjem so najpogostejše prisotne retuširane kline, izdelane iz kremena in pa glajene sekire, izdelane iz tufa. Strgala so največkrat izdelana iz t. i. medenega kremena, so tanjših in podolgovatih oblik, pogosto s sledmi uporabnih retuš (npr. G50–G52). Del teh kremenovih artefaktov je manjših dimenzij in so jih najverjetneje vstavljali v lesene ali koščene nastavke, da bi jih lahko uporabljali kot srpe.

Sekire so izdelane v standardnih okvirih, običajno so manjših ali srednjih dimenzij, pravokotnih do nekoliko oglatih zaobljenih oblik (npr. G53–G55). To lahko nakazuje na njihovo pogosto uporabo ali pa na morebitno socialno-simbolično funkcijo, kar pa bi dokazale samo nadaljnje temeljite raziskave. V skupino kamnitih orodij bi sodile tudi nekoliko masivnejši tolkači oz. gladilci, ki so najverjetneje služili za izdelavo in ostrenje kamnitih orodij (npr. G56). Za razliko od kamnitih orodij, takšnih, izdelanih iz kosti ni prav veliko. Najden je bil en sam obdelan del jelebovega roga, katerega funkcija ni znana.

Zaključek

Arheološke raziskave na lokaciji Školska Tumba, izvedene v letu 2014, so v veliki meri potrdila spoznanja in rezultate raziskav na isti lokaciji v letu 1977 (Todorović et al. 1980). Razlika je le v prepoznavanju in definiranju sosledja posameznih faz naselbine ali t.i. kulturnih horizontov, oziroma v definiranju še ene kasnejše faze, objektivirane skozi zgornje plasti naselbine. V tem smislu lahko potrdimo, da imamo opravka s *tumbo*, ki se je formirala v zgodnjem neolitiku in je trajala do njegovih zaključnih faz; lokacija pa je bila ponovno naseljena v srednjem veku. Arheološke ostaline, ki bi pričale o poselitvi v ostalih obdobjih prazgodovine in v obdobju antike, niso bile potrjene, čeprav so se v preteklosti omenjale tudi najdbe bronaste dobe na drugih tumbah v Mogili, kot so to Tumba Sredselo in Ronjevska Tumba (Simoska et al. 1979, 9–30; Simoska 1996a, 36). V tem smislu se Školska Tumba dobro vklaplja v del pelagonskih *tumb*, ki so bile poseljene edino v obdobju neolitika in kasneje še v srednjem veku. Za razliko od njih pa imajo nekatere druge potrjeno kontinuiteto od neolitskega do eneolitskega obdobja oziroma bronaste dobe. Niti ena od njih pa do sedaj nima potrjene uporabe v času železne dobe.

Glede na geografska obeležja lokacije Školska Tumba, lahko potrdimo, da je le-ta bila formirana na peščenih aluvialnih naplavinah, ki so bile malo privzdignjene nad lokalnim reliefom. Prostor je predstavljal izjemno dobro mikro-

-morfološko lokacijo, primerno za formiranje večjega naselja tik nad močvirnatimi predeli tega dela pelagonske kotline. Lokacija je omogočala relativno hitro dostopnost hrane in drugih resursov iz okoliških gozdov, rek in jezer, dobro pa so uspevale tudi žitarice na plodnih poljih. Zaradi tega ne preseneča, da je v bližini Mogile nastalo na desetine prazgodovinskih naselij – *tumb*. Kot je bilo izpostavljeno že v uvodnem delu, se za nekatere od njih, npr. Tumba Sredselo, Tumba Selska Crkva in Školska Tumba, lahko smatra, da so del enega samega velikega naselja, katerega pa je modernizacija vasi Mogila razčlenila na več majhnih lokacij. Takšna večja naselja so poznana tudi v drugih predelih Pelagonije, nedavno pa so bili registrirani tudi prostorski areali, ki so jih te naselbine nekaj obsegale (Naumov in Stojkoski 2015, 169–183). Z obzirom na to, je treba razumeti, da je Školska Tumba le sestaven del te večje naselbine, kar potrjuje tudi izjemna podobnost neolitskega gradiva, odkritega ob izkopavanjih na lokaciji Tumba Sredselo v letu 1975 (Simoska et al. 1979, 9–30).

Na osnovi značilnosti odkritih arheoloških najdb se lahko potrdi, da je bila ta naselbina prvič naseljena v zgodnjem neolitiku, kar je jasno razvidno iz keramičnega gradiva, kakor tudi iz radiokarbonskih datacij, ki so bili pred kratkim na novo kalibrirani (Naumov 2016a). Glede na kalibrirane datacije je bila ta lokacija prvič naseljena nekoliko po začetku šestega tisočletja, radiokarbonske datacije pa potrjujejo tudi poselitev na prehodu med šestim in petim tisočletjem pr.n.št.. Takšna datacija povsem sovпада z začetkom naselitve na lokacijah Veluška Tumba in Tumba pri Porodinu, kakor tudi Čuka pri mestu Topolčani (Naumov 2016a). Čeprav ti podatki temeljijo na analizah maloštevilnih primerkov in ostajajo diskutabilni, pa se vsaj za enkrat lahko potrdi, da so neolitske skupnosti v Pelagoniji formirale svoja prva naselja v samem začetku šestega tisočletja pr. n. št. Vsekakor pa se lahko dosedanje poznavanje povsem spremeni z analizami novih primerkov z obravnavanih lokacij. V času arheoloških raziskav na lokaciji Školska Tumba so bili namreč iz vseh plasti evidentirani

in shranjeni vzorci, katerih analize bi lahko potrdile ali pa korigirale dosedanje kronologijo te neolitske naselbine.

Kot je bilo že zgoraj omenjeno, lahko zgodnji neolitik potrdijo tudi keramične najdbe. Za najzgodnejše faze naselbine je značilno posodje z belo slikanim okrasom v obliki motivov izdolženih linij v kompleksni kompoziciji, kar so nakazovale že najdbe predhodnih izkopavanj, sočasno z njimi pa je tudi posodje, okrašeno s t.i. motivom sigme (Simoska et al. 1979, 9–30; Todorović et al. 1980). V tej fazi je največ registriranih kroglastih posod in loncev z izraženim bikoničnim ostenjem, bolj poredko pa so prisotne bolj odprte forme posod. Okrašeni so pretežno z odtiskovanjem, v nekaj primerih tudi barbotinom.

Sledi 2. faza neolitske poselitve, ki pa je bila že precej poškodovana s srednjeveškimi posegi oz. jamami. Glede na radiokarbonske analize bi ta faza naj pripadala obdobju med 6. in 5. tisočletjem pr. n. št., vključuje pa tudi gradivo, katero je mogoče datirati v sredino 6. tisočletja pr. n. št. Čeprav se v tej fazi nadaljuje predhodna keramična tradicija, pa je vseeno treba izpostaviti proizvodnjo fine, črne polirane keramike bikoničnih oblik s krajšim izvihanim ustjem. Poleg omenjenih najdb so še vedno v uporabi tudi kroglaste posode, okrašene s slikanimi motivi (rombi, ravnolinijski in krivolinijski motivi), razmeroma pogosto je v uporabi tudi barbotin.

V predhodnih izkopavanjih je bila definirana tudi 3. neolitska kulturna faza, v kateri pa se je nahajala tudi srednjeveška keramika. Tekom izkopavanj v letu 2014 na periferiji naselbine pa se je pokazalo, da so bile plasti te faze precej poškodovane s kasnejšimi srednjeveškimi posegi na prostoru, zaradi česar se je tudi v plasteh 3. faze nahajala oblica srednjeveških najdb. Leta 2014 je bila tekom raziskav evidentirana tudi 4. faza, katero pa lahko označimo za recenčno in predstavlja najmlajše posege na sami lokaciji. Plasti vsebujejo premešane neolitske in srednjeveške najdbe, kakor tudi tiste, ki sodijo v 20. stoletje. Pri izkopavanjih centralnega dela te velike »tumbe«, katera formalno pripada lokaci-

ji Tumba Sredselo, so bili odkriti tudi posamezni odlomki, kateri so datirani v bronasto dobo. Tovrstne najdbe na periferiji naselbine niso bile evidentirane.

V zgodnje neolitski fazi so bile dokumentirane tudi nekatere arhitekturne ostaline. V najnižji plasti so bile registrirane ostaline polkrožne konstrukcije, izdelane iz tanjših kolov, lociranih na izravnanim platoju. Poleg njih so bile evidentirane tudi ostaline objekta, grajenega iz masivnejših kolov, ki bi lahko bil prvemu sočasen ali pa zgrajen nekoliko kasneje. Takšne oblike zgradb na drugih lokacijah v Pelagoniji niso poznane, kar pa bi lahko bila posledica tudi dejstva, da so bile dosedanje raziskave pretežno locirane na centralnih delih naselij. Lahko se predvideva, da so takšne konstrukcije v periferijah naselbine imele gospodarski karakter; tudi glede na njene manjše dimenzije. Če vzamemo v obzir še dejstvo, da je bil ta del Pelagonije močvirnat, je možno, da so se gradile tudi stavbe na koleh zaradi zaščite pred vodo. Takšne stavbe so se gradile v Mogili tudi še v drugi polovici 20. stoletja. In četudi je prostor že delno osušen in so se v pokrajini večino leta ohranjala le jezera, je ob večji količini padavin celotno področje bilo podvrženo poplavam, kar so dokazale tudi poplave 2015.

Tudi keramični modeli hiš so evidentirani v najnižjih plasteh naselbine, en odlomek pa je bil namenoma deponiran v eni od manjših jam, vkopanih v geološko osnovo, oziroma geološko plast, na kateri je kasneje osnovana zaenkrat najstarejša konstrukcija, registrirana v Mogili. To bi lahko potrjevalo, da je bil kulturno obredje v bivališčih oz. gospodarskih objektih, kateri so značilni za Pelagonijo, prisotni že v najstarejših fazah neolitika tega prostora.

To vsekakor potrjujejo tudi sočasni predmeti iz drugih najdišč Pelagonije, kot so Porodin, Optičari, Topolčani in dr. Za razliko od teh arhitekturnih modelov se njihove antropomorfne variante pojavljajo nekoliko kasneje tako v Mogili kakor tudi na drugih neolitskih naseljih v Pelagoniji. Tisti, najdeni v Školski Tumbi, imajo običajne značilnosti modelov z masivnimi cilindri z obrazom apliciranim v trikotno polje,

kakor tudi »zdolništ« na pokrovu od hiše. V kontekst antropomorfni predstavljajo se lahko vključijo tudi nekatere figurine, katere ne odstopajo mnogo od pelagonskih tradicij, ena izmed njih pa ima tudi obeležja namerne fragmentacije, kar je spričo drugih regij Makedonije tukaj zelo redko (Naumov 2015). Kamnita orodja so primerljiva z najdbami ostalih pelagonskih najdišč, pri čemer pa opazamo, da so najštevilnejši projektili za frače, sekire in kamnite kline.

Glede na povedano se lahko zaključi, da je osrednja neolitska tumba v Mogili, katere del predstavlja tudi Školska Tumba, ena od največjih in najmasivnejših tega časa v Pelagoniji. Glede na meritve njenega centralnega dela iz izkopavanja v letu 1977, višina celotne stratifikacije plasti na njenem najvišjem delu znaša 6,09 m, čeprav je v Arheološki karti Makedonije navedeno, da je 6,90 m (Simoska et al. 1979, 9–30; Simoska 1996a, 36). Takšna višina naselbinskih plasti ne preseneča, glede na njen centralni značaj v odnosu do številnih, nekoliko manjših tumb, ki so registrirane v njeni neposredni bližini. Poleg tistih, že poznanih iz 70-ih let 20. stoletja, sta bili v letu 2015 evidentirani še dve novi (Naumov in Stojkoski 2015; Naumov 2016a). Celotna prostorska situacija evidentiranih lokacij potrjuje, da ima Mogila centralno pozicijo med najdišči v tem delu Pelagonije, h kateri so gravitirali številni manjši zaselki, ki so nastali bodisi v času neolitika ali tudi v katerem od kasnejših prazgodovinskih obdobj. Takšni centri so prepoznani tudi v drugih predelih Pelagonije, zaradi česar bi lahko sklepali, da so le-ti imeli pomembnejšo vlogo v ekonomski komunikaciji kot manjši zaselki. Značaj centralne naselbine v Mogili za enkrat še ni natančno definiran, kakor tudi še ni pojasnjeno ali so gravitirajoči zaselki s centralno naselbino sinhronega nastanka ali pa so le-te nastale kasneje. V vsakem slučaju pa njena lokacija kakor tudi arheološko gradivo dokazujeta, da je bila naselbina že v zgodnjem neolitiku v središču ekonomskih tokov prvih poljedelcev v Pelagoniji in je znatno prispevala k učvrstitvi ekonomskih standardov in simboličnih principov zgodnje neolitskega obdobja.

Povzetek

Območje Pelagonije (Severne Makedonija) kot prostor intenzivne neolitske poselitve je arheološki javnosti poznano že precej časa. Velik raziskovalni interes se je za pelagonska prazgodovinska najdišča pojavil tik po drugi svetovni vojni. Prva izkopavanja je tedaj izvedel Josip Korošec na Grgur Tumbi, izpostaviti pa velja tudi temeljno arheološko raziskavo na lokaciji Tumba pri Porodinu. »Zlata doba« preučevanja prazgodovine Pelagonije je nastopila v sedemdesetih letih 20. stoletja, ko so bila izpeljana sistematična rekognosciranja in sondažna izkopavanja na številnih lokacijah v centralnem delu Pelagonije. Takrat so se vršile sistematične raziskave na najdiščih Veluška Tumba pri Porodinu, Mogila, Optičari, Trn, Karamani, Dobromiri, Radobor in druge.

Pelagonija kot specifičen arheološki fenomen ponovno postane središče zanimanja širše strokovne javnosti šele v drugem desetletju 21. stoletja. V okviru te iniciative je bilo na periferiji lokacije Školska Tumba v Mogili v sodelovanju makedonsko – slovenske ekipe v letu 2014 vršeno arheološko sondiranje, usmerjeno v prepoznavanje stratifikacije naselbine. Sondiranje je v veliki meri potrdilo spoznanja in rezultate raziskav leta 1977 na isti lokaciji. Razlika je le v prepoznavanju in definiranju sosledja posameznih faz naselbine ali t.i. kulturnih horizontov, oziroma v definiranju še ene kasnejše faze, objektivirane skozi zgornje plasti naselbine. V tem smislu lahko potrdimo, da imamo opravka s *tumbo*, ki se je formirala v zgodnjem neolitiku in je trajala do njegovih zaključnih faz; lokacija pa je bila ponovno naseljena v srednjem veku. Arheoloških ostalin mlajših prazgodovinskih obdobj in antike nismo zasledili.

V bližini Mogile je evidentiranih na desetine prazgodovinskih naselij – *tumb*; za nekatere od njih, npr. Tumba Sredselo, Tumba Selska Crkva in Školska Tumba, se lahko smatra, da so bile del enega samega velikega naselja, katerega pa je modernizacija vasi Mogila razčlenila na več mikro lokacij. Predvideva se, da je bila lokacija Školska Tumba le sestaven del večje naselbine, kar potrjuje tudi izjemna podobnost neolitskega gradiva, odkritega ob izkopavanjih na lokaciji Tumba Sredselo v letu 1975. Arheološko sondiranje v letu 2014 je pokazalo, da je na periferiji lokacije Školska tumba možno definirati 4. faze poselitve. Najstarejša poselitev (1. faza poselitve) sodi v čas zgodnjega neolitika, kar potrjujejo ostanke arhitekture in odkrite arheološke najdbe, predvsem

keramično gradivo. Časovni umestitvi pritrjujejo tudi radiokarbonske datacije. Prvič je bila ta lokacija naseljena nekoliko po začetku šestega tisočletja, poselitev pa je izpričana tudi na prehodu med šestim in petim tisočletjem pr.n.št. Takšna datacija povsem sovпада z začetkom naselitve na lokacijah Veluška Tumba in Tumba pri Porodinu, kakor tudi Čuka pri mestu Topolčani. Za najzgodnejše faze naselbine je značilno posodje z belo slikanim okrasom v obliki motivov izdolženih linij v kompleksni kompoziciji, kar so nakazovale že najdbe predhodnih izkopavanj, sočasno z njimi pa je tudi posodje, okrašeno s t.i. motivom sigme. Oblikovno so prisotne kroglaste posode in lonci z izraženim bikoničnim ostenjem, redkeje so odprte forme posodja. Groba keramika je okrašena pretežno z odtiskovanjem, lahko tudi z barbotinom. Sledi 2. faza neolitske poselitve, ki pa je bila že precej poškodovana s srednjeveškimi posegi oz. jamami. Glede na radiokarbonske datacije bi naj ta faza pripadala obdobju med 6. in 5. tisočletjem pr. n. št., vključuje pa tudi gradivo, katero je mogoče datirati v sredino 6. tisočletja pr. n. št. Čeprav se v njej nadaljuje predhodna keramična tradicija, pa je kot novost potrebno izpostaviti še proizvodnjo fine, črne polirane keramike bikoničnih oblik s krajšim izvihanim ustjem. Ob izkopavanjih v 70. letih je bila definirana tudi 3. neolitska kulturna faza, v kateri pa je bila dokumentirana tudi srednjeveška keramika. Tekom sondiranja v letu 2014 se je ponovno pokazalo, da so bile plasti 3. faze precej poškodovane s kasnejšimi srednjeveškimi posegi, zaradi česar se je v njih nahajala oblika srednjeveških najdb. Leta 2014 je bila evidentirana tudi 4. faza, katero pa lahko označimo za recentno in predstavlja najmlajše posege na sami lokaciji. Glede na povedano se lahko zaključi, da je osrednja neolitska *tumba* v Mogili, katere del predstavlja tudi Školska Tumba, ena od največjih in najmasivnejših tega časa v Pelagoniji (največja višina stratifikacije plasti dosega cca. 6 m). Takšna višina naselbinskih plasti ne preseneča, glede na njen centralni značaj v odnosu do številnih, nekoliko manjših *tumb*, ki so registrirane v njeni neposredni bližini. Celotna prostorska situacija evidentiranih lokacij potrjuje, da ima Mogila centralno pozicijo med najdišči v tem delu Pelagonije, h kateri so gravitirali številni manjši zaselki, ki so nastali bodisi v času neolitika ali tudi v katerem od kasnejših prazgodovinskih obdobj. Njena lokacija kakor tudi arheološko gradivo pričata, da je bila naselbina že v zgodnjem neolitiku v središču ekonom-

skih tokov prvih poljedelcev v Pelagoniji in je znatno prispevala k učvrstitvi ekonomskih standardov in simboličnih principov zgodnje neolitskega obdobja.

Summary

The area of Pelagonia (North Macedonia) settlement has been known as an area of intensive Neolithic to the archaeological scientific community for quite some time. A great research interest for Pelagonian prehistoric sites emerged only after WWII. The first excavations were then carried out by Josip Korošec at Grgur Tumba; also, first basic archaeological excavation at the Tumba near Porodin has to be pointed out. The "golden age" of prehistoric studies of Pelagonia occurred in the 1970's, when systematic surveys as well as test probing were carried out at a number of locations in the central part of Pelagonia. At that time, systematic archaeological research was carried out at the sites of Veluska Tumba near Porodin, Mogila, Optičati, Trn, Karamani, Dobromiri, Radobor and elsewhere.

As a specific archaeological phenomenon, Pelagonia is now again becoming the focus of interest of the wider professional community. In the framework of this initiative, archaeological test probing was conducted in 2014 in the outskirts of Školska Tumba location in Mogila, in cooperation with the Macedonian - Slovenian team, aimed at recognizing the stratification of the settlement itself. Probing to a large extent confirmed the findings and results of the research, conducted in 1977 at the same location. The difference is only in identifying and defining the sequence of individual phases of the settlement, or so-called cultural horizons, namely another later phase has been recognised, which is objectified through the upper layers of the settlement. In this sense, we can confirm that we are dealing with a *tumba* (tell settlement) that has been formed in the Early Neolithic and lasted until its final phases. The site was also re-settled in the Middle Ages. We did not find any archaeological remains of younger phases of prehistory or antiquity.

Near the site of Mogila, a dozen of prehistoric settlements – *tumae* has been recognised; some of them, e.g. Tumba Sredslo, Tumba Selska Crkva and Školska Tumba can be considered as a part of a single large settlement, which has been broken down into several micro locations by the modernization of the village Mogi-

la. It is assumed that the location of Školska Tumba was only one integral part of a larger settlement, which is also confirmed by the exceptional similarity of the Neolithic material found during the excavations at Tumba Sredslo in 1975.

Archaeological probing in 2014 showed that four different settlement phases can be defined on the periphery of the Školska Tumba location. The oldest phase (first settlement phase) belongs to the early Neolithic, which is confirmed by architectural remains and uncovered archaeological finds, especially ceramic material. Radiocarbon dating confirms the established time span. The site was inhabited for the first time somewhat after the beginning of the sixth millennium, and the settlement was also confirmed at the transition between the sixth and the fifth millennium BC. Such a date completely corresponds with the beginning of settlement at the locations of Veluska Tumba and Tumba near Porodin, as well as Čuka near Topolčani. The earliest stage of the settlement is characterized by vessels with white painted ornamentation in the form of complex composition motifs of elongated lines, trace that has been already noticed in uncovered finds of previous excavations, and at the same time there are also vessels decorated with so-called sigma motives. Vessels are of rather globular forms and pots have a pronounced biconic shape, the more open forms of the containers are rare. The coarse pottery is predominantly decorated by stamping, and also with so-called barbotine. Second settlement phase of the Neolithic settlement was already significantly damaged by medieval pits and other interventions. According to radiocarbon dating, this phase should belong to the period between the 6th and 5th millennium BC, however it also includes material that can be dated to the middle of the 6th millennium BC. Although the previous ceramic tradition continues with this phase, it is also necessary to emphasize the production of fine, black polished biconical vessels with a short sputtered mouth. During the 1970s excavations, the third Neolithic cultural phase was also defined, in which medieval ceramics was documented. During archaeological probing in 2014, it was shown again that the layers of the 3rd settlement phase were significantly damaged by subsequent medieval interventions, which caused the abundance of medieval finds within the layers of this phase. In

2014, phase 4 was also recorded, which represents the youngest interventions on the site itself.

According to the results, we can conclude that central Neolithic *tumba* in Mogila, part of which is represented also by Školska Tumba, is perhaps one of the largest and most massive structures of this time in Pelagonia (the maximum height of the stratification is approx. 6 m). Such a height of settlement layers is not surprising given its central character in relation to many smaller *tum-bae* that are recorded in its immediate vicinity. The entire spatial situation of documented locations confirms that Mogila has a central position among the sites in this part of Pelagonia, which was gravitated by many smaller settlements, which were created either in Neolithic times or in any of the later prehistoric periods. Its location as well as its archaeological material indicate that the settlement was already in the early Neolithic at the center of the economic flows of the first farmers in Pelagonia and has significantly contributed to the consolidation of economic standards as well as symbolic principles of the early Neolithic period.

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Bowls With Everted Rim From Stubline – An Emblematic Vessel Type Of Late Vinča Culture

Miloš Spasić, Belgrade City Museum, Belgrade
Saša Živanović, Beograd
Dragana Stojić, Belgrade City Museum, Belgrade

Sklede z uvihanim ustjem so razprostranjene po celotnem območju centralnega Balkana kot eden izmed najbolj pogostih tipov Vinča D naselbin. Najverjetneje so bile uporabljane kot sklede oziroma krožniki za postrežbo tekoče ali trdne hrane. Skupno je bilo analiziranih 160 skled iz pozno vinčanskega naselja Stubline z namenom izpeljave možnih trendov interpretacije tipoloških, funkcionalnih in prostorsko-časovnih vidikov skled z uvihanim ustjem pozno vinčanske kulture. Rezultati analize so bili statistično kvantificirani z namenom preverbe možnih trendov v izdelovanju tovrstnih posod.

Ključne besede: sklede z uvihanim ustjem, Stubline, neolitik, vinčanska kultura

Bowls with everted rim are distributed over the vast territory of Central Balkans, as one of the most frequent bowl type from numerous Vinča D settlements. They were probably used as consumption bowls or plates for consuming of both liquid and solid food. Total number of 160 bowls from Late Vinča culture site of Stubline was analysed in order to mark possible trends in interpretation of typological, functional and spatiotemporal aspects of bowls with everted rim from Late Vinča culture. Analysis results were statistically quantified in order to check whether there are possible trends in production of bowls with everted rim.

Key words: Bowls with everted rim, Stubline, Neolithic, Vinča culture

The archaeological site Crkvine at Stubline (Republic of Serbia) rests on an elongated plateau of about 12.5 hectares, at an altitude between 100 m and 120 m (Crnobrnja 2012; Spasić 2012a; Spasić 2013; Crnobrnja 2014). The dimensions of the plateau, measured from the outermost points, reach approximately 620×380 metres (Figure 1). In the Neolithic, the flat plateau was surrounded by two stream beds on the north and south side. The watercourse to the north is today dry, while the south side of the site is still enclosed by the small river of Trstenica. The two watercourses joined in the south-western part of the settlement, where the terrain sloped steeply down into a large denivelation. In a broader geographical context, Stub-

line lies in the micro-region called Drenski Vis, located in the Posavina-Tamna region, which was marked by dense population in the Late Neolithic. Within a range of only a few dozen kilometres from Stubline, a significant number of settlements that belonged to the Vinča culture have been identified. Judging by their material culture, these settlements must have existed simultaneously at least for a short period of time between 4800 BC and 4600 BC.

The first archaeological explorations at Stubline were undertaken in 1967 by Jovan Todorović, the curator of the Prehistoric Collection of the Belgrade City Museum (Todorović 1967; Spasić, Živanović and Stojić 2016). On that occasion, a small probe measuring 16 m² was in-



Figure 1. Aerial photography of the Neolithic site at Stubline (Photo: Aleksandar Sivački)

vestigated in the farthest south-eastern section of the settlement. Two settlement strata that had belonged to the Vinča culture were allegedly identified: a later stratum, containing remains of houses above the ground, and an earlier one, with pit-houses and semi-pit-houses (Todorović 1967). Revision of material and documentation from the first excavations carried out at Stubline has shown that pits that were originally identified as pit-houses are in fact waste pits (Spasić, Živanović and Stojić 2016). The systematic archaeological excavations at Stubline began in 2008, and they are still under way. During this period, three houses were fully investigated, as well as the double trench systems around the older and younger parts of the settlement, a number of waste pits and an area surrounded by a group of houses in the northwestern part of the settlement (Crnobrnja, Simić and Janković 2009; Crnobrnja 2012; Spasić 2012a; Spasić 2013; Spasić, Živanović and Stojić 2015; Spasić, Živanović and Stojić 2016).

Simultaneously with the excavations, a detailed non-destructive geomagnetic and geo-

physical prospection of the site was carried out between 2007 and 2011. The total area explored using geomagnetic prospection was about eight hectares, while the geo-electrical measurements of geophysical resistivity revealed vertical profiles reaching 1125 meters in length through the layers at the site.

In a very simplified and concise matrix, the stratification of cultural layers at Stubline reveals four chronological phases in the use of the site (Spasić 2013). The horizon Stubline I corresponds to a Late Vinča culture settlement, Stubline II can be associated with the Baden culture settlement, Stubline III with an Avar necropolis (?), whereas Stubline IV is a horizon with graves from the late Middle Ages. Such a stratigraphy should be taken with a reserve for several reasons. Previous excavations have shown that it is impossible to establish a single stratigraphic system for the whole site because different parts of the site were used in different periods. Accordingly, it is not realistic to expect this stratigraphic scheme to be applicable to all areas of the site.

The geomagnetic prospecting and excavations have confirmed that it was only in the Late Neolithic that the entire area of the site was used. The communities of the Baden culture also used, in some way, the entire area of the plateau, as indicated by the presence of the Baden ceramics in all of the investigated probes at the site. Avar and medieval graves have so far been found in the westernmost section of the site and they were dug into the layers that belonged to the Vinča culture (Bugarski et al. 2013).

At least two construction phases can be traced in the vertical stratigraphy of the Vinča culture settlement at Stubline. Both phases are to be associated with late horizons of the Vinča culture – Vinča D1 and Vinča D2 (Spasić 2013). Therefore, based on the results of the excavations carried out so far, the Neolithic horizon at Stubline could be divided into two phases: Stubline Ia (Vinča D1 phase in the eastern part of the plateau) and Stubline Ib (Vinča D2 phase throughout the plateau), with the possibility for further subdivisions. The fact that the previous analysis of the entire corpus of material culture (especially pottery) indicates that the life of the Vinča culture settlement spanned a chronological range not much longer than 200 to 250 years (4850/4800–4650/4600 BC) seems to be exceptionally important for the analysis of the horizons and the understanding of the dynamics of activities and space production at Stubline.

The earlier settlement was built during the Vinča D1 period (ca. 4850/4800 BC) in the eastern section of the plateau and it included about 120 houses (Spasić 2013). With the present body of knowledge, it is impossible to hypothesize where the primary zone of origin of the settlement, whence it later spread, had been located. It is unlikely that all of the houses in the earlier part of the village were built at the same time and it seems more realistic to assume that the village was “growing” around the primary core. At a certain period, the earlier settlement was protected by a system of double deep trenches. As time was passing, the Vinča community at Stubline was growing. And the settlement was grow-

ing, too. In the last decades before the settlement began to spread to the west, houses had occupied the almost entire eastern area of the plateau. The population growth required for conquering new areas and the double system of trenches surrounding the primary village was buried so that the settlement may spread into the western part of the plateau. Over time, about eighty houses were built in the new area and the new settlement, which then covered the entire plateau, could have had, at one point, more than two hundred houses (Spasić 2013).

So far Neolithic site of Stubline gained much of the scholar attention mainly due to the exceptionally elaborate ground plan of the settlement observed on the geomagnetic plan (Crnobrnja 2014), as well as owing to remarkable group find of 43 figurines (Crnobrnja 2011; Spasić 2014) and other so called cult finds (Spasić 2012a; Spasić 2012b). Elaborate publication of house inventories and structures from Stubline significantly contributed to the Vinča/culture household archaeology (Crnobrnja, Simić and Janković 2009; Crnobrnja 2012; Spasić 2012a; Spasić 2012b; Spasić 2013; Spasić and Živanović 2015; Spasić, Živanović and Stojić 2015; Spasić, Živanović and Stojić 2016).

Pottery Production At Stubline

Fragmented and whole vessels makes the greatest part of the collection of objects originating from the excavations at Stubline. This part of the collection includes more than 200,000 fragments (Spasić 2013). The corpus of pottery from Stubline is exceptionally uniform in terms of style and typology, with pottery types that show only slight typological divergence and variations. Metric analyses also reveal the uniformity in terms of the dimensions of individual types of vessels. All these facts could indicate a certain level of standardization in pottery production, as already observed in the analyses of pottery originating from other Vinča-culture sites.

A macroscopic analysis of the pottery reveals the existence of two somewhat different pottery technologies at Stubline (Spasić 2013).

Although they shared some features, these technologies differed in certain technological processes and they seem to have belonged to two different phases of life at Stubline. Ochre, grey and dark grey pottery with an exceptionally large amount of inorganic impurities, fired under conditions of complete and incomplete oxidation, prevailed in the later phase (Stubline Ib). The pottery from the earlier phase (Stubline Ia) was considerably finer in facture, with a smaller amount of inorganic impurities, dark gray and black in colour and usually baked under conditions of reduced oxidation. The presence of pottery with an exceptionally large amount of inorganic impurities and vessels baked under different conditions is not directly associated with a specific type or function of a vessel. In the latest phases, inorganic ingredients (crushed stone of varying granulation and sand) in pottery amounted to between 20% and 30% of the total weight (Spasić 2013). Accordingly, it may be claimed with great certainty that at a point in time a change occurred in pottery technology. All aspects of a technology are generally assumed to be one of the fundamental, very rigid and unvarying elements of the tradition of prehistoric communities. Technological changes in the pottery production at Stubline should therefore be analysed in the context of other changes in the economic and socio-cultural matrix of the Vinča community.

Vinča culture pottery corpus from Stubline includes all characteristic Vinča D vessel types (cf. Nikolić 2008; Spasić 2011). Three basic functional types include: 1. Food preparation vessels; 2. Storage vessels; 3. Tableware. In terms of typology there are seven most characteristic vessel types: bowls, cups, pots, caserolas, amphorae, pithoi and lids. Observed chronological differences in pottery technologies from earlier and later settlement phases coincide to some degree with certain chrono-typological variations. Two settlement phases could be also seen as the times of the two bowl types. Biconical bowls with pronounced and/or thickened shoulder are characteristic for earlier settlement phase, while

bowls with everted rim are typical shape for later phase. Decoration techniques and ornamental patterns are typical for Late Vinča culture pottery production also. Most characteristic ornamental motifs are simple channelled multiple slanting or vertical lines organized into horizontal band on the upper part of the vessels, and burnished vertical or slanting lines on the lower vessel parts. Finger impressions and applied straps are typical ornaments for coarser pottery.

Bowls With Everted Rim

Bowls represent the most common tableware type at the majority of Vinča culture sites and are considered as secure chronological index for relative dating. Bowls with everted rim were recognized as Late Vinča culture *Leitfossils* very late in terms of long history of traditional cultural-historical archaeology (cf. Garašanin 1973, 94, 95; Garašanin 1979, 179). They are distributed over the vast territory of Central Balkans, as one of the most frequent bowl type from numerous Vinča D settlements (cf. Madas 1988; Nikolić 2008; Spasić 2011; Vuković 2011; Jovanović 2015). Their chronological position and strong prevalence in ceramic inventories within late Vinča D period is superbly confirmed in statistical analysis of pottery from multi-layered site of Grivac in Central Serbia, where bowls with everted rims have more than 25% share of bowls in Grivac VI horizon (Nikolić 2008, 197, fig. VI).

Bowls with everted rim represent typical Vinča culture tableware. They were probably used as consumption bowls and/or plates for consuming of both liquid and solid meals. The number of discarded bowls with everted rim is very high as well as their number in house inventories, which speaks in favour of claim that such vessels were used individually. They were often used, broken, damaged and replaced with new ones which also sustain the thesis that they were common and suitable vessel form.

Initial information from the first systematic field survey carried out at Stubline during 1966 was that surface finds collected from the site include clay balls, bowls, axes, and other ma-

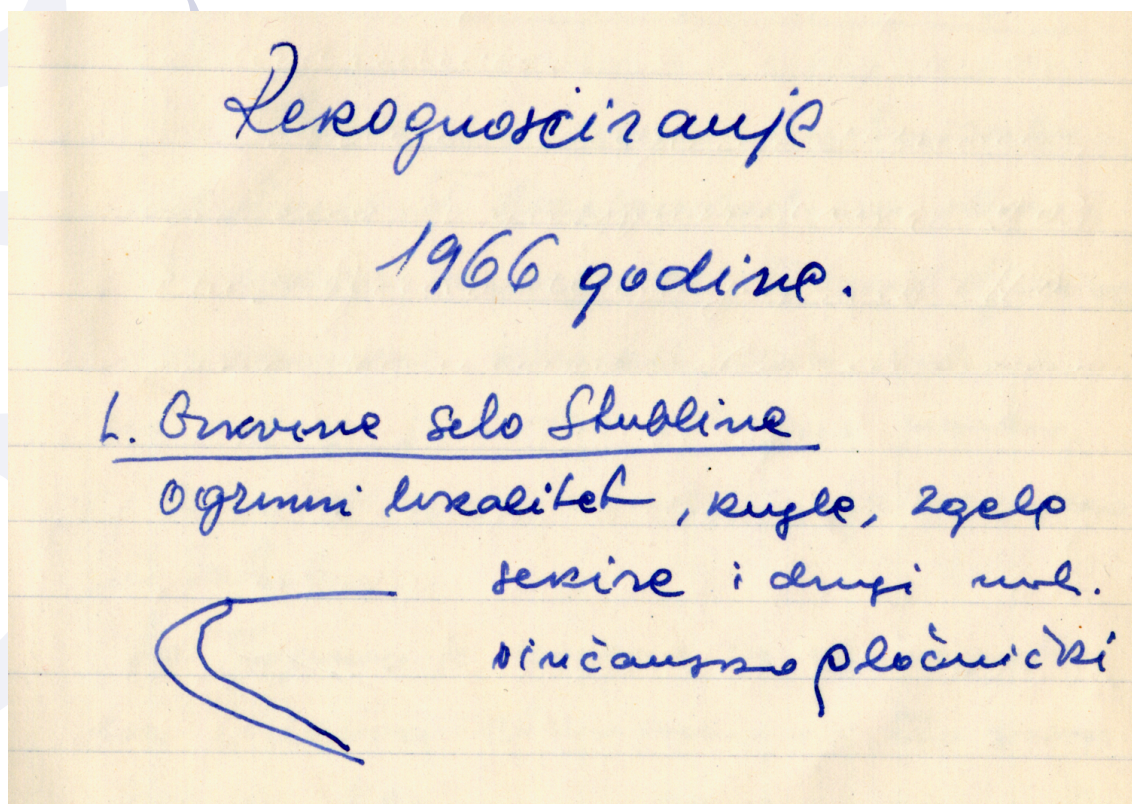


Figure 2. J. Todorović's note from the first systematic field survey in Stubline during 1966 (Belgrade City Museum archive)

terial typical for Vinča-Pločnik phase. The note was accompanied with hand drawing of the profile of typical bowl with everted rim (Figure 2). Sample from Stubline is chosen arbitrarily, based on the presence of important parts of the bowls essential for typological, metrical and stylistic analysis. It doesn't tend to project the analysis results as model neither for Stubline corpus nor for broader regional or chronological index. Rather, discussion of analysis results of Stubline sample aims to mark possible trends in interpretation of typological, functional and chronological aspects of bowls with everted rim from Late Vinča culture.

Total number of 160 bowls with everted rim was examined macroscopically. Each fragment was analysed using uniform methodology in order to inspect metrical, typological and stylistic diversities of the corpus. Later on, results

were statistically quantified in order to check whether there are possible trends in production of bowls with everted rim. Additionally, we conducted contextual analysis seeking to find conceivable patterns in their use and discard.

Morphology

Bowls with everted rim represent one of the most solid morphological types in the Vinča culture pottery inventory. There is endless number of formal variations based on typological parameters. However, our typology was not burdened with numerous subtypes and varieties which would blur the overall image of formal uniformity of bowls with everted rim. Rather, we selected three basic types which probably correspond with function of the vessel. Majority of the studied bowls belong to the first type with conical or rounded body and everted rim (Figure 3). Nu-

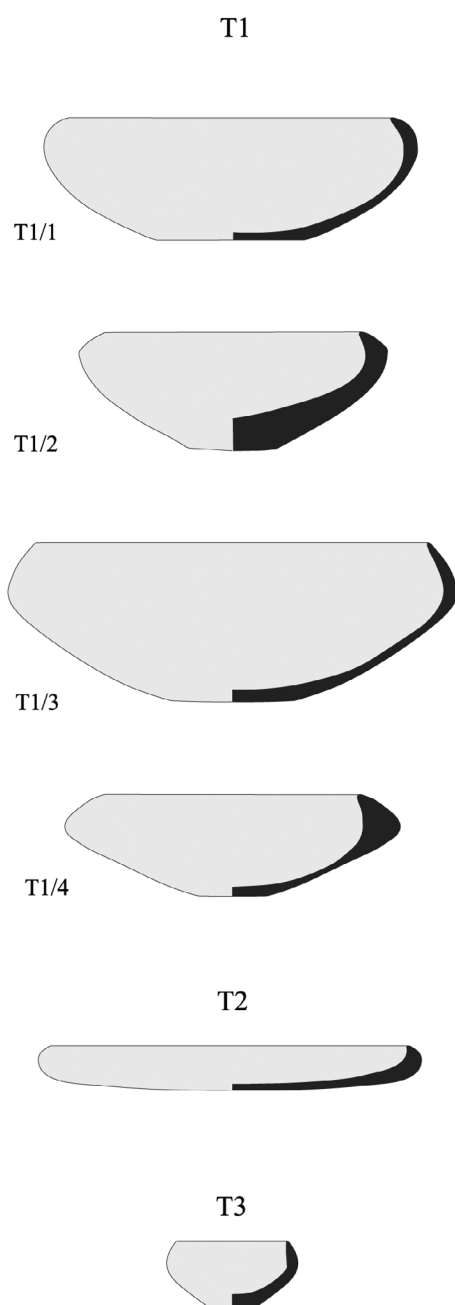


Figure 3. Basic types of the bowls with everted rim (Belgrade City Museum archive)

merous varieties based on the shape and/or size of the rim, lip and shoulder of the bowls could be observed. Most important varieties of the first type include: 1. Bowls with small and rounded

upper part (Figure 3/T1/1; also finds 1–44); 2. Bowls with small and sharp upper part (Figure 3/T1/2; also finds 45–49); 3. Bowls with longer upper part (Figure 3/T1/3; also finds 50–53); 4. Bowls with thickened rim (Figure 3/T1/4; also finds 54–59). Two other types of bowls with everted rim are far less present in the corpus from Stubline. Second type is characterized by the very shallow recipient and everted rim (Figure 3/T2; also finds 60–63). Only five such bowls were analysed from Stubline. Those vessels could be sought as real plates. Third type of the bowls with everted rim is actually a small-sized and miniature vessel that resembles the form of the original (Figure 3/T3; also finds 64–68). There are six such bowls with rim diameter smaller than 11 cm. Function of those small vessels was probably different than those of the regular sized ones, or their principal users were not the same also (i.e. children?).

Metric Analysis

Considering metric parameters Stubline corpus represent uniform class of vessels. Three standard measures were taken, rim diameter, base diameter and height of the vessel. There were 145 bowls whose rim diameter could be measured. Diameter was taken from the inner part of the

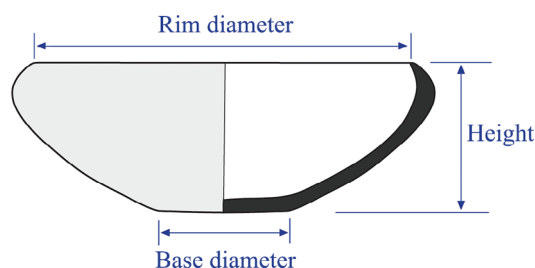


Figure 4. Analyzed measures of bowls with everted rim (Belgrade City Museum archive)

rim lip (Figure 4). Rim diameters are clustered in five solid metric groups, and three more with only one present specimen (Figure 5). Majority of bowls with everted rim fall in the 16–20 cm

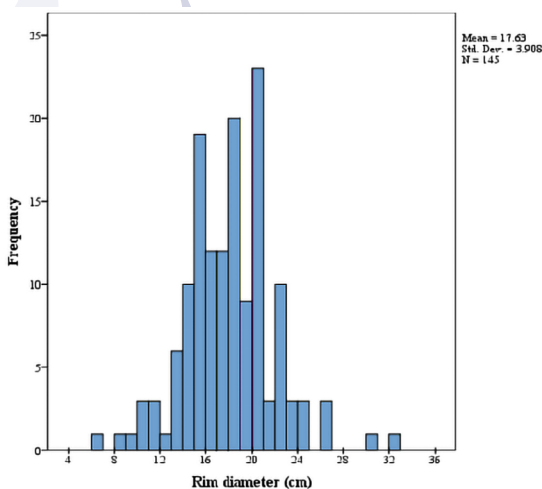


Figure 5. Histogram showing the share of different rim diameters of bowls with everted rim from Stubline (Belgrade City Museum archive).

diameter class range (53 specimens), 39 bowls have rim diameter from 20–24 cm, 36 of them have 12–16 cm rim diameter, while remaining 17 examples have untypically small or big rim diameter (Figure 5). Calculated mean rim diameter is 17.63 with standard deviation 3.91. Only 18 bowls had been sufficiently preserved so that their height could be measured. Six of them fall in the 4–5 cm and seven in the 6–7 cm height class. The mean value is 5.49, with 1.16 standard deviation. Although the sample of bowls with both measurable rims and height is rather small (18) statistical plot shows that densest grouping is represented by seven bowls whose height varies from 6 to 7 cm with 14–18 rim diameters (Figure 12).

Technology

Bowls with everted rim were handmade using traditional Neolithic pottery techniques. They were certainly modelled using coiling and pinching techniques. Moulding was not directly attested, although, based on the intra-site shape and metric uniformity, it could be assumed that great number of the bowls with everted rim were made using some kind of mould. It has been suggested that bowls with everted rim from Vinča

site were most likely made out of two previously shaped cones, with the possibility that the lower cone has been made using some kind of mould (Vuković 2011, 95). Vessels from Stubline were made from local clay tempered with local admixtures, such as crushed river stones and other types of rocks and minerals, sand and crushed pottery. Granulation of admixtures varies from 0.1 cm to 0.4 cm. Quantity of added temper is also variable, from very small amount to very high percentage of admixtures. In general terms, later examples both in the chronologic and stratigraphic sense, have coarser paste with higher share of temper to clay ratio. There are three main fabric types which correspond to type, granulation and quantity of admixtures and clay refinement quality. Bowls with fine fabric dominate the corpus with 69.6%, bowls with intermediate fabric have share of 25% share, while coarse fabric bowls with everted rim are the least common with 5.4% share.

Both outer and inner surfaces of the bowls were carefully burnished and smoothened prior to firing. Bowls were fired in reducing atmosphere, which resulted in typical grey and black surface colour (Figure 6). Only few examples were probably fired in oxidizing atmosphere resulting in light ochre colour, while majority of ochre to reddish coloured bowls were secondary burnt (Figure 6). Thus, majority of bowls with everted rim from Stubline are grey or dark grey colour. Secondary burning resulted in colour modification of some examples with uneven coloration of the walls, from grey to ochre, and reddish tones. Bowls with everted rim from Vasić's excavations at Vinča are either black or dark red, as he reports and publishes them as a part of his corpus of *bucchero* bowls (Vasić 1936, 113). Bowls with everted rim from Gomolava necropolis are also exclusively of grey colour (Jovanović 2015), while examples from Divostin houses are of brick-reddish colour due to the secondary burning along with other objects in the burnt houses (Madas 1988). Majority of the bowls with everted rim at Stubline have slightly altered appearance of the inner and outer surfaces. Significant



Figure 6. Bowls with everted rim from the houses 1_2008 (1, 2) and 1_2010 (3). Note use-wear traces on the bowl 1 (photo: Branko Jovanović)

part of Vinča vessel fragments from the uppermost stratigraphic layers has severely damaged or torn out surfaces caused by multiple post-depositional factors (i.e. land erosion, agriculture...). Likewise, some of the younger bowls with everted rim from Stubline exhibit same surface degradation process, especially ones with thinner cross-sections and finer fabric whose surface was once smooth and well burnished.

Ornamental Techniques And Motifs

Bowls with everted rim are mainly undecorated, with 76% of our sample. Leading ornamental technique is channelling represented with 82% examples from the corpus of ornamented bowls (finds 5, 10, 11, 16, 17, 22, 25, 35, 38, 40–42, 50, 53, 64 and 65). Channelling was executed before firing, using stone pebble, bone, antler or ceramic tool. Short slanting or vertical channelled fields were organised in horizontal rows around vessel's shoulder or rim. Sometimes slanting or arched ornaments on the rim of the bowls resembles famous Hallstatt bowls with torced rim (finds 16, 20, 26, 50, 55 and 58). The rest of the

ornamented fragments represent modest corpus of seven fragments decorated with incised lines (find 37), and small lenticular impressions. Linear incised marks of unknown design were executed on the outer surface of two bowls (find 37). Such incised marks are usually referred to as Vinča culture signs (cf. Garašanin 1979, 181). Incised signs on bottoms and on the walls of the bowls with everted rim are known from other Vinča culture sites also, such as Gomolava, Banjica and Vinča (Todorović and Cermanović 1961: T. XXXII/30; Vuković 2011, 90; Jovanović 2015, T. XIII/3). There were only two fragments with ornamental composition executed in more than one decorative technique. Slanting channelled fields forming horizontal row around the shoulder of the bowl was interrupted with slanting row of lenticular impressions on one example (find 31), while on the other one vertical channelled fields were combined with plastically applied rib with lenticular impressions (find 32). Only two bowls have small, decorative and/or functional applications under the rim, one in the form of circular knob, the other one having

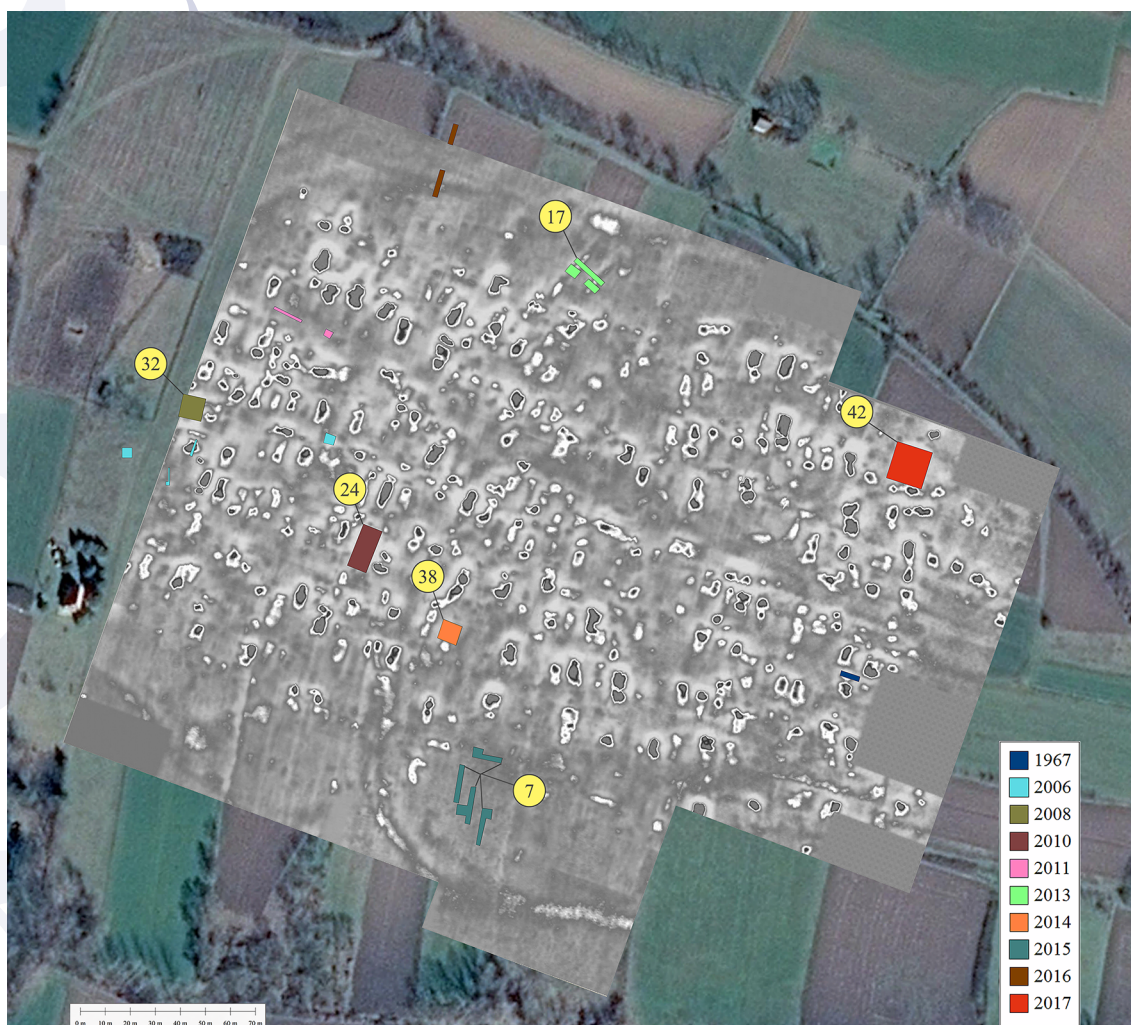


Figure 7. Excavated trenches with number of analyzed bowls with everted rim plotted on the geomagnetic plan and aerial photography (Belgrade City Museum archive)

purely decorative spiral application. Only one reconstructed bowl from 2008 excavations is decorated in typical manner for such bowls from Vinča site and Gomolava necropolis (cf. Vuković 2011; Jovanović 2015). Rim is decorated with slanting channelled fields while interior of the vessel is ornamented with burnished parallel lines that were probably organized in four meiotic fields (Figure 6/3).

Based on the published data, significant number of the bowls with everted rim from other Vinča culture sites is decorated. Such bowls

alongside with biconical bowls with rounded shoulder are the only Vinča culture vessels that are most commonly decorated both on the inner and the outer side of the recipient (cf. Jovanović 2014; Jovanović 2015). Bowls with everted rim from Gomolava necropolis are lavishly decorated with ornamental compositions consisting of burnished and polished zones forming cross-like motifs surrounded by zones with slanting burnished lines (cf. Jovanović 2015, T. IV/5, T. XVII/4, 5). Similar ornamental compositions are found on the bowls from the site

of Vinča (Vuković 2011, 89, 90). Majority of the bowls with everted rim from Divostin (Madas 1988) and Motel Slatina (Vuković 2011, 90) are undecorated as are the examples from Stubline.

Contextual Data

Bowls with everted rim were collected during every excavation campaign carried out at Stubline (Figure 7). The most numerous are finds from the trenches investigated during 2008 and 2017–2018, while the smallest sample comes from trenches excavated during the 2015 season. Such finding circumstances are affected by the size of investigated area,¹ and by the different date of the excavated feature.² There are two main contexts of find for bowls with everted from Stubline. Majority of them were found in fragmented condition, discarded and deposited in waste pits, or were secondary used along other recycled material for padding and packing of oven and house floors, etc. The share of such context find for Stubline sample is around 90%. High number of specimens from single waste contexts implies that bowls with everted rims were often discarded and replaced with new once. On the other hand their common appearance as fill material along other domestic waste in ditches signals that they were one of the most used tableware shapes.

Bowls with everted rim were found inside houses also, in their original place of use, or near it. Examples from house 1_2008 are most instructive for contextual analysis since seven of them were found inside. Bowls were almost entirely preserved, and are secondary burnt. They were placed either near the oven, or near the outer house wall. One miniature bowl was found near the oven in the house 1_2014 also (Figure 8; Spasić, Živanović and Stojić 2015, 33, 39, Fig. 17/1, Fig. 28), while additional two specimens were recovered from the stock of consumption vessels found near the eastern wall, outside of the house,



Figure 8. Miniature bowl with everted rim *in situ* with other vessels from the house 1_2014 (Belgrade City Museum archive)

in the vicinity of the hearth (Spasić, Živanović and Stojić 2015, 32, 39, Fig. 17/14, 15, Fig. 28). Occurrence of several bowls within the single house could speak in favour of claim that they were used individually.

Bowls with everted rim are mostly associated with houses at other Vinča-culture sites also. Seven whole and fragmented bowls were found in house 2/79 at Banjica (Tripković 2007, 185). Two houses from the late Vinča-culture settlement of Divostin in Central Serbia contained more than ten bowls with everted rim (Madas 1988).

The only example of non-settlement context find comes from Gomolava necropolis where bowls with everted rim have been found in graves 2/2973, 3/1976, 7/1976, 8/1976, 10/1976,

¹ Trench excavated during the 2017–2018 campaign is up until now the largest one with area of 15x15 meters.

² Waste pits investigated during the 2015 season were filled with chronologically older material, which resulted in the low number of collected bowls with everted rim.

12/1976, 20-22/1976, 25/1977 (Jovanović 2015). Two bowls from Gomolava grave 25/1976 are exceptional craft products, made of finely refined clay, with smooth surfaces, and lavishly ornamented outer and inner walls (Jovanović 2015, T. XVII/4, 5). The bowls were placed near the head of the adult male along with two other vessels, flint tool and ground stone chisel (Jovanović 2015, 27, 28), and were certainly important social markers.

Discussion

Bowls with everted rim are conceived as iconic type index of Late Vinča culture pottery. Still, up to very recently, there was not a single indebt analysis dealing with any aspect of their production, function or circulation. J. Vuković's paper on pottery standardization from 2011 is the only serious study devoted to this type of bowls. Her analysis shows remarkable results based on statistical analyses of a big sample from Vinča (367 fragmented and whole vessels), and modest sample from Motel Slatina consisting of 47 examples (Vuković 2011, T. 1, 2). In comparison with Stubline sample, bowls with everted rim from Vinča site have 17.59 mean value of the rim diameter, which coincides with Stubline data with mean value 17.63. Standard deviation for Vinča rim diameters is 2.40, while for Stubline it is much higher-3.90. J. Vuković has published statistical data for same values from the Vinča culture site of Motel Slatina, also. Mean value for rim diameter of bowls with everted rim from Motel Slatina is 21.25, while standard deviation is 3.0 (Vuković 2011, 92, T.2). We have calculated mean values for Divostin sample, using the same methodology. Thus, mean value for rim diameter for Divostin bowls is 16.61, while standard deviation is 2.42 (Figure 9). Higher values for standard deviation of Stubline rim diameters is probably the result of blurring, since we included miniature and small sized vessels that were not included in other calculations (rim diameter less than 10 cm), and exceptionally big ones

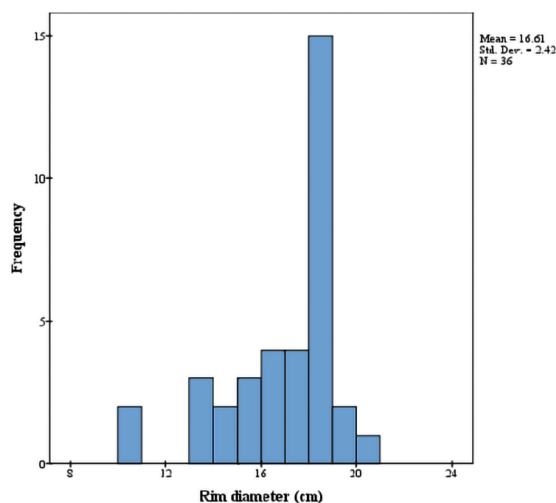


Figure 9. Histogram showing the share of different rim diameters of bowls with everted rim from Divostin (Belgrade City Museum archive)

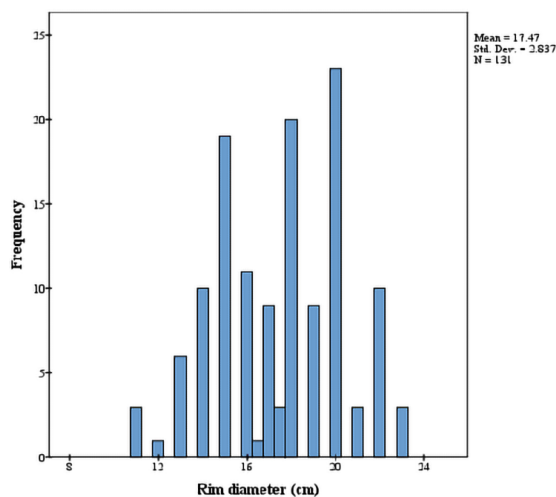


Figure 10. Histogram showing the share of different rim diameters of bowls with everted rim from Stubline (excluding miniature and large size vessels) (Belgrade City Museum archive)

(rim diameter larger than 24 cm)³. If we exclude such objects from calculation, then standard de-

3 Divostin sample of the bowls with everted rim (36 examples) is the only one that has been published with raw data, and there is not a single example of our bowls that have rim diameter smaller than 10cm, and larger than 24 (cf. Madas 1988). Although 11 bowls from Gomolava represent modest sample bowls with such rim diameters haven't been recorded (Jovanović 2015).

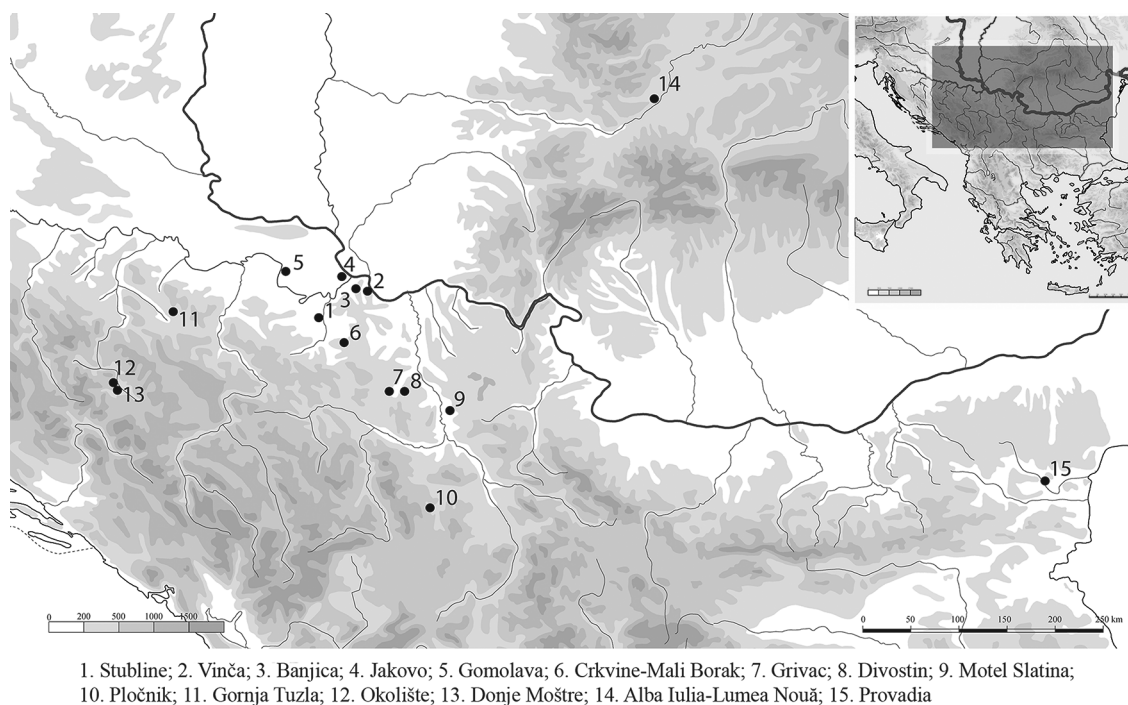


Figure 11. Map of the Central Balkans with marked Neolithic sites discussed in the text (base map courtesy of M. Milinković)

viation of rim diameter for Stubline sample is 2.84, whereas mean value is also somewhat different—17.47 (Figure 10). Third statistical parameter that was included in J. Vuković's study is coefficient of variation (CV) which should signal whether, and to what extent, pottery production standardization existed (Vuković 2011). Following the same methodology CV for rim diameter for Stubline bowls is 16.29 excluding miniatures and exceptionally large ones. We have calculated that CV for Divostin sample is 14.56 (36 examples - cf. Madas 1988), which is in harmony with J. Vuković's analyses for Vinča corpus—13.67, and for Motel Slatina—14.11 (Vuković 2011, 91, 92, T. 1–3). Although Gomolava sample is too small for such analysis (11 examples - cf. Jovanović 2015), it is interesting to see that calculated rim diameter CV for 11 bowls with everted rim from Gomolava is 11.66.

Chronological position of bowls with everted rim has not been established properly in earliest studies of Vinča-culture pottery. Profes-

sor M. Vasić published only few such bowls in his four volume monographs (Vasić 1936, 113, T. LXVI/191b, T. LXVII/191c), although we know that they dominate the corpus from the latest horizon at Vinča site. V. Miložić hasn't signaled out this type of bowl as being of any importance for Vinča culture chronology, although he published several finds as typical for his Vinča D period (Miložić 1949, Taf. 34/3). In his published doctoral thesis M. Garašanin also didn't consider this type of bowls as being important as chronological index for late phases of Vinča (Garašanin 1951, 51, 52). It is only in his later works that he acknowledged that bowls with everted rim are typical for his Vinča-Pločnik IIb phase (Garašanin 1973, 94, 95; Garašanin 1979, 179, sl. 13/33). Strong association of bowls with everted rim with the latest phase of Vinča culture has been fully acknowledged only after the publication of pottery from Vinča D sites at Divostin, Grivac and Crkvine-Mali Borak where such shapes almost absolutely dominate the corpus

(Madas 1988; Nikolić 2008; Spasić 2011). Rare occurrence of our bowl type within the repertoire of vessels from multilayered site of Belovode in Eastern Serbia is rather conspicuous (cf. Arsenijević and Živković 1998, 203, fig. 1).

In the terms of regional distribution bowls with everted rim are present on majority of Late Vinča culture settlements in Central Balkans (Figure 11). Their circulation roughly corresponds with the area of Vinča D pottery distribution (cf. Whittle et al. 2016, 39, Fig. 36). Gomolava is the northernmost Vinča culture site with such bowl shapes reported (Jovanović 2015), and Valač being the southernmost (Tasić 1959–1960, T. VIII/1, 3, 5, 6). Westernmost finds of bowls with everted rim have been recently uncovered at the number of Central Bosnian sites, such as Gornja Tuzla, Donje Moštre and Okolište (Čović 1961, 96, 97, 11, Sl. 12a, T. XII/3–5; Hofmann 2013, Taf. 70/11; Hofmann and Müller-Scheeßel 2013, Taf. 1). Easternmost sites are situated in Romanian Transylvania such as Alba Iulia-Lumea Nouă (Gligor 2009, Pl. CXXXVII/1, 2, 5–7, 9, 13, 15).

When it comes to function, bowls with everted rim are typical Late Vinča culture tableware and were most probably used as consumption vessels. Their main morphological characteristic (everted rim) most likely signals that they were used for liquid food consumption since such rim profilation efficiently prevents spilling of the vessel content. Everted rim of these bowls could to some degree point to certain Vinča culture food ways practices and habits also, i.e. such vessels could safely be used directly from hand, or from lap without risk of spilling the content out of the bowl. Although there is strong evidence for existence of clay tables in numerous Vinča culture houses (cf. Spasić and Živanović 2015) bowls with everted rim could speak in favor that food was consumed both from vessels held in hands or rested on lap or on tables. The fact that high quantity of bowls with everted rim were recovered from single Vinča culture households, e.g. 15 complete and broken ones from house 13 (Bogdanović 1988, fig. 6.3) and 13 from

house 14 (Bogdanović 1988, fig. 6.6) at Divos-tin could also speak in favour of their frequent use for food consumption. On the other hand, it has been argued that bowls with everted rim may have been used as measuring cups (Vuković 2011, 96). There are visible traces of abrasive attritions on the interior of several bowls from Stubline. Most common are linear scratches caused by stirring or scraping the content of the bowl with some kind of tool (Figure 6/1).

It is interesting to notice that bowls with everted rim from Bulgarian site of Provadia were exclusively connected with salt production (cf. Stojanova 2008). Main characteristics of these bowls are significantly larger diameter of the rim (32–56 cm) and very slim, 3 to 6 mm thick walls. Similar observation has been made for bowls with everted rim from Central and Eastern Bosnia and Herzegovina. Such bowls usually rest on one or several cylindrical or conical foot and were often interpreted as vessels for salt evaporation or containers used for salt storage or transport (cf. Bakalović 2004; Bakalović 2005, 13, 14).

Along with issue of use and function one more aspect of bowls with everted rim could be addressed. It is a question of their symbolic meaning and capacity for transmission of ideas and messages that were important on wider social scale. Up to now the only indication that bowls with everted rims were used as strong symbolic metaphors is the fact that they were buried along with other grave goods at Vinča culture necropolis of Gomolava (cf. Borić 1996; Jovanović 2015). It is important to notice that all buried individuals from Gomolava necropolis are males of various ages (Borić 1996; Stefanović 2008). Also, judging by the published anthropological analyses bowls with everted rim were buried as in graves of both very young and adult age males. Thus, very simple, undecorated small sized bowl with everted rim appears in the grave 8 of one-year-old boy (Stefanović 2008, 95, T. 11.1; Jovanović 2015, 15, 16, T. VIII/3). Our bowls were also laid in the graves of elderly males, i.e. senior adults, as in grave 2/75 where 50–59 years old male was buried, and in grave 20/76 with

51–55 years old male (Jovanović 2015, T. IV/5, T. XIII/3). Intriguing fact is that bowls with everted rim from infant and sub-adult graves are undecorated (cf. Jovanović 2015, T. VIII/3, T. IX/1), while bowls lavishly decorated with complex burnished ornaments on both inner and outer side of the vessels were recovered from graves of adult males older than 30 years (Jovanović 2015, T. II/2, T. XVII/4, 5), but also from elderly seniors older than 50 years (Jovanović 2015, T. IV/5).

Vinča culture bowls with everted rim, as shown, were vessels important both on the symbolic and functional level. They were one of the most commonly used vessels among Late Neolithic communities of Central Balkans. As such, bowls with everted rim were important social agents, also. Analysis conducted by J. Vuković has shown that production of this type of bowl from Vinča and Motel Slatina sites was fairly standardized (Vuković 2011). On the other hand analysis of Stubline sample shows somewhat different results, with probably lesser degree of standardization (Figure 12). This could imply that bowls with everted rim from Stubline were used differently than those from Vinča and Motel Slatina or that there were more craftsmen that produced such vessel type in Stubline. Also it could be suggested that bowls from Stubline come from contexts of different phases. Although, the sample from Gomolava site is too small (11 examples) it is rather intriguing to find that CV point indicates that this is the site with highest degree of specialization of bowls with everted rim from all five sites with analysed metric parameters. Statistical plot of rim to height relationship from Gomolava shows coherent grouping with less variability than Stubline (Figure 12). Could it be that higher degree of pottery production specialization is to be sought among bowls that were intended to be buried as grave goods or other spatiotemporal and social factors affected such material culture patterning? Buried individuals belonged to the same male lineage (Stefanović 2008), and they were probably buried in smaller time span, up to 70 years (cf. Borić 2009, 199, 227, Tab. 5), while bowls from

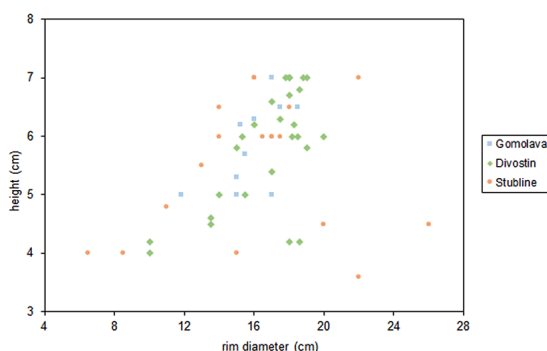
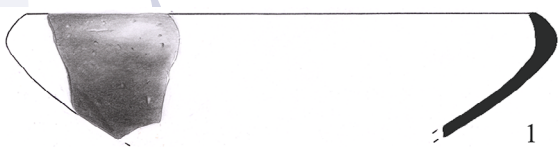


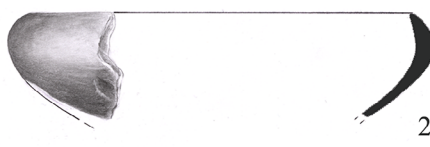
Figure 12. Plot showing rim to height relationship of bowls with everted rim from Stubline, Divostin and Gomolava (Belgrade City Museum archive)

all other sites originated from diverse contexts with larger time span. The same could be stated for Divostin sample also, where bowls with everted rim were collected from rather contemporary houses (Borić 2009, 198, 220, 221, Tab. 4). Dense grouping of the bowls with similar height to rim diameter relationship from Divostin points to single craftsman or workshop since majority of vessels come from houses (Figure 12).

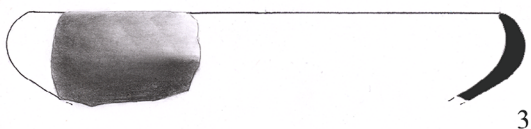
Future endeavors into the question of function of bowls with everted rim should include large-scale physical and chemical analysis of residues observable on the inner surfaces of some vessels, and microscopic investigations of visible traces of use. Fine dating of the contexts of find would contribute to understanding of stylistic and metric variations of vessels from all discussed sites. Final typological and morphological analyses of Stubline corpus showed that although bowls with everted rim seem as stable and quite uniform vessel type, there are numerous subtypes and varieties (cf. finds 1-68), which either points to conclusion that their production wasn't standardized, or that some other metric parameter is more important for their consideration. Recent considerations have already shown that morphological variations like angle of rim break or its thickness doesn't affect the function of the bowls or are not of big concern of craftsman (cf. Vuković 2011, 86). Larger morphological variation of Stubline corpus didn't have to



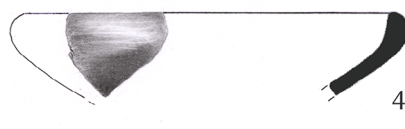
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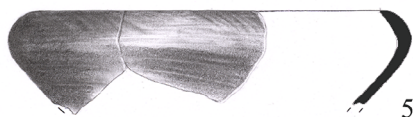
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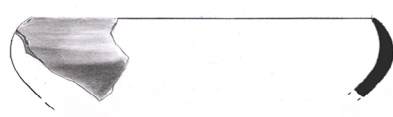
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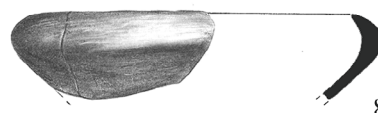
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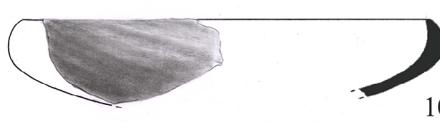
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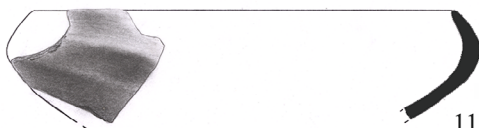
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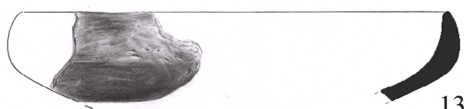
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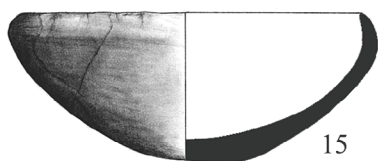


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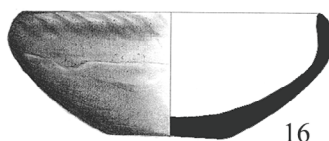


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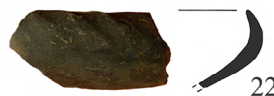
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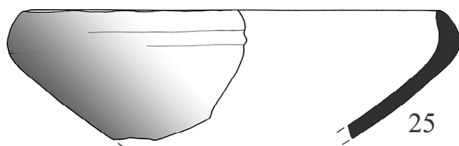
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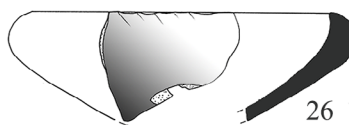
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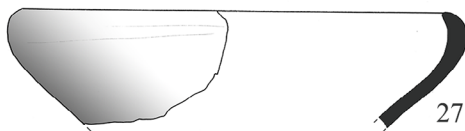
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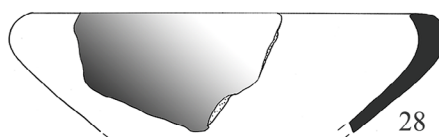
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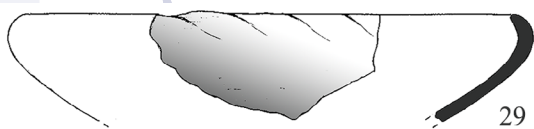
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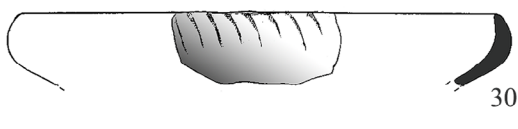
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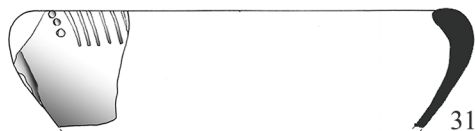
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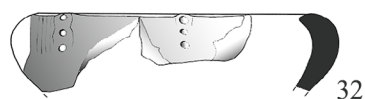
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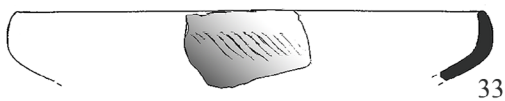
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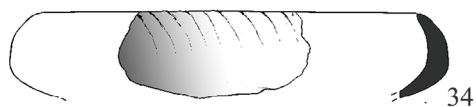
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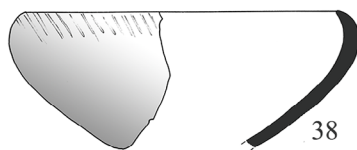
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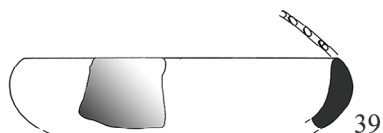
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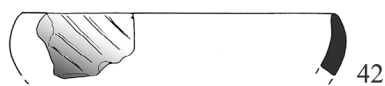
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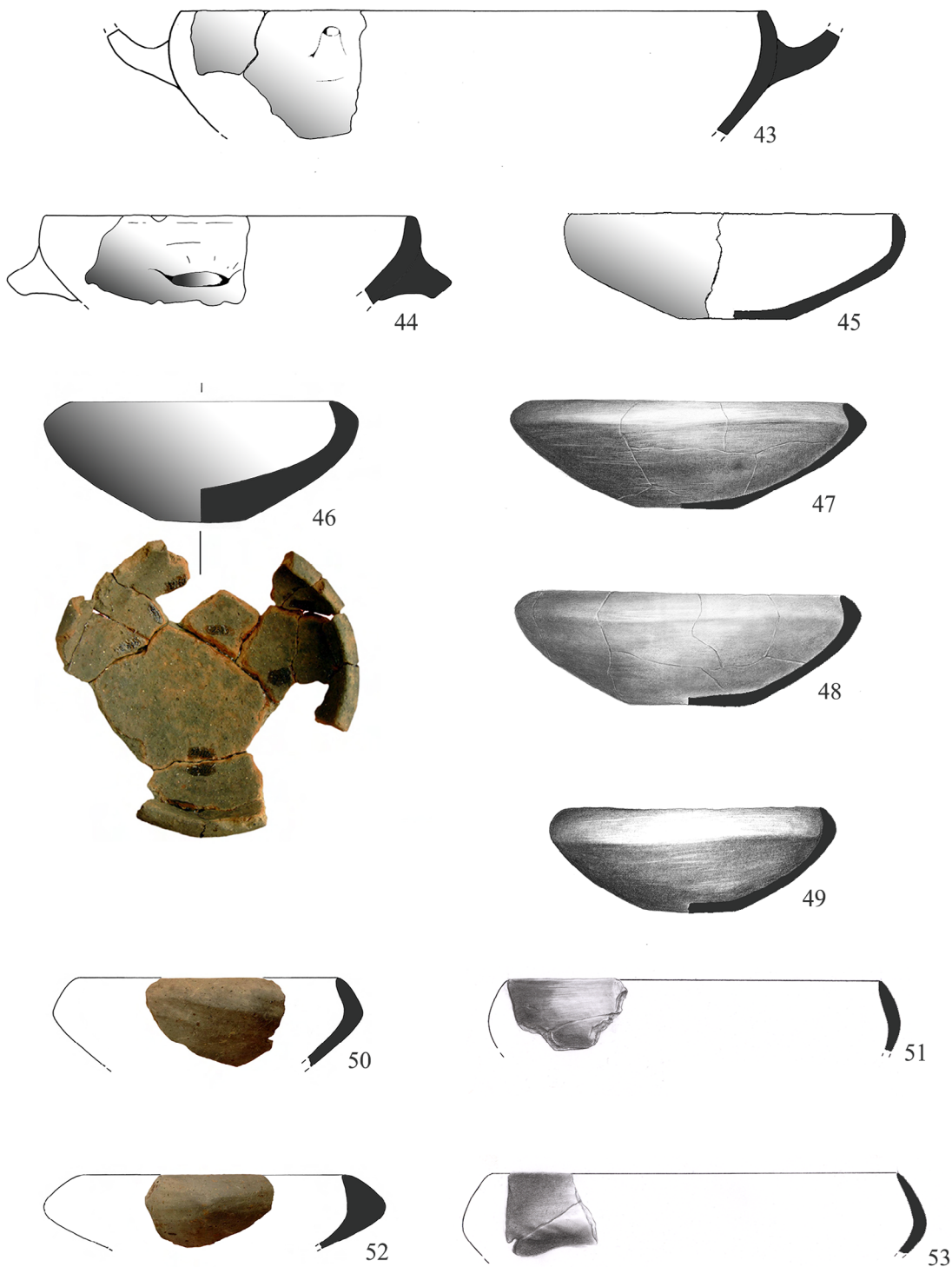


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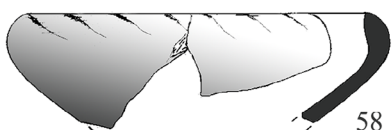
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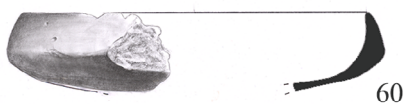
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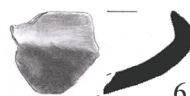
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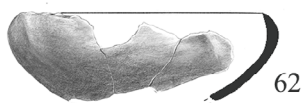
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affect the capacity of bowls. Since up until now there is only very modest sample of complete and safely reconstructed vessels (18 examples) further volume analysis must wait until sample reaches sufficient number of complete bowls.

Povzetek

Prispevek obravnava morfološka, slogovna in funkcionalna vprašanja enega najbolj tipičnih tipov posodja pozno neolitske vinčanske kulture. Opravljene so bile metrične in statistične analize kakor tudi poglobljene študije različnih tehnoloških in tipoloških vidikov proizvodnje, uporabe in kroženja skled z uvihanim robom. Prispevek povzema vse razpoložljive kontekstualne podatke in opozarja na različna področja njihove razprostranjenosti v različnih pozno neolitskih skupnostih srednjega Balkana. Tako sklede z uvihanim ustjem predstavljajo enega izmed najljubših tipov posodja v pozni vinčanski kulturi (obdobje Vinče D). Najpogostejše so bile uporabljene kot posode za prehrano, odkrite so bile v številnih gospodinjstvih vinčanske kulture. Nekatere izmed hiš so vsebovale tudi več kot 10 takih skled, kar govori v prid njihove široke uporabe. Dejstvo, da so bile sklede z uvihanim ustjem odkrite v več grobovih v Gomolavski nekropoli, priča tudi o njihovi simboli vrednosti. Kombinirane statistične analize so pokazale, da je bila izdelava skled z uvihanim ustjem v različnih vinčanskih kulturnih skupnostih bolj ali manj standardizirana. Korpus skled tega tipa iz najdišča Stubline je ponudil tudi nekatere nove vidike. Izkazalo se je, da je ta vrsta skled v morfološkem in tipološkem smislu veliko bolj raznovrstna, kot se je do sedaj predvidevalo. Čeprav ta vrsta posodja predstavlja »stabilen« tip, obstajajo velike morfološke razlike, ki najverjetneje odražajo raznolikost njihove proizvodnje in uporabe. Obsežne fizikalne in kemijske analize ostankov iz notranjih površin skled z uvihanim robom kakor tudi mikroskopske raziskave vidnih sledi uporabe naj bi v prihodnosti podali bolj verjetne odgovore na vprašanje, v kolikšni meri tipološke spremembe odražajo funkcionalne.

Summary

The paper discusses morphological, stylistic and functional issues of one of the most typical vessel types of Late Neolithic Vinča culture. Metrical and statistical analyses were performed also, as well as in-depth technological and typological study of various aspects pro-

duction, use and circulation of bowls with everted rim. Paper summarizes all available contextual data and points to different areas of their distribution within various Central Balkan Late Neolithic communities. Thus, bowls with everted rim stand out as one of the most favorite vessel type in the Late Vinča culture (Vinča D period). They were most often used as consumption vessels and were found in great number inside Vinča culture households. Some houses contained more than 10 such vessels, which speaks in favor of their wide use. The fact that bowls with everted rim were placed in several graves in Gomolava necropolis speaks in favor of their symbolic value also. Combined statistical analyses showed that production of bowls with everted rim was more or less standardized within different Vinča culture communities. Corpus of this bowl type from Stubline provided new insights about several important issues. It turned out that this bowl type is much more diverse in morphological and typological sense than it was thought up to now. Although this type of vessel represents stable type there are huge morphological differences which most probably reflects variety of their production and use. Large-scale physical and chemical analysis of residues observable on the inner surfaces of some bowls with everted rim, and microscopic investigations of visible traces of use in future should give more plausible answers whether and to what extent does typological variations reflects functional ones.

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Middle Neolithic Absolute Dating In North Croatia – New Research

Katarina Botić, Institute of Archaeology, Zagreb

Nove raziskave so v zadnjih petnajstih letih razkrile nekaj novih ključnih informacij o srednjem neolitiku severne Hrvaške. Prvič je bilo južno od reke Drave izkopano najdišče kulture linearno trakaste keramike Donji Miholjac - Vrančari, kar je vodilo do revizije najdb iz starejših izkopavanj na lokacijah Virovitica - Brekinja in Kaniška Iva - Osušak. Spoznali smo nov kronološki položaj in možen nastanek tipa Ražište, medtem ko so vprašanja o poreklu in razvoju kultur Korenovo in Sopot še vedno v veliki meri neodgovorjena. Kronološko modeliranje srednje neolitske sekvence je mogoče le delno zaradi majhnega števila razpoložljivih radiokarbonskih datumov.

Ključne besede: severna Hrvaška, srednji neolitik, pozno starčevo, LTK, Ražište

Over the last 15 years, new research brought to light several new key pieces of information regarding the middle Neolithic in north Croatia. For the first time the LBK site Donji Miholjac – Vrancari was excavated south of Drava river which lead to the revision of finds from older excavations at Virovitica – Brekinja and Kaniška Iva – Osušak sites. New chronological position and possible origin of Ražište type was recognized while questions regarding origin and development of Korenovo and Sopot culture still remain largely unanswered. Chronological modelling of the middle Neolithic sequence is only partially possible due to the low number of available radiocarbon dates.

Key words: north Croatia, middle Neolithic, late Starčevo, LBK, Ražište

North Croatia, mostly territory between three mayor rivers, Sava, Drava and Danube, was populated by Starčevo culture during the early and Sopot culture with its local variants during the late phase of the Neolithic with late Vinča culture present in its final stages in the most eastern part of the territory (Marković 1994, 27). Term middle Neolithic was seldom used because there were no evidences, or no evidences were published, of Transdanubian LBK culture besides its variant recognized as Korenovo culture (Dimitrijević 1961; Dimitrijević 1979; Težak-Gregl 1993). Korenovo culture occupied north-western part of Croatia in two stages, A

and B, first present at Kaniška Iva – Osušak site and the second on most of the known sites including Malo Korenovo. This term was used to describe a time of Vinča A-B phases, the end of Korenovo culture and the beginning of Sopot culture in eastern Slavonia (Marković 1994, 27).

New archaeological research conducted on large infrastructure, such as road or gas pipeline construction, and very rarely small scale systematic excavations, yielded new and very interesting results. Several sites are of specific interest and the results obtained from the research conducted there will be discussed further.

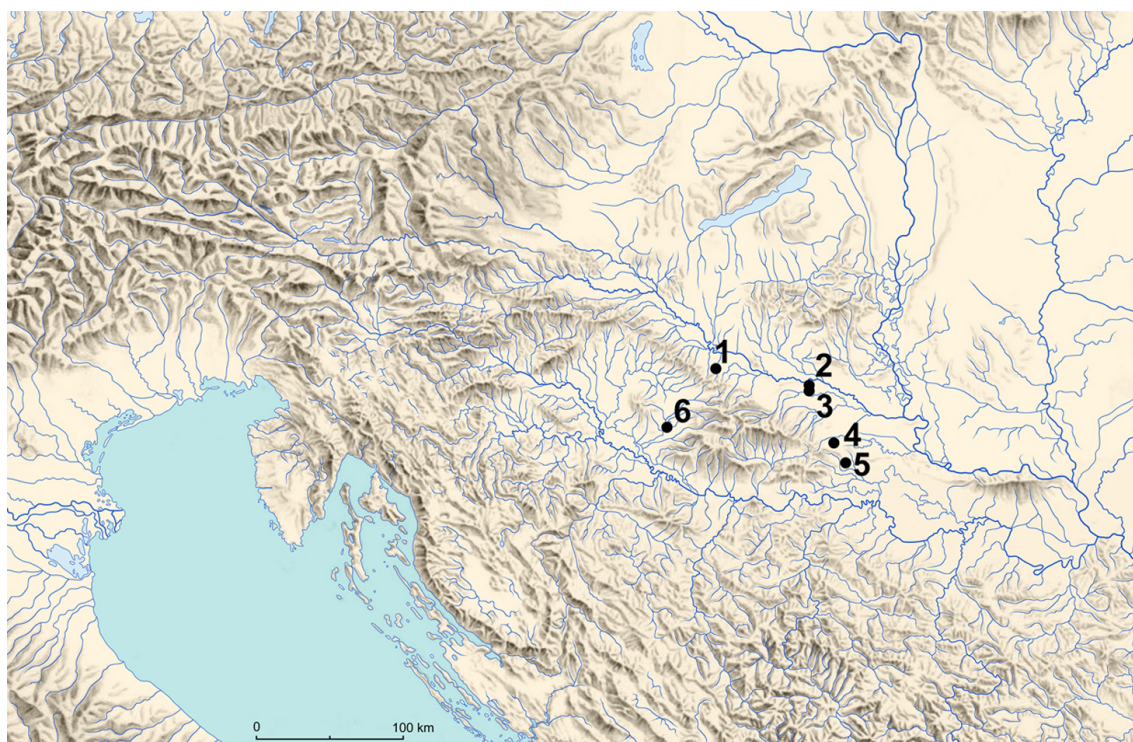


Figure 1. 1. Virovitica – Brekinja; 2. Donji Miholjac – Vrancari; 3. Golinci – Selište; 4. Podgorač – Ražište; 5. Novi Perkovci – Krčavina; 6. Kaniška Iva – Osušak (made by K. Botić).

Virovitica – Brekinja (Figure 1, 1; Figure 2, 1)

The site was excavated in 2005 on a bypass road southwest of Virovitica in Virovitica-Podravina County. Of 9000 m² excavated, the Neolithic settlement occupied 5400 m² (Sekelj-Ivančan and Balen 2006a, 67; Sekelj-Ivančan and Balen 2006b, 76; Sekelj-Ivančan and Balen 2007, 21; Đukić 2014, 108). The features and finds were published as Starčevo but after the recent revision it was concluded that large number of features belongs to houses similar in construction to long houses of LBK type (Botić 2017, 69–71). Two radiocarbon dates were published, both AMS (Sekelj-Ivančan and Balen 2007, 24): Beta 212603, charcoal, 6470±70 BP, 5488–5364 cal BC (68.2%), 5557–5312 cal BC (95.4%) and Beta 212601, charcoal, 6350±80 BP, 5465–5228 cal BC (68.2%), 5482–5079 cal BC (95.4%).

Donji Miholjac – Vrancari (Figure 1, 2; Figure 3)

The site was excavated in 2015 on a bypass road southwest of Donji Miholjac in Osijek-Baranja County. The excavated area was 5400 m². The features and finds belong to Transdanubian LBK culture with some possible Starčevo finds (Dizdar and Tonc 2016). Pottery has all the characteristics of this culture: sand and gravel tempering of coarse wares, chaff tempering, attempt of polished surface and low quality of firing of fine wares, finger impression motif under the rim of the vessels, deeply incised spiral motif etc. Four dates were obtained for this site, all AMS (Botić 2017, 231): DeA-11080, charcoal, 6420±32 BP, 5467–5369 cal BC (68.2%), 5472–5331 cal BC (95.4%); DeA-11168, non-articulated animal bone, 6416±40 BP, 5468–5364 cal BC (68.2%), 5472–5325 cal BC (95.4%); DeA-11166, non-articulated animal bone, 6379±36

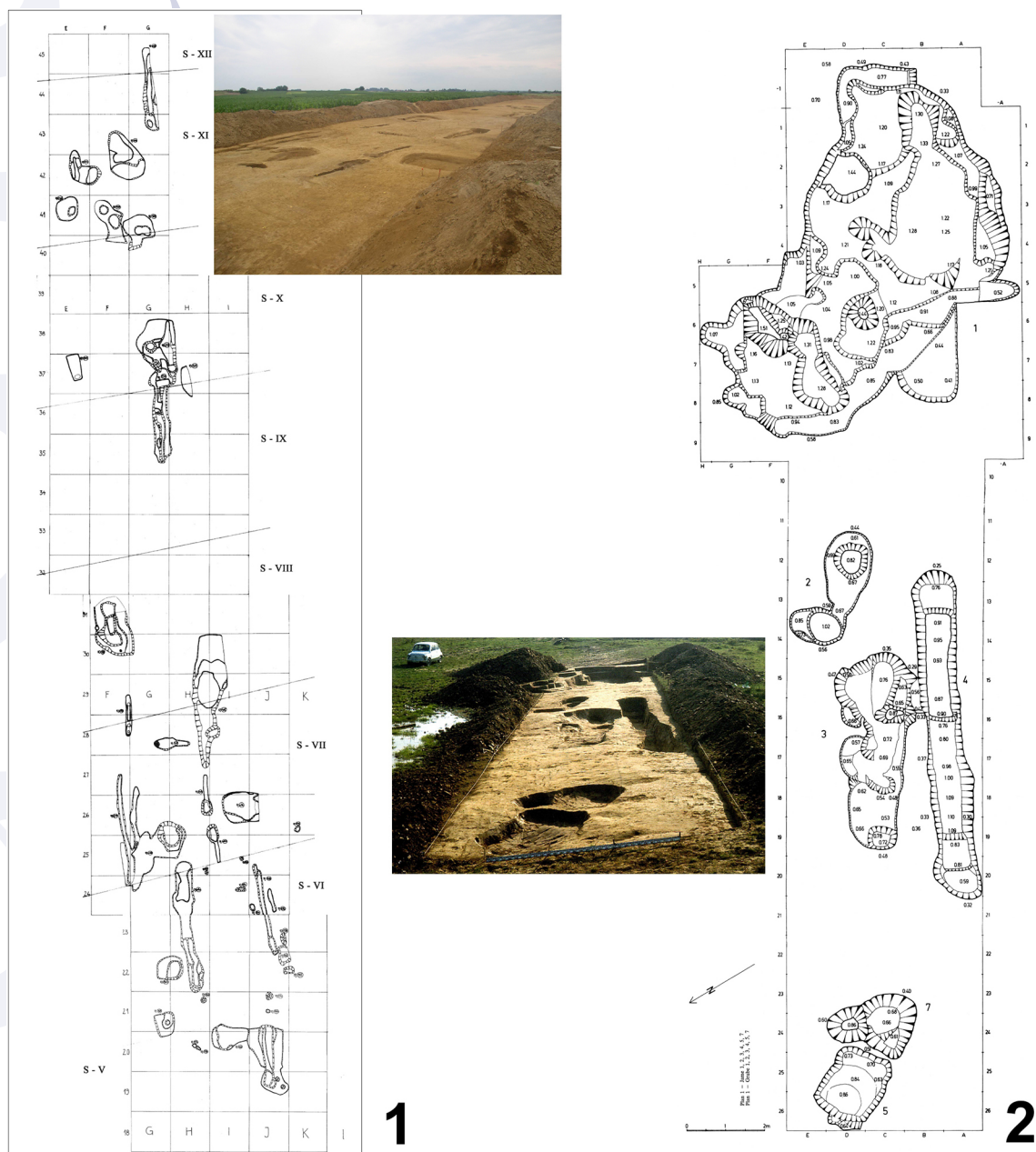


Figure 2. 1. Virovitica – Brekinja (Sekelj-Ivančan and Balen 2006a, 68; Sekelj-Ivančan and Balen 2006b, 77); 2. Kaniška Iva – Osušak (Težak-Gregl 1991, Plan 1; Jakovljević 2006, 29)

BP, 5463–5315 cal BC (68.2%), 5469–5306 cal BC (95.4%); DeA-11167, non-articulated animal bone, 6375±36 BP, 5463–5312 cal BC (68.2%), 5469–5304 cal BC (95.4%).

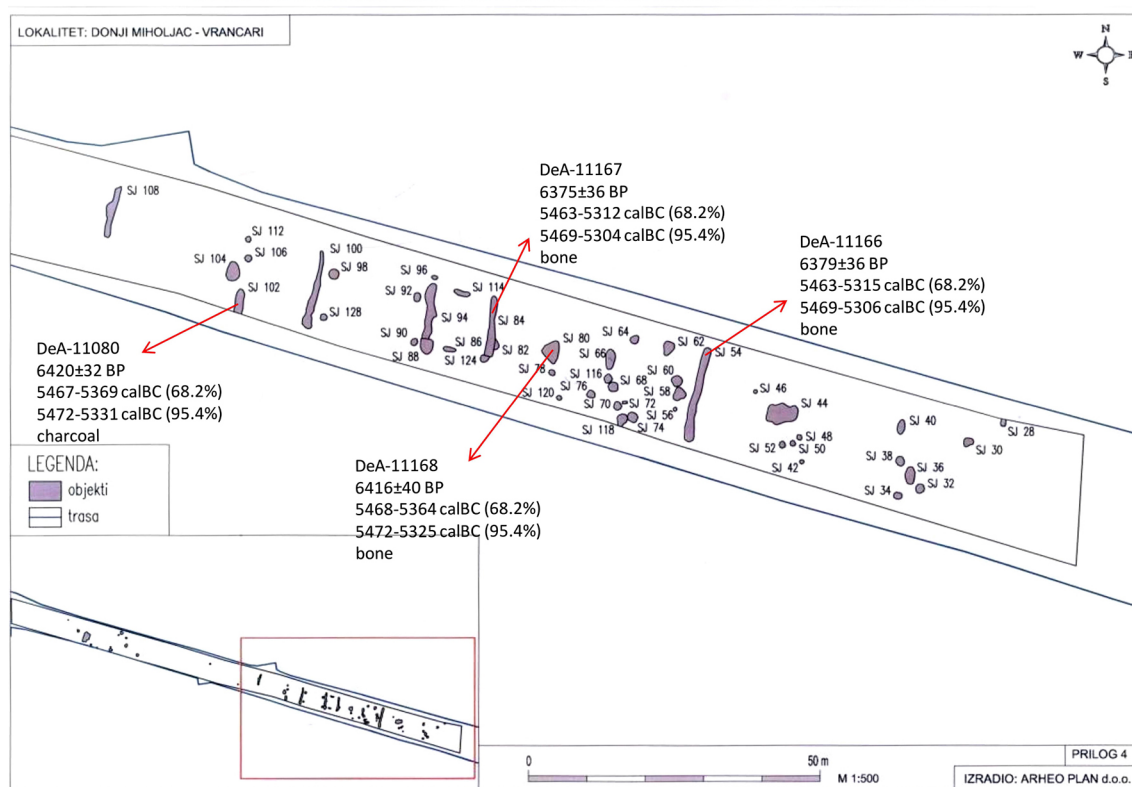


Figure 3. Donji Miholjac – Vrancari (Dizdar and Tonc 2016, 38, Fig. 3; plan made by Arheo plan Ltd. and K. Botić)

Podgorač – Ražište (Figure 1, 4; Figure 4)

The site, situated east of Našice in Osijek-Baranja County, was excavated in 1975 and again in 2013 and 2015 as a part of small scale systemat-

ic research. In 1975 an area of 75 m² was explored (Marković 1985) with additional 150 m² in 2013 and 2015 (Marković and Botić 2014; Marković and Botić 2016). Three large pits were excavated, a few smaller ones and a part of larger ob-

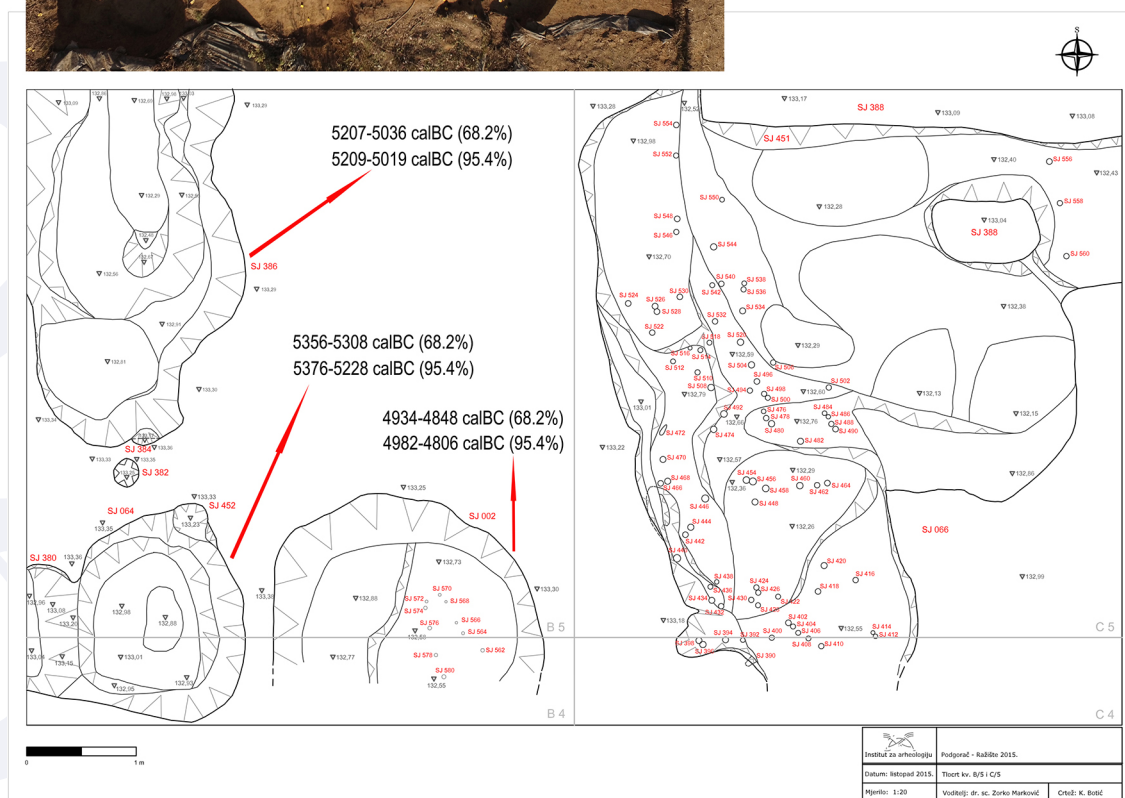


Figure 4. Podgorač – Ražište (plan made by K. Botić; photo by K. Šobat)

ject, possibly a long house (Botić 2017, 59–61). Z. Marković realized that pottery finds from this site and several sites in the region around Našice are different from classical Sopot finds and in 1985 he determined this style as Ražište type of Sopot culture. Excavations in 2013 and 2015 confirmed the hypothesis of different style but went further and established an older pottery phase which consists of globular and pedestaled vessels

but without typical Ražište elements such as zoomorphic appliques or incised semi-circular motifs. Three dates were obtained for this site, all AMS (Marković and Botić 2016, 66; Botić 2017, 230): DeA-8339, charcoal, 6413 ± 30 BP, 5467–5364 cal BC (68.2%), 5470–5327 cal BC (95.4%); DeA-8338 charcoal, 6109 ± 29 BP, 5196–4987 cal BC (68.2%), 5207–4943 cal BC (95.4%); DeA-

5159, charcoal, 6004 ± 27 BP, 4934–4848 cal BC (68.2%), 4982–4806 cal BC (95.4%).

Golinci – Selište (Figure 1, 3)

The site was excavated in 2009 on a gas pipeline southeast of Donji Miholjac in Osijek-Baranja County. The excavated area was 575 m². Smaller features were excavated, which yielded finds of Ražište type of pottery among other. The pottery from this site has both characteristics of younger phase of Ražište style and of LBK elements not entirely present at Ražište site so far. It is not clear what the excavated features represent because of a very narrow area excavated. One AMS date has been published from this site (Čataj and Janeš 2013, 170; Botić 2017, 223): LTL 5772A, charcoal, 6160 ± 45 BP, 5207–5054 cal BC (68.2%), 5226–4980 cal BC (95.4%).

Novi Perkovci – Krčavina (Figure 1, 5)

The site was excavated in 2005 and 2006 on a highway southwest of Đakovo in Osijek-Baranja County. The excavated area was 18000 m². Features from various Neolithic phases were excavated although it is not clear if some of them represent long houses from the Neolithic period (there were traces of middle and late Bronze Age settlements and possibly cemetery at the site). Pottery shows Ražište type elements but with more Sopot and Vinča influences. Two conventional radiocarbon dates are available from this site (Marković and Botić 2008, 16–17; Botić 2017, 224): Z-3800, charcoal, 6040 ± 100 BP, 5191–4798 cal BC (68.2%), 5216–4720 cal BC (95.4%); Z-3799, charcoal, 5862 ± 138 BP, 4897–4549 cal BC (68.2%), 5198–4374 cal BC (95.4%).

To these sites new observations should be added about Kaniška Iva – Osušak site (Figure 1, 6; Figure 2, 2), excavated in 1978 (Težak-Gregl 1991). It also became clear in the recent revision that the feature 4 (Težak-Gregl 1991, Plan 1), a long pit, can represent part of a long house (Botić 2017, 73–74). This observation is even more plausible if we bear in mind that it belongs to Korenovo culture, a local variant of LBK. However, no radiocarbon dates are available for this site or the

Korenovo culture in general besides the partially published date from site Kukunjevac – Brod excavated in 2012 near Lipik in Požega-Slavonia County: Beta-340932, 4940–4790 cal BC (95%) (Ivanković 2013, 173; Ivanković 2014, 58).

Discussion

Virovitica – Brekinja site, situated in a flat Drava region, shows similar characteristics to Szentgyörgyvölgy-Pityerdomb site, situated west of the Balaton Lake. On this site long houses were found and the pottery shows both late Starčevo and earliest LBK characteristics. Although most of the finds from Virovitica – Brekinja site were not published, there is a fragment of a bell shaped pedestal that is worth mentioning. This pedestal was incorporated in the conical pedestaled vessel reconstruction (Sekelj-Ivančan and Balen 2007, 25; Đukić 2014, 109, cat. no. 304) and described as of Starčevo provenience but it bears great similarity with a bell shaped pedestal from Szentgyörgyvölgy-Pityerdomb site (Bánffy 2004, 106–107, Fig. 40: 29, 232). It is very possible that the same coexistence of two pottery styles occurred at Virovitica – Brekinja site. Szentgyörgyvölgy-Pityerdomb site is dated between 5480 and 5360 cal BC (Bánffy 2004, 299–309; Oross and Bánffy 2009, 179) which, again, is similar to dates obtained for Virovitica – Brekinja site.

Further east, very close to one of the Drava river crossings, is Donji Miholjac – Vrancari site. It is unique in its inner structure of long houses and pottery of clearly Transdanubian LBK features. This is the first such site recognized south of Drava river and although there is a very small percentage of finds of possible late Starčevo provenience, most of it is LBK. Dates from this site correspond to the dates from Virovitica – Brekinja site.

About 30 km south-east, near Našice, Podgorač – Ražište site is situated. Pottery style of this site was recognized somewhat different from classical Sopot pottery and named Ražište type in 1985 but new excavations showed that what was firstly recognized was actual-

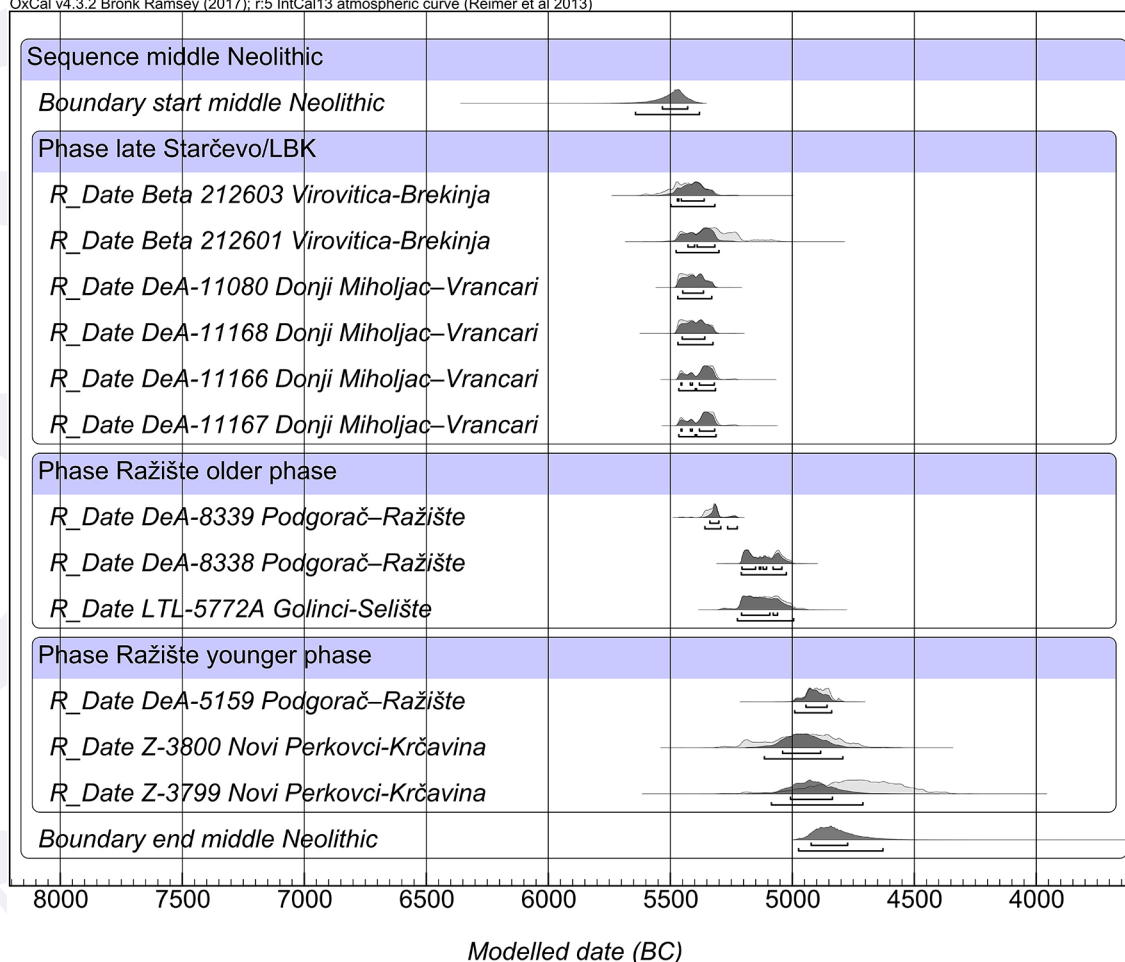


Figure 5. Middle Neolithic sequence for northern Croatia (OxCal 4.3.2)

ly the younger phase. Two other sites yielded same or similar pottery style: Golinci – Selište site, a few kilometres south-east of Donji Miholjac and Novi Perkovci – Krčavina site about 25 km to the south-east (near Đakovo). While pottery from Golinci – Selište site exhibit certain features, such as zoomorphic applications, similar to the younger Ražište phase, other features, such as low incised linear motif curving downwards (Čataj and Janeš 2013, 175, Fig. 6), are more similar to LBK. Pottery from Novi Perkovci – Krčavina site (Marković and Botić 2008) has more in common with classical Sopot and latter Vinča cultures which is not surprising con-

sidering their geographical and temporal closeness. Dates for older phase of Ražište type are two older dates from Ražište site itself and the date from Golinci – Selište while younger phase is represented by the youngest date from Ražište site and two dates from Novi Perkovci – Krčavina site.

All these sites with their internal structure, movable finds and radiocarbon dates compose a middle Neolithic sequence (Figure 5). Dates for the late Starčevo/LBK group around 5400 BC and are closely followed by the oldest date from Ražište site. Sample for this date was submitted as charcoal but it was latter realised that the ma-

terial in question is non-charred organic matter. It is possible that the sample consisted of thin branches or some weed or seeds but during the excavation the soil condition didn't permit this identification.

The second date from Ražište site corresponds to the date from Golinci – Selište site but unfortunately these two dates fall into the small plateau in the calibration curve. The youngest date from Ražište site and two dates from Novi Perkovci – Krčavina site also correspond to each other. These last two conventional dates show obvious problems and can't be considered as the end dates for the middle Neolithic sequence.

Contemporaneity of some sites is further stressed by architecture as it is the continuity of pottery styles on the others. Even in geographical terms sites situated west and closer to the LBK core area are dated older than the sites situated further east. Of course, this is true for the current state of research and for very small sample of radiocarbon dates but nevertheless it seems indicative. The beginning of the middle Neolithic sequence is a time of LBK expansion from its core area (Jákucs et al. 2016, 323–324; Dubouloz et al. 2017) and sites such as Szederkény-Kukoricadűlő (Jákucs et al. 2016) and Versend-Gilencsa (Jákucs and Voicsek 2017) south-east of Pecs in Hungarian Baranya appear at that time. The former was dated between 5340–5315 BC and 5200–5180 BC, western part of the settlement containing Ražište pottery while eastern part contained Vinča A (both mixed with some LBK finds) (Jákucs et al. 2016, 278), while latter was dated between 5235–5215 BC and 5210–5195 BC, western part containing Korenovo and Ražište finds while eastern part contained late Starčevo, early LBK and early Vinča finds (Jákucs and Voicsek 2017, 176). Houses on both sites were long houses of LBK type.

Two questions remain open: the position of Korenovo culture and the appearance of classical Sopot culture in the absolute chronological terms. For Korenovo culture only one partial date is known from northern Croatian territory which was published together with a few red

painted fragments correlating well with pottery finds known from sites north of Drava river and with dates from Versend-Gilencsa site, representing the last B-2 stage parallel to Vinča B and transition to Vinča C phase. However, the beginning of this culture still remains unclear, both related to dating and to its possible origin.

The beginning of Sopot culture was considered parallel to Vinča B by S. Dimitrijević (1979, 268) and Z. Marković (1994, 63) in its core area, i.e. the eastern Slavonia region. That would suggest the beginning of Sopot culture around or after 5200 BC, duration of this initial phase until 5000 BC (Vinča B – Borić 2009, 234) and the possible phase II between 5000/4950 and 4850 BC (Vinča C – Borić 2009, 234). However, most of the Sopot dates available correspond to the time after the 5000 BC and the oldest phase according to Obelić et al. (2004) can't be considered (Burić 2015) because the dates for Dubovo – Košno site situated about 20 km south of tell Sopot are conventional dates, none originating from a short-lived sample (Burić 2015, 152) and because that would mean the initial I-A phase would be older than Vinča A phase (Burić 2015, 152; Botić 2017, 75, note 85). Considering two published Sopot dates from Sormás-Mántai-dűlő site in Zala County (western Transdanubia), there must have been an earlier Sopot phase: VERA-3102, animal bone, 6115±35 BP, 5203–4984 cal BC (68.2%), 5208–4948 cal BC (95.4%); VERA-3103, animal bone, 6045±50 BP, 5006–4849 cal BC (68.2%), 5198–4798 cal BC (95.4%) (Barna and Pásztor 2011, 189, Tab. 1). Again, this phase could have started around 5200 BC or slightly before in a core area which would mean that Sopot culture spread quickly to the west. There is, of course, possibility that it wasn't Sopot culture but rather Ražište type that spread westwards around 5200 BC. In that case, appearance of Sopot culture in its core area around 5200 BC is quite possible. Burić (2015, 151) considers eastern Slavonia, i.e. region between Bapska in the east, Vinkovci area in the west and eastern Sava region in Bosnia in the south as a core area of Sopot culture while north-

ern point is not very clear but should be located towards southern Hungary. Several other radiocarbon dates can't be used as the oldest dates for Sopot culture: sample Z-2826 (6340 ± 100 BP) from Sopot taken from the wall of a house SU 11, belonging to the youngest III/IV phase according to the excavator (Krzrnarić Škrivanko 2011, 211, 220, Tab. 1; Botić 2017, 225, note 195); sample Z-3868 (6295 ± 135 BP) from Sopot taken from a house floor SU 183a, belonging to the II phase according to the excavator (Krzrnarić Škrivanko 2011, 211, 220, Tab. 1; Botić 2017, 225, note 196); sample Z-3386 (6350 ± 135 BP, human bone) from a grave at Kneževi vinogradi – Osnovna škola site because there was no pottery close to the skeleton and at the bottom of the pit containing the burial, remains of Starčevo and Sopot pottery were found in a mixed context (Šimić 2004, 77; Botić 2017, 223, note 193). On the other hand, Sraka's (2012) chronological model of tell Sopot house phases and their dating shows problems regarding dating the phase III of Sopot culture after 4300 BC, disregarding in the process the possibility of existence of the phase IV (Marković 1994, 63; Balen et al. 2009, 35).

Concluding Remarks

Over the last 15 years new research brought to light very interesting new results which complemented older partial information. For the first time a phase in southern expansion of Transdanubian LBK was documented south of Drava river forcing us to reconsider older finds. Another point of entry should be considered somewhere westwards along the Drava river bearing in mind the position of Szentgyörgyvölgy-Pityerdomb, one of the earliest LBK sites in western Transdanubia. New information about Ražište type changes its chronological position from phase I-A/I-B of Sopot culture (Marković 1985, 49–51; Marković 2012, 58) or beginning of Vinča B phase, to the very beginning of Vinča A phase as recognized at southern Hungarian sites Szederkény-Kukorica-dűlő (Jákucs et al. 2016) and Versend-Gilencsa (Jákucs and Voicsek 2017).

According to typological differences and radiocarbon dates, two phases of Ražište type can be distinguished. It would seem that the older Ražište phase would predate the beginning of Sopot culture.

Chronological modelling of available radiocarbon dates shows continuity of life from late Starčevo phases in this area during the middle Neolithic but it is not very clear regarding the end date due to the lack of AMS dates and lack of further research in wither territory.

One of the interesting points surging from the new research is the fact that Ražište type, almost as much as Korenovo culture, has its origins in the LBK world. The question what was the nature of its relationship with the late Starčevo, LBK and Vinča cultures in its early phase still remain open as well as its relationship with Sopot culture latter on. New research, however, failed to answer the question of the origin and development of Korenovo culture although it provided us with more information about its end phase. The same goes for the emergence and development of Sopot culture although this is more due to the lack of publication rather than the lack of information.

Povzetek

Nove raziskave so v zadnjih 15 letih razkrile zelo zanimive rezultate, ki so dopolnjevali starejše delne informacije o srednjem neolitiku severne Hrvaške. Prvič je bila na južni strani reke Drave na lokaciji Donji Miholjac - Vrančari dokumentirana faza širjenja transdanubijske kulture linearno trakaste keramike (LTK) na jug. Prepoznane so bile tudi nekatere podobnosti med enim od najzgodnejših najdišč LTK v zahodnem Podonavju Szentgyörgyvölgy-Pityerdomb in najdiščem Virovitica - Brekinja. Nove informacije o tipu Ražište spreminjajo njegov kronološki položaj iz faze IA / IB sopotske kulture (Marković 1985, 49–51; Marković 2012, 58) oziroma začetka faze Vinča B, na sam začetek faze Vinča A, kot prepoznana na južno madžarskih najdiščih Szederkény-Kukorica-dűlő (Jákucs et al. 2016) in Versend-Gilencsa (Jákucs and Voicsek 2017). Dve fazi tipa Ražište lahko glede na tipološke razlike in radiokarbonske datume ločimo na treh najdiščih: Podgorač - Ražište, Golinci - Selište in Novi Perkovci - Kr

čavina. Zdi se, da je starejša faza tipa Ražište zgodnejša od začetka sopotske kulture. Kronološko modeliranje razpoložljivih radiokarbonskih datumov kaže na kontinuiteto življenja od poznih faz starčevačke kulture do začetka poznega neolitika v osrednjem in zahodnem delu severne Hrvaške. Ena izmed zanimivosti, ki izhaja iz nove raziskave, je dejstvo, da ima tip Ražište, skoraj toliko kot korenovska kultura, svoj izvor v svetu LTK. Vprašanje, kakšna je bila narava njegovega odnosa s pozno kulturo Starčevo, LTK in vinčansko kulturo v njegovi zgodnji fazi, je še vedno odprto, prav tako pa tudi njegov kasnejši odnos s sopotsko kulturo. Nastanek in razvoj korenovske kulture ostaja nejasen, čeprav nam je nova raziskava priskrbela nekaj več informacij o njeni končni fazi. Enako velja za nastanek in razvoj kulture sopotske kulture, čeprav je to bolj posledica pomanjkanja publikacij kot informacij.

Summary

Over the last 15 years, new research brought to light very interesting new results which complemented older partial information about the middle Neolithic in the north Croatia. For the first time a phase in southern expansion of Transdanubian LBK was documented south of Drava river on Donji Mihaljac – Vrancari site. Some similarities between Szentgyörgyvölgy-Pityerdomb, one of the earliest LBK sites in western Transdanubia and Virovitica – Brekinja site were recognized. New information about Ražište type changes its chronological position from phase I-A/I-B of Sopot culture (Marković 1985, 49–51; Marković 2012, 58) or beginning of Vinča B phase, to the very beginning of Vinča A phase as recognized on southern Hungarian sites Szederkény-Kukorica-dűlő (Jákucs et al. 2016) and Versend-Gilencsa (Jákucs and Voicsek 2017). According to typological differences and radiocarbon dates, two phases of Ražište type can be distinguished on three sites: Podgorač – Ražište, Golinci – Selište and Novi Perkovci – Krčavina. It would seem that the older Ražište phase would predate the beginning of Sopot culture. Chronological modelling of available radiocarbon dates shows continuity of life from late Starčevo phases to the beginning of the late Neolithic in the central and western parts of north Croatia. One of the interesting points surging from the new research is the fact that Ražište type, almost as much as Korenovo culture, has its origins in the LBK world. The question what

was the nature of its relationship with the late Starčevo, LBK and Vinča cultures in its early phase still remain open as well as its relationship with Sopot culture latter on. The origin and development of Korenovo culture remains unclear although the new research provided us with more information about its end phase. The same goes for the emergence and development of Sopot culture although this is more due to the lack of publication rather than the lack of information.

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Naslov uredništva

dr. Gregor Pobežin, Fakulteta za humanistične študije
Univerze na Primorskem, Titov trg 5, SI-6000 Koper, gregor.pobezin@fhs.upr.si

GUIDELINES FOR AUTHORS

The journal publishes primarily in the Slovenian language, but also in other (major) world languages (Italian, English, German, French). An article published in a foreign language must also include a Slovenian abstract and summary in addition to the English text. Words originally written in non-Latin script (e.g. Cyrillic) will be transliterated according to the rules of Slovenian orthography (<http://bos.zrc-sazu.si/sp2001.html>; see Ch. "Preglednice", Sub-Ch. "Pisave za posamezne jezike"). This is author's responsibility.

An article (generally 7000, but no more than 10.000 words) should begin with:

- 1) author's title, name and surname;
- 2) abstract in Slovene and English, up to 250 words;
- 3) keywords in Slovene and English (up to 5);
- 4) institution and address

An article should also include:

- 1) summary in Slovene or English and
- 2) sources consulted.

Articles should be written in regular Slovene (or regular foreign languages) with regard to current spelling, otherwise the editorial board reserves the right to refrain from reviewing the article

or reject it. If the article has already been published in another journal or if it is in the process of being published, this should be stated explicitly.

Contribution to the double line spacing, font type should be Times New Roman, size 12pt (in footnote 10pt). The text should be aligned left, the pages should be numbered consecutively. Paragraphs should be separated by a blank line. Up to three hierarchical levels of subtitling are allowed, which should be numbered (use only plain style): 1 - 1.1 - 1.1.1

For highlights use only italics (in the case of linguistic texts, where examples are a general rule, bold print is acceptable). Words in foreign languages should be written in italics as well. The use of other typographical cuts (underlined, large lowercase letters, bold italics ...) is not allowed. Do not use double spaces; do not use the spacebar for text alignment. The only kind of paragraph permitted is left-aligned paragraph without the use of tabs (do not use the centre, two-sided or right paragraph alignment). Only use square brackets for phonetic or recorded pronunciations. Three dots are contact only if they refer to broken text, e.g. con... In unfinished thoughts three dots are nonadjacent and indivisible ... Please turn off hyphenation.

Footnotes should be automatically numbered (numbers are immediately after a word or punctuation mark) and listed on the current page of text.

Quotes in the text should be marked with a double (") and quotations within quotations with single (') quote marks. Omitted parts of quotations and adaptations should be clearly marked with slashes: /.../. Isolate longer quotations (more than 5 lines) in separate paragraphs,

separated from the rest of the text by omitting a row. Quote the source of the quotation mark in round brackets at the end of the quote.

Highlight the best places for graphics in the text (tables, figures, diagrams, charts, etc.), along the lines of: [Table 1 about here]. Attach individual units of equipment in a separate file (in .eps, .ai, .tif or .jpg format, minimum resolution of 300 dpi; enclose the tables in a special file in the .doc format, graphs in the .xls format). Table title is above the table, graph title / picture is below the graph / image.

The space used for graphics counts as text, either as 250 words (half a page) or 500 words (entire page).

Include a scale on the tables with archaeological materials.

Upon submission, the author provides the article in the .doc format as well as the .pdf format.

References

References should be formatted according to The Chicago Manual of Style (University of Chicago Press 2010). The author-date system of citation for references should be used in the text, followed by page number if a direct quotation is given, e.g., Jackson (1979, 181). Quotation marks should be used in accordance with the spelling rules of the language in which the article is written. The alphabetized reference list should be titled 'References' with entries in the following format (please note that initials should be used for the authors' names):

- Beech, M. H. 1982. 'The Domestic Realm in the Lives of Hindu Women in Calcutta.' In *Separate Worlds: Studies of Purdah in South Asia*, edited by H. Papanek and G. Minault, 110–38. Delhi: Chanakya.
- Jackson, R. 1979. 'Running Down the Up-Escalator: Regional Inequality in Papua New Guinea.' *Australian Geographer* 14 (5): 175–84.
- Lynd, R., and H. Lynd. 1929. *Middletown: A study in American Culture*. New York: Harcourt, Brace and World.
- University of Chicago Press. 2010. *The Chicago Manual of Style*, 16th ed. Chicago: University of Chicago Press.

https://www.chicagomanualofstyle.org/tools_citationguide/citation-guide-2.html

The Chicago-Style Citation Quick Guide is available at https://www.chicagomanualofstyle.org/tools_citationguide/citation-guide-1.html

The following examples illustrate the author-date system. Each example of a reference list entry is accompanied by an example of a corresponding in-text citation. For more details and many more examples, see chapter 15 of *The Chicago Manual of Style*.

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Editor's address

dr. Gregor Pobežin, Fakulteta za humanistične studije
Univerze na Primorskem, Titov trg 5, SI6000 Koper
gregor.pobezin@fhs.upr.si



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