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#### Miroslav Marić\*

Institute for Balkan Studies, SASA, Belgrade, Serbia

#### Neda Mirković-Marić\*\*

Intermunicipal Heritage Protection Institute Subotica, Subotica, Serbia

#### Maja Miljević-Đajić\*\*\*

Citizens' Association "Sve o arheologiji", Belgrade, Serbia

#### Dušanka Veselinov\*\*\*\*

Institute for the Protection of Cultural Monuments of the City of Novi Sad, Novi Sad, Serbia

### Intra-settlement Burials of Vinča Culture at Sajlovo 5 Archaeological Site: Continuity or Change in the Late Neolithic Period?

Abstract: During rescue archaeological excavations undertaken in 2011 due to the construction of a north bypass connecting the town of Novi Sad and the E75 highway, several Neolithic-period skeletal burials were detected on a multilayered site named Sajlovo 5, located near the northwestern perimeter of Novi Sad. Close to 7000 m² were excavated in 2010 and 2011, revealing the remains of Early and Late Neolithic, Eneolithic, Bronze Age, Roman, Medieval and Modern Age settlements. The remains from the Late Neolithic period can be attributed to the early traditions of the Vinča material culture. Of the five skeletons discovered on the site, one is radiocarbon dated to the Early Neolithic Starčevo-Körös period, whilst the remaining four were radiocarbon dated to the Late Neolithic Vinča period. This paper discusses their position relative to other period-related finds in the area, attempting to elucidate the funerary practices and rituals at the start of the Late Neolithic Vinča culture.

Keywords: Sajlovo 5, Neolithic, Vinča culture, intra-settlement skeletal burials, AMS Radiocarbon Dating.

<sup>\*</sup> miroslav.maric@bi.sanu.ac.rs

<sup>\*\*</sup> nmirkovicus@gmail.com

<sup>\*\*\*</sup> maja.miljevic58@gmail.com dusicaveselinov@gmail.com

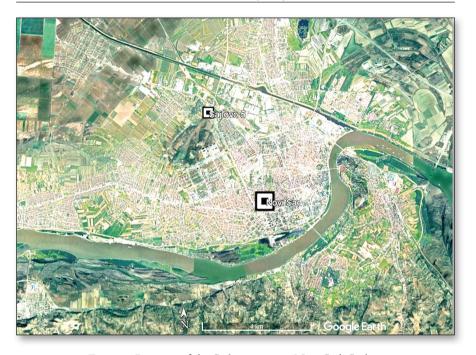


Figure 1. Position of the Sajlovo 5 site in Novi Sad, Serbia.

#### Introduction

The site of Sajlovo is located in the western suburbs of Novi Sad, the second-largest city in Serbia and the capital of its northern autonomous province of Vojvodina (Fig. 1). A large-scale archaeological excavation was undertaken in 2010 and 2011 in parts of the Sajlovo suburb as part of the road bypass construction to connect the western part of Novi Sad with the E75 international highway to the north of the city. Over the following two years of archaeological excavations, close to seven thousand square metres were excavated, yielding remains of a multilayer, multiperiod site with occupation evidence ranging from Early Neolithic to Modern Age. The Neolithic layers were represented by the remains of pit dwellings, some filled with daub and pottery fragments, scattered around the site, with no apparent grouping or settlement organisation. Due to the overlapping of features of different periods, it is sometimes extremely difficult to clearly delimit the remains by period, and a certain number of features were severely damaged by later reuse of the same space. <sup>1</sup>

<sup>&</sup>lt;sup>1</sup> The results of the excavations were never published in any detail, and the information regarding its archaeological features in this paper relies solely on the documentation compiled during and after the excavation seasons.

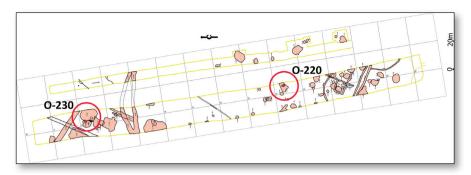


Figure 2. Archaeological features of the Sajlovo 5 site. Red circles around Late Neolithic features 220 and 230 containing burials 25, 26 and 27.

#### Sajlovo Inhumation Burials and their Position in the Vinča World

The area of the Sajlovo 5 site was subjected to protracted excavations during the construction of the western bypass connecting this part of the city to the E75 highway. The excavations were undertaken over several seasons, resulting in thousands of square meters excavated over the years. In 2010 and 2011, 7000 square meters were excavated in the Sajlovo 5 area by the Novi Sad Heritage Protection Institute, under the guidance of Dušanka Veselinov, revealing remains ranging from the Middle and Late Neolithic, Eneolithic, Bronze Age, Roman, to Medieval and Modern Ages. In total, five Neolithic period inhumation burials were discovered on the site among several hundred excavated features. These burials were marked 19, 22, 25, 26 and 27. Two of the burials were radiocarbon dated as part of the BIRTH project², whilst the remaining three were dated as part of the Regional Absolute Chronologies of the Late Neolithic in Serbia (RACOLNS) project.

Because of the complicated, multilayered structure of the site, which surprisingly did not yield a tell site, but rather a site with prominent horizontal stratigraphy, it is difficult to gauge the layout and size of the Late Neolithic settlement. It can be inferred, judging by structures 220 and 230 (Fig. 2, red circles), that it was not a proto-urbanised settlement with densely packed structures, but rather a case of several clusters of homesteads, probably spaced apart from 70 to 100 meters (the curvilinear features belong to later periods).

<sup>&</sup>lt;sup>2</sup> We wish to extend our gratitude to Dr. Sofija Stefanović and Dr. Marko Porčić for their kind permit to use the date obtained as part of the BIRTH project.



Figure 3. Inhumation burials 19 (top left) (Jovanović et al. 2021: Fig. 9), burial 25 (top right), burials 26 and 27 (bottom) in situ.

The settlement consisted of pits and pit dwelling structures with earthen ovens placed on their side, as seen in structure 230 (Fig. 3, bottom), which contained burials 26, 26a and 27 inside. Graves 26 and 26a are most likely the same burial, as 26a consisted of only a handful of displaced skull fragments found close to burial 26.

These types of sunken structures can be found in late-phase Starčevo-Körös settlements, such as Jaričište I (Marić 2013, fig. 5), where a structure with two ovens on its eastern edge contained a burial with 4 (not coeval) individuals. Not all burials in Sajlovo were found in structures that contained an oven, e.g., burial 25 found in structure 220 (Fig. 4), a shallow ellipsoidal pit or burial 22 from structure 15, which proved to be a Starčevo Körös-period grave (Jovanović et al. 2021, 240).

It must be said that these ovenless features do not appear to have been dug specifically for the purpose of the burial, which is most evident in burial 25, where the burial pit is dug perpendicular to the longer axis of structure 220, even cutting its eastern edge, which would suggest a possible later date of creation for the burial. Furthermore, the infill of structure 220 yielded very few pottery fragments, 12 in total, and only two of these can be identified as early Vinča period with certainty (Plate 1, 1-2), one of them (Plate 1, 1) being part of a blacktopped bowl or pedestalled vessel typical of the time. None of the recovered fragments can be interpreted as grave goods, but rather as part of the regular infill of the feature, as they do not constitute a single complete vessel. In contrast, the Vinča period ceramic finds from structure 230, the "oven structure", are more diverse and identifiable, albeit still challenging to interpret. In total, there are fragments of at least 20 vessels, ranging from small to medium-sized fragments. Fragments belong to vessels associated with cooking, serving and consumption of food, and some come together to produce partially refitted vessels, but no vessel was found complete or in situ, again suggesting these are not burial offerings. No storage ware fragments or casserole dishes, nor altars or figurines were discovered in structure 230.

The bowls (Plate 1, 3–4) are biconical with a shorter upper cone, fired in a reduced atmosphere. Pedestal vessels are also present, with several examples of stems found in the structure (Plate 2, 1). Several vessel fragments bear traces of secondary burning (e.g., Plate 1, 4), but the unburnt examples show evidence of polishing and burnishing (the latter being less common). The ornamentation is sparse, possibly due to the poor preservation of the vessel surfaces.

Cooking vessels are represented by two examples, one hemispherical (Plate 2, 3), the other spherical (Plate 2, 4). Both are crudely made vessels with lots of mineral inclusions, but the spherical example is somewhat better made. The hemispherical pot bares ornamentation on the rim in the form of shallow depressions made in a sequence and resembling a wave, whilst the spherical

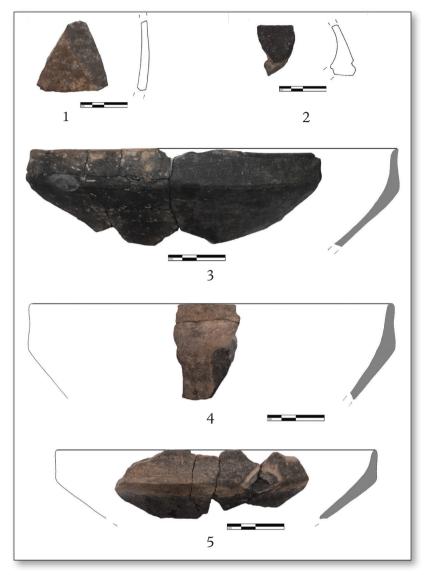


Plate 1. Fragments of Vinča-style vessels from Structure 220 (1, 2) and Structure 230 (3–5).

cooking pot is decorated with a row of rounded impressions made by a tool underneath the rim, on the outer surface of the vessel neck, similar to a cooking pot from Belovode horizon 5 (Mirković Marić et al. 2021, Fig. 16) Other types of ornamentation found in the structure infill are horizontal, zig-zag or slanted incised lines (Plate 3, 1–3) that are common in the early Vinča, Western LBK and Alföld Linear Pottery material (e.g. Jakucs 2020, fig. 10; Horváth and Drasovean 2013) and could suggest the early mixing of these two material

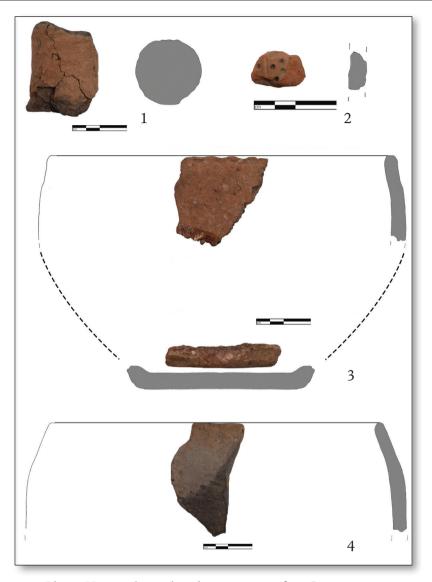


Plate 2. Vinča-style vessels and ornamentation from Structure 230.

culture traditions in the region but also incised bands filled with rounded imprints and white incrustation (Plate 2, 2), a typical early Vinča period pottery decoration.

The fragments in structure 230, mostly due to their fragmentation, condition and state of preservation, cannot be identified as grave goods or part of post-burial offerings or feasts, but would appear to be part of the structure infill, most likely the rubbish of everyday activities in the settlement. This is fur-

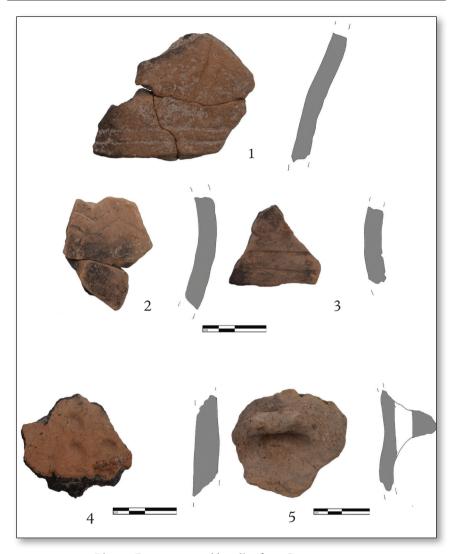


Plate 3. Decoration and handles from Structure 230.

ther accentuated by the large percentage of secondarily burnt fragments in the assemblage.

Anthropological analysis<sup>3</sup> of buried individuals employed the criteria defined by Mikić (1978) as the basis for the determination of the degree of pres-

<sup>&</sup>lt;sup>3</sup> Full anthropological report (in Serbian) is available as supplementary material on: https://www.academia.edu/143963191/SAJLOVO\_5\_Anthropological\_Report\_M\_Miljevic\_Djajic\_Supplementary\_material



Figure 4. Burial 25 in Structure 220.



Figure 5. Ante-mortem injury on the back of the right parietal bone of the individual in Burial 25.

ervation of skeletal remains. Sex was, in adult individuals, determined based on the characteristics of the pelvic bones and the morphological features of the skull (Ferembach et al. 1980, Buikstra and Ubelaker 1994), with special attention given to metric characteristics of the individuals (Bass 1995). Age determination at the moment of death for adult individuals was estimated based on the auricular surface of the ilium (Buikstra and Ubelaker 1994), morphological changes on the pubic symphysis (Todd 1920), the degree of fusion of cranium sutures (Lovejoy et al. 1985) and the degree of tooth abrasion (Brothwell 1981). The determination of age at the moment of death for children and juveniles was estimated based on the degree of eruption and development of milk and permanent teeth (Uberlaker 1989) and the degree of ossification of the epiphysis to diaphysis (Schaefer et al. 2009).

Individuals buried in the described structures were all in flexed positions, with legs bent at the knees, constricted towards the abdomen, and hands bent at the elbows and placed in front of the face. Two individuals (19 and 27) were found on the left side, whilst the individual in burial 25 was placed on the right.

The fourth grave, 26, was impossible to determine, as it had been disturbed by later activities and is only partially preserved (Fig. 3, bottom).

The anthropological analyses of the remains showed that burial 19 (Fig. 3, top left) belonged to an adult female aged 45–50 years, 149.13 cm tall, with a visible presence of caries and degenerative changes associated with older age, supported by atrophy of muscle attachments on both upper and lower limbs (Jovanović et al. 2021, 240, Supplement 3, 20–22). No goods were discovered in the burial pit.

Burial 25 remains belong to an adult male placed on the left side in a flexed position (Fig. 4), aged 30–40 years. Some teeth show traces of non-masticatory activities, whilst both the mandible and the maxilla show signs of periodontal disease. An interesting ante-mortem injury, measuring 0.6 cm in diameter, was discovered on the back of the right parietal bone, caused by blunt-force trauma or possibly a fall, which, however, was not the cause of death (Fig. 5). The estimated medium height of the individual was 175.3 m. No burial goods were recorded in the grave.

Burials 26 and 27, discovered in the same context, the pit feature marked as structure 230, are remains of two individuals, one aged 10–15 years, the other 20-24. The skeleton belonging to individual 26 was well-preserved but fragmented. The deceased was buried in a flexed position on the right side, with sharply bent legs, positioned toward the abdomen. The disposition of the hands is not quite clear due to post-depositional damage (Fig. 6, top). No pathological changes were evidenced on the preserved bones, and the sex could not be determined with certainty. The individual in burial 27 was a male about 20 years of age, buried flexed on the right side, with bent legs and arms mildly bent and placed over the legs (Fig. 6, bottom). The parietal and occipital bones bear traces of porous hyperostosis, whilst the left tibia shows evidence of periosteal reaction. Vastus notch is visible on both patellae, possibly the effect of frequent squatting or kneeling. The estimated height of the individual was 175.76 cm. Based on the occurrence of pathological changes, such as linear hypoplasia of tooth enamel, porous hyperostosis and periosteal reaction, it is plausible that the individual in burial 27 succumbed to some sort of sickness, possibly an infection. No grave goods were recorded in this burial either.

During the BIRTH project (Jovanović et al. 2021, 240, Supplement 4), burials 19 (BRAMS-2425, 6211±28 BP) and 22 (BRAMS-2426, 6721±28 BP) were radiocarbon dated, the latter determined to belong to the second half of the Starčevo-Körös period (5707–5566 calBC at 95.4% conf.), whilst the first belongs to the early Vinča period (5293–5059 calBC at 95.4% conf.). The results presented here are new radiocarbon dates obtained from other inhumed individuals from Sajlovo during the RACOLNS project, funded by the Science Fund of the Republic of Serbia.



Figure 6. Burials 26 and 27 in Structure 230.

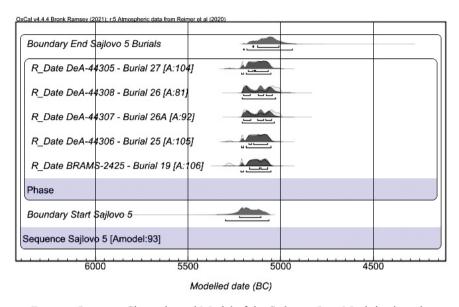


Figure 7. Bayesian Chronological Model of the Sajlovo 5 Late Neolithic burials.

The radiocarbon age estimation for BRAMS-2425 from burial 19 sampled during the BIRTH project, which examined the skeletal, nutritive and cultural effects that led to the first demographic expansion of humans in the Neolithic, approximately 8000 years ago (Porčić et al. 2021), placed this burial in the Late Neolithic period, instigated our intention to radiocarbon sample other Neolithic burials from the site, examined in the paper. These four samples, given in Table 1, originate from burials 25, 26, 26a (a dislocated skull found near burial 26) and 27.

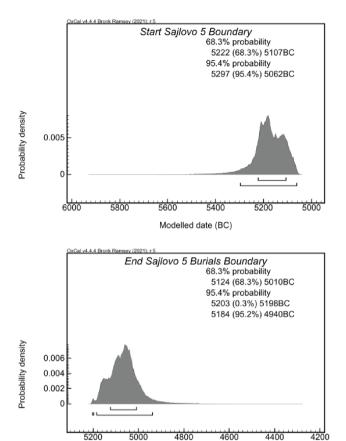
Based on the analysis of ceramic finds recovered from structures that contained the burials, it can be assumed that the burials are part of a single chronological phase. Using OxCal v4.4.4. and IntCal20 calibration curve (Bronk Ramsey 1995; Bronk Ramsey 2009, Bronk Ramsey 2010 (Bronk Ramsey 2017; Reimer et al. 2020), a Bayesian chronological model (Bronk Ramsey 2009; 2017) was created to reflect this assumption (Fig. 7). The method's strength is the possibility to quantify uncertainties linked with statistical estimates of radiocarbon measurements and has been used many times in modern archaeology, even on Late Neolithic Vinča period finds (Marić et al. 2025; Whittle et al. 2016; Tasić et al. 2016; Borić 2009; Schier 1996). The constructed chronological model with a very high agreement (Amodel=92.8) appears to corroborate the short-phase burials notion, which would also imply a relatively short settlement span on the site. Based on the Bayesian chronological model for Sajlovo (Fig. 7), the start of Late Neolithic Vinča burials occurred not prior to 5297–5062 calBC (95%

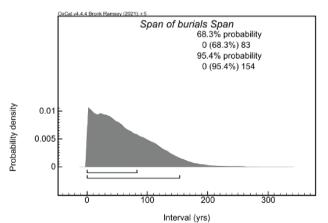
Name	Unmodelled (BC/AD)			Modelled (BC/AD)			Indices A <sub>model</sub> =92.9 A <sub>overall</sub> =93.7				Controls				
	from_68.3	to_68.3	from_95.4	to_95.4	from_68.3	to_68.3	from_95.4	to_95.4	A <sub>comb</sub>	Α	L P	C	Select	Page	Edi
▼ Sequence Sajlovo 5													<b>2</b>		0
Boundary Start Sajlovo 5					-5222	-5107	-5297	-5062				97.3	✓ 3		0
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R_Date BRAMS-2425 - Burial 19	-5215	-5072	-5297	-5052	-5167	-5073	-5216	-5052		105.6		99.4	<b>₹</b> 5		0
R_Date DeA-44306 - Burial 25	-5208	-5072	-5218	-5045	-5172	-5071	-5212	-5053		104.9		99.5	<b></b> 6		0
R_Date DeA-44307 - Burial 26A	-5206	-5006	-5209	-4999	-5200	-5048	-5208	-5034		91.8		99.4	<b>₹</b> 7		0
R_Date DeA-44308 - Burial 26	-5205	-5001	-5210	-4993	-5202	-5044	-5207	-5027		81.6		99.4	<b>8</b>		0
R_Date DeA-44305 - Burial 27	-5173	-5073	-5215	-5046	-5175	-5068	-5211	-5052		104.2	П	99.5	<b>9</b>		0
Span Span of burials					0	83	0	154				98.8	<b>11</b>		0
Boundary End Sajlovo 5 Burials					-5124	-5010	-5203	-4940				96.5	<b>1</b> 0		0

Figure 9. The unmodelled and modelled radiocarbon dates from Sajlovo 5.

prob.), possibly between 5222-5107 calBC (68% prob.) (Fig. 8, top), and the cessation of burials in features happened no later than 5184-4940 calBC or 5203-5198 cal BC (95% prob.), possibly 5124-5010 calBC (68% prob.) (Fig. 8, middle). These modelled results give a span of 0-154 years (95% prob.), possibly just 0-83 years (68% prob.) for the duration of the inhumation made in features on the Sajlovo 5 site (Fig. 8, bottom). Another peculiarity is the almost identical radiocarbon date obtained on bones from burials 26 and 26A (both partial). The remains associated with burial 26 were modelled at 5207–5027 calBC (95% prob.), possibly 5202 (26.4% prob.) 5165 cal BC or 5123 (20.6% prob.) 5094 cal-BC or 5077 (21.2% prob.) 5044 calBC at 68% prob., whilst the remains (namely a partially preserved skull) associated with burial 26A are modelled at 5208-5034 calBC (95% prob.), possibly 5200 (24.4% prob.) 5160 calBC or 5125 (24.1% prob.) 5090 calBC or 5081 calBC (19.8% prob.) at 68% prob. (Fig. 9). This could potentially signify a single event of a dual burial or the misinterpretation of skeletal remains as two individuals; however, due to the incomplete preservation of the skeletal remains, it remains difficult to be sure. The remains associated with burial 27 discovered in the same feature appear to be of a somewhat later date, modelled at 5187-5052 calBC (95% prob.), possibly 5175 (19.1% prob.) 5144 calBC or 5135 (49.1% prob.) 5068 calBC at 68% prob. and may be the cause of post-depositional disturbance of grave 26(26A).

Modelled against the Vinča material culture relative chronology timeline (Whittle et al. 2016, fig. 37), the Sajlovo 5 site sits firmly in the Vinča B1/B2 period. This would correspond with the 8−6.5 meters relative depth at the site of Belo Brdo in Vinča, and would coincide with the human remains found by Miloje Vasić in the ▼7.1−▼7.8 metres range on Belo Brdo.





Modelled date (BC)

Figure 8. The start of burials at Sajlovo 5 (top), the end of burials (middle), the estimated span (bottom).

#### Burial Practices in the Starčevo-Körös and Vinča Period and Sajlovo Burials

Several hundred sites from the Early Neolithic Starčevo-Körös and Late Neolithic Vinča periods are known throughout the Central Balkans and the southern Pannonian plain, but human remains and necropoles are still rather scarce, even after over a hundred years of research. Even though, in general, most sites are poorly researched, often just by single trenches, human skeletal remains are not as uncommon as one might expect, especially in the Early/Middle Neolithic period, due to the common practice of intramural burials, where individuals appear to be buried within the limits of the settlement in dwellings that are abandoned after the burial (Živković 2008). Even sites from this period with numerous excavated trenches, like Golokut Vizić (Petrović 1987; Živaljević et al. 2017, 7–8), Blagotin (Stanković and Leković 1993; Stanković 1992), Starčevo grad (Živković 2008) or Jaričište 1 (Marić 2013; Stefanović and Porčić 2015), offer the same image, supporting the premise of intrasettlement burials in the Early/Middle Neolithic period. A problem arises from the fact that a significant portion of excavated Early/Middle Neolithic sites with human burials was never published, neither partially nor fully (e.g. Leković 1985), often remaining no more than a footnote in the introductory parts of other publications, thus depriving us of detailed descriptions of mortuary practices and numbers of burials. It is often difficult to discuss intricate matters such as mortuary practices, one of the core human activities that helps us establish the period and the ethnic or cultural attribution of individuals recovered in the field during excavations.

However, certain information can be extrapolated from the available records, and here we present only a short summary before proceeding further. Skeletal burials from the Starčevo–Körös period are most commonly found in pits, whether shallow or deeper, mostly irregular in shape. Examples of shallow pits are known from sites like Zlatara near Ruma (Leković 1985, 160–61), Rudnik Kosovski (Mikić 1989; Tasić 1998) and Kozluk-Kremenjak (Jovanović 1967, 12). Deep pits, often interpreted as dwelling structures, are more common and are known from various sites, e.g., Blagotin (Stanković and Leković 1993; Redžić and Zečević 1995, fig. 1; Haskel J. Greenfield and Jongsma 2006), Jaričište 1 (Marić 2013; Stefanović and Porčić 2015), Golokut Vizić (Petrović 1987) and Obrež Baštine (Brukner 1960), among others. There is also evidence of burials under floors of structures, with examples found in Topole Bač (Trajković 1977), Bezdan–Bački Monoštor (Jovanović et al. 2021, SM2–8) and elsewhere.

Most commonly, burials contain one individual (Galović 1968, 168; Garašanin 1959, 7; Vasić 1936, 35; Leković 1985), though examples are known of dual burials (Trajković 1977; Leković 1985), multiple (not necessarily coeval) burials (Marić 2013) and even possible mass graves, like the (in)famous *Pit Z* ossuary found at the Vinča Belo Brdo site (Vasić 1932; 1936; Perić and Nikolić

2006; Tasić et al. 2016; Stefanović et al. 2016; Jovanović et al. 2021, 230). The positions of the inhumed individuals also vary; the most frequent are the ones flexed to one side, either the left or the right, with bent arms in front of the skull area and legs sometimes heavily bent at the knees towards the torso. However, other body positions are known as well, like some extended supine inhumations of Lepenski Vir (Borić and Stefanović 2004). Child burials are recurrent, and usually the burial practice does not differ from the other inhumations; however, there are examples of children being buried in the same contexts as adults (Marić 2013; Leković 1985) or underneath house floors (Borić and Stefanović 2004).

Whilst most burial features appear to be pit dwellings or structures of some kind, often equipped with hearths or even ovens (Marić 2013, fig. 5), some authors, like Leković (1985, 161–62), advocate purposeful construction of burial chambers with even varying pre-burial treatments, like purification by fire or deposition of sterile soil. It is our opinion that we are dealing with too small a sample for such conclusions, but they should not be taken completely off the table.

Grave goods are not common in the known examples of the Starčevo-Körös period graves, but there are a few recorded examples, such as in Tečić, where typical Starčevo clay vessels were found placed next to the heads of the deceased (Galović 1968, fig. 1), same as in Kozluk-Kremenjak (Jovanović 1967, 12). There is also evidence of a somewhat different practice, found in the multiple burial found on Jaričište 1, where a harpoon made of deer antlers was found next to the head of a child (Marić 2013; Stefanović and Porčić 2015, fig. 7). Other grave goods, like Unio pectorum shell and some polished and chipped stone tools, were found at the Topole Bač site (Jovanović et al. 2017). Another example of a different set of burial goods was evidenced on the site of Zlatara, where an inhumated adult, aged 19-21, in burial A contained a polished stone amulet and a fragment of quartzite, and was accompanied by a later, nearby interment of a child, which was placed near his head, with a single piece of quartzite on the skeleton (Leković 1985, 160). However, the richest of grave goods have been observed in burial B at Zlatara, where two complete vessels (one pedestaled) were found alongside beads made of spondylus shells, two polished stone axes, two fragmented flint blades, two bone awls, a loom weight and a few fragments of quartzite (Leković 1985, 161). It must also be stated that burial B belonged to an adult female between 40 and 45 years of age. This is rather interesting, as one would not expect polished stone tools to be associated with female possessions in the period.

Regarding funeral rites, it can be observed that in the case of Jaričište 1 and Zlatara, there are obvious parallels. Namely, in both cases, a thick layer of pottery fragments accompanied by "meaty" animal bones was found above the burials, suggesting a ritual offering for the other world (Leković 1985; Marić

2013, fig. 5) performed immediately upon the burial of the deceased. Refitting of the recovered pottery fragments in Jaričište I resulted in the total reconstruction of several vessels, ranging from bowls to storage vessels (Marić 2013, fig. 6), indicating their deliberate smashing above the graves of the deceased. Additionally, in Zlatara, numerous shells of Helix pomatia L. were discovered in both burial A and burial B above the level of the deceased. Whether they represent an episode of a feast or a symbolic gift for the afterlife is unclear. A similar ritus can perhaps be presumed for the heavily contracted burials 1 and 2 from Topole Bač (Jovanović et al. 2017, fig. 3), where pottery and shells were found on the floor level above the burials. However, if we consider the location of these burials in more detail, it is also possible to associate the pottery discovered on the floor level with the continued life of the structure after the burial, in itself a rare phenomenon in the early Neolithic of these areas, rather than with the burial processes. Skeleton 3, a female 25-35 years of age, found at the edge of the same feature outside the floor area, according to the researchers, aside from a less contracted position, had a polished stone tool next to her, whilst snails and shells were discovered upon the removal of the bones (Jovanović et al. 2017, 261). Another polished stone tool, a cylindrical chisel-axe with an arched cutting edge, was found next to the chest area of burial 2 in Kozluk - Kremenjak, whilst for the second, fragmented one, no detailed location is given (Jovanović 1967, 12, T.II: 15-16). Sadly, neither of the two skeletons from Kozluk has been anthropologically analysed at the time of the discovery, nor has the sex and age of the buried individuals been determined, and they are now misplaced and cannot be found in the depot of the Vršac City Museum (pers. communication). In this light, perhaps it may be wise to reconsider the role of polished stone tools in the Early/Middle Neolithic period and the Starčevo-Körös communities.

The transition to the Late Neolithic around 5400–5300 calBC (Whittle et al. 2016) and the formation of the Vinča material culture that occupied the Central Balkans and the adjacent areas heavily altered the Neolithic way of life. A predominantly sedentary lifestyle with periodical or occasional movements, which had already started to form towards the end of the Middle Neolithic, evident in the creation of the first more permanent wattle and daub structures towards the end of the Starčevo Körös period (Marić 2024; D. Garašanin 1961; Raczky 1980; Kalicz and Raczky 1982), appears to become the dominant form of living in the Late Neolithic, resulting in the appearance of settlements with pronounced vertical stratigraphy, tells in the Carpathian Basin and multilayered large settlements and tells in the Central Balkans.

The prolonged occupation of a location selected for a settlement surely brought about new ideas and concepts on the use of limited space within and surrounding the settlement. But it does not appear that the creation of a separate necropolis outside the perimeter of the settlement was an immediate and

defining dominant concept of the Late Neolithic world in the Central Balkans and the adjacent Carpathian Basin. Although the number of known graves in the territory covered by settlements of the Vinča culture is not especially large, several early phase finds can be singled out, like the grave found at 8.75 meters of relative depth in Vinča itself (Vasić 1932, 26; 1936, 36; Palavestra and Milosavljević 2020, 675–76), corresponding to the Vinča A period (Garašanin and Garašanin 1979, 17; Whittle et al. 2016, fig. 2). In the second volume of his capital work on the decades-long research in Vinča, Vasić notes that the skeleton at 8.75 metres relative depth, discovered in 1911, was found in a contracted position on his right side, with arms bent at the elbows and the right arm under the head, legs bent at the knees and contracted towards the torso (Vasić 1936, 36). No grave goods were recovered, and no mention of the archaeological context of the find is given, aside from a photograph (Vasić 1936, fig. 55), in which a sub-oval depression can be seen around the skeleton; however, it was never explained in more detail in the monograph. Sadly, the skeleton was destroyed in the autumn of 1914, at the onset of World War I, when the artillery shells of the Austro-Hungarian forces hit the building of the Museum in Belgrade, where it was stored.

Another find from Vinča mentioned by Vasić is recorded at 7.64 meters of depth (Vinča BI), where a layer of ash was discovered, 95 cm long (width is not recorded), in which a damaged human skull was found at the southwest end, whilst the ash itself contained some calcined human bones (Vasić 1936, fig. 364a). Vasić established this find as an example of cremation burial practice, associating other visible ash (sub)layers on the site with this practice (Vasić 1936, 182).

In the first volume of Prehistoric Vinča, Vasić noted more human remains found during the excavations in Vinča at various depths: ▼4.5, 4.7, ▼5.2, ▼7.1, ▼7.5, ▼7.7 (four examples), ▼7.8, ▼8.7, ▼8.9, ▼9.0 and ▼9.3 metres (Vasić 1932, 26). Looking at the values listed, it is quite plausible to group them into three ranges: the first being ▼4.5-5.2 metres, the second between ▼7.1 and  $\blacktriangledown$  7.8, and the third from  $\blacktriangledown$  8.7–9.3 metres, indicating at least three possible necropoles. Unfortunately, Vasić never published the details of these finds, deciding to limit himself to listing these particular values solely due to the fact that easily identifiable human remains (skull fragments) were found at these points. Thus, we are left without the spatial positioning and archaeological contexts of these finds, depriving us of the possibility of reconstructing whether these finds were in pits or graves, inside or outside the settlement area. However, as Vasic's work can be reconstructed, at least partially, from the surviving documentation, it is safe to say that his excavations took place in the central area of the late-phase Vinča settlement, and likely at the periphery of the early-phase Vinča settlement, which was surely smaller (Nikolić 2006, Figs. 2-3).

Vinča Belo Brdo is not the only Late Neolithic site with human burials. Miloia reported a find of a skeleton of an adult in a contracted position, lying on its right side in Parța (Garašanin 1956); however, as it was found in a building and placed over the hearth, its interpretation as a burial is rather dubious. Felix Milleker (Milleker 1938, 166) reports multiple possible Neolithic burials found at different multilayered sites around the town of Vršac, some discovered during construction works; however, only one of the sites, Potporanj Granice, is a confirmed Vinča-period site without a later prehistoric horizon. It is interesting that in Potporanj, Milleker reports an urn burial with a chisel found inside the vessel as a grave good. No further details are given about the context of the find. However, if the urn is to be identified with the one in Figure 12 (Milleker 1938, 117), its shape cannot be conclusively identified as a Vinča-style vessel, although Garašanin (M. Garašanin 1956, 209) claims it is an early-phase Vinča find.

The site of Kremenjak, southwest of the town of Čoka in northern Banat, is also known for finds of multiple burials belonging to the Late Neolithic period. First excavated at the beginning of the 20th century by several researchers (Gubitza 1906; Orosz 1912), including Ferenc Móra (Móra 1925), whose excavations covered the majority of the site but were abruptly halted due to the outbreak of World War I, Kremenjak yielded 13 inhumation burials of the Late Neolithic period (Siklósi 2013, 131). Although the contexts for the majority of the burials have not been securely established, at least some of the inhumed individuals were buried inside pit structures or under settlement features like ovens (Banner 1960, 14). The burials were not radiocarbon dated, but the description of the associated finds indicates the early-phase Vinča period, probably late Vinča B. The burials were mostly concentrated in the southern half of the settlement, and at least some had grave goods in the form of beads or bone rings on fingers (Orosz 1912, 34).

Botoš Živanića dolja near Zrenjanin and Gomolava near Hrtkovci are probably the two best-known examples of Late Neolithic Vinča period necropoles. The necropolis in Botoš was first discovered in 1925 when local brickworks damaged it (Garašanin 1956, 206). Following Milleker's visit to the site in 1930, when he discovered additional burials, a systematic excavation was undertaken by Milorad Grbić in 1931, unearthing 10 graves and 3 displaced human skulls. The burials were oriented in different directions (Grbić 1933, fig. 14), but all of the Neolithic deceased (one burial was from antiquity) are in a crouched position (more or less constricted), either to the right or the left, with graves 4 (polished stone tool), 6 and 9 (ceramic vessels) containing grave goods. Sadly, the bones were immediately buried back into a communal grave on the site, without even performing a rudimentary anthropological analysis and taking measurements. Grbić also notes in his paper that before finding the graves, he had surveyed the north-western vertical section of the brickworks, where he discovered multiple

elongated rectangular features, which he identified as "pits", most likely enclosure ditches, some of which contained human remains (skulls were found in pits 1 and 6). If we accept these ditches as Late Neolithic settlement enclosures, then the Boto's cemetery is an example of an extramural Late Neolithic necropolis.

Another example of a Vinča-period necropolis, probably the most examined and published one, was discovered between 1973 and 1977 on the Gomolava tell site, located on the bank of the Sava River, near the villages of Hrtkovci and Gomolava (Jovanović 2015). Excavations revealed 27 inhumation burials and 6 additional dislocated skeletons, which had been reburied in certain graves. Besides Botoš, this is the most famous of the Vinča necropoles, being published many times partially or fully since its discovery (Jovanović and Ottaway 1976; Petrović 1984, 20–23; Borić 1996; Ottaway 2001; Jovanović 2015; Stefanović 2008). The necropolis was formed partially on archaeologically sterile soil, but also over the area occupied by pit houses and wattle and daub structures from the earlier Late Neolithic settlement horizons (Brukner 1980, 30). Based on the rich grave goods (Jovanović 2015; Brukner 1988) accompanying most of the buried individuals, as well as the radiocarbon dating of the skeletons (Borić 2009, 199), it can be safely concluded that this necropolis can be attributed to the late Vinča D period. Less certain is the *intramural* attribution of the necropolis, as it may be possible that the late Vinča D2 period settlement occupied solely the southwestern portion of the tell, making the necropolis extramural.

What particularly stands out is that all the skeletal remains recovered in Gomolava belong to male individuals, 19 adults and 6 boys (Stefanović 2008). The sex-based selection of the burials makes the Gomolava necropolis a very unusual case, probably not a common occurrence in Vinča societies of the time; however, more finds are needed for this to be firmly established. Given the broad age range (infancy to old age), age does not appear to have been an important factor in the selection of buried individuals. The analysis of Y-bound STR loci indicates that this may have been a case of common ancestry, i.e., a single-family, all-male necropolis (Stefanović 2008, 97).

In recent years, several more Vinča period sites containing inhumation burials were discovered. The site of Gornja Šuma, northwest of Novi Sad, was excavated during the construction of the E75 Novi Sad – Subotica highway in 2007. The results of these excavations have been only summarily published (Jovanović et al. 2021, 241–42), listing finds of pits, wattle and daub houses and one ditch and four inhumation burials. From the description of the archaeological context, it can be concluded that the burials were found in various trenches, with at least one burial (burial 2) found in a structure (structure 2 in trench 5), suggesting that this was an intramural necropolis. Radiocarbon dating of three skeletal remains (burials 1, 2, and 4) placed all of them in the period between the 53<sup>rd</sup> and 51<sup>st</sup> century calBC, or the Vinča A period.

Another site with Vinča period remains is Zmajevo Livnice, excavated in 2010 as part of the same rescue operation on the E75 highway construction. The site was located near the village of Zmajevo, in North Bačka. The summarily published list of features (Jovanović et al. 2021, supplement 2, 9) lists one burial (burial 1) as found in a cultural layer, and the other (burial 2) found within structure 57, in a round pit, with skeletal remains lying on the back, legs bent at the knees. It is safe to assume then that these burials were located within the settlement, making the necropolis intramural.

Further west, at the site of Bezdan in Bački Monoštor, rescue excavations yielded three skeletal burials that belong to the late Neolithic period. Two burials, marked 1 and 2, were found within structures with Late Neolithic pottery, burial I being in a flexed position on the right side and belonging to a middleaged woman who was 158.58 cm tall, whilst inside burial 2, two individuals were discovered, an old adult in a flexed position and a poorly preserved child. The sexing of the adult individual in burial 2 was impossible due to inconclusive markers on bones (Jovanović et al. 2021, 238). The only radiocarbon-dated burial is burial 3, a middle-aged male individual found in what appears to be a ditch, buried on his back, with legs bent to the right. This individual showed various signs of pathology on his bones and even an osteoma on the frontal bone, which could indicate poor health and immobility. This site is also a clear example of an intramural necropolis. The radiocarbon dating of burial 3 (BRAMS-2416, 6028±27 BP) suggests a somewhat later time span from 4996–4844 calBC (95.4% prob.), roughly corresponding to the Vinča C period (Jovanović et al. 2021, 236); however, this need not be the case for burials I and 2 as well.

Finally, in 2016 and 2017, on the site of Idjoš Gradište, near the town of Kikinda, two more human skeletal remains were discovered in two different locations of the Late Neolithic settlement, one radiocarbon-dated to the 53rd-52<sup>nd</sup> century calBC, the other to a later period, the 49<sup>th</sup> to 47<sup>th</sup> century calBC (Marić et al. 2025, 191). The site, consisting of several multiple-period settlements ranging from the Middle Neolithic to the late Bronze Age (Marić et al. 2016), contains, in its southwestern part, a Neolithic settlement with a smaller tell accompanied by a flat settlement abutting it on the northeast. Human burials were detected in trenches 5 and 6, with the first located in the flat part of the Neolithic settlement and the second in the Late Bronze Age settlement area abutting the Neolithic settlement area from the northeast. Burial 1/2016 (MAMS-31117, 6160±25 BP, BRAMS-2415, 6158±27 BP), found in the Late Neolithic part of the site, was radiocarbon-dated using Bayesian chronological modelling to the early phase of the Late Neolithic settlement, or 5128-5052 calBC (95.4% prob.), whilst burial 1/2017, found in the Late Bronze Age Settlement (two samples were taken, KIA-51802, 5966±28 BP and KIA-51805, 5991±25 BP), was dated to 4995–4863 calBC (95.4% prob.) (Marić et al. 2025,

191). Whilst it may appear that this is one intramural (early phase) and one extramural (late phase) necropolis, the early phase intramural burial position is still unclear. Radiocarbon dates of the settlement contexts of a pit dwelling found in the same trench, marked burial 1/2016, indicate that the formation of the flat part of the Late Neolithic settlement started 5065–5016 BCE (95.4% prob.), at the earliest (Marić et al. 2025, 190). This would place the early phase burial a generation or two before the construction of the pit dwelling in trench 5. Such development could imply that the impetus for the creation of the late phase necropolis outside the Late Neolithic settlement perimeter may have been the actual spread of the late phase of the Late Neolithic settlement beyond the borders of the tell.

#### Conclusion

Comparing the Sajlovo burials with known examples from other sites of the Late Neolithic Vinča period reveals some parallels with burial 2 found in Zmajevo Livnice and burial 2 from the Gornja Šuma site (Jovanović et al. 2021). The individuals from burial 2 in Zmajevo Livnice and Gornja Šuma burial 2 were buried within pit structures, and to these examples' burials 1 and 2 from Bezdan in Bački Monoštor can also be added, even though they have yet to be radiocarbon-dated. The radiocarbon date span of 5299–5099 calBC (95% prob.) for burial 2 in Zmajevo aligns perfectly with the dates from Sajlovo, identical to the AMS radiocarbon dates from Gornja Šuma found in 2007 (Jovanović et al. 2021), which would place these burials in the same chronological period.

The examples of the early Vinča period inhumation burials outside pit features, like the burial at 8.75 metres at Vinča Belo Brdo, or burials 1 and 4 from Gornja Šuma, are, whilst still intramural burials, a specific subset of finds, probably similar to the finds of inhumed individuals located between structures inside the settlement, better known and more common in the territory of the eastern LBK communities, e.g., graves 27 and 28 from Öcsöd-Kováshalom (Raczky 1987, 67). However, the chronological span of burials 1 and 4 from Gornja Šuma corresponds to the Sajlovo ones, indicating that even if such finds were not attested in Sajlovo 5, it could perhaps be due to the extensive multiperiod character of the site, which could have led to the destruction of these types of Late Neolithic graves by later habitation practices.

The positioning of the bodies, in a flexed position on their left or right side, evidenced in the Starčevo-Körös period, also continues in the early Vinča culture, supporting the idea of continuation of the burial practice established in the previous period. The occasional appearance of different body positions, like burial 3, discovered in Bezdan, Bački Monoštor, most likely represents a peculiar case rather than an alternative manner of burial positioning. A study

performed in Hungary on the burials discovered at Aszód-Papi (Siklósi 2013, 67–69) showed that the vast majority of burials contained the deceased lying on their right side (84.2%), whilst only 10.9% were lying on the left side, and merely 3.8% were found in supine position. Furthermore, this research linked supine burial with female individuals, in contrast to the male found in burial 3 in Bački Monoštor and the male burial 1/2017 from the potential extramural necropolis of Idoš Gradište, which could potentially signify a major difference between these burials and the *common* type ones. In the same study, another example, the burials found at Berettyóújfalu-Herpály, showed that the positioning of bodies on the left or right was roughly equal (Siklósi 2013, 127), suggesting that there appears not to be a dominant rite in the Late Neolithic of the Pannonian plain. However, the number of examples is still limited, and more burials would be needed before a clear rule can be extrapolated with certainty.

The practice of burial goods and offerings, for which mixed evidence exists already in the Early/Middle Neolithic Starčevo-Körös period, appears not to have become a dominant occurrence in the early part of the Late Neolithic Vinča period, at least according to the known examples, which are, admittedly, still scarce in the area of the Vinča material record. No obvious grave goods can be identified in the Sajlovo burials, and this fits into the narrative of the early/middle Neolithic burial practices, where burials in pits without grave goods are also known to exist. A study conducted in Hungary (Siklósi 2013, 69–70) on multiple Late Neolithic necropoles shows that up to a quarter of discovered burials did not contain grave goods in certain necropoles.

The available evidence suggests that the practice of pit burials within the settlement and its features, typical of the Middle Neolithic Starčevo/Körös phase and evidenced on sites like Jaričište 1, Vinča Belo Brdo, Zlatara, Rudnik Kosovski, Blagotin, Obrež baštine and Golokut-Vizić, continued uninterrupted into the early period of the Vinča culture, as can also be seen in the Sajlovo Late Neolithic burials. Such a practice can be interpreted as evidence of clear continuity of population and the burial traditions in the northwestern Balkans between the Early/Middle and the Late Neolithic Period. These traditions continued, at least according to radiocarbon dating, until the turn of the 6th millennium calBC, when extramural necropoles started to appear, such as those in Gomolava (Borić 2009, 225) and perhaps the one in Iđoš Gradište, albeit still represented by a single, supine burial (Marić et al. 2025, 194). By the first centuries of the 5th millennium BC, extramural necropoles also appear in the neighboring LBK communities (Siklósi 2013), quickly becoming the main form of burial organisation. The lack of known extramural necropoles in Serbia, particularly in its central and southern parts, is nothing but the consequence of the limited archaeological research performed on Vinča period settlements, which tends to focus on wattle and daub structures within settlements, rather than trying to identify ephemeral features outside of settlement enclosures that may or may not turn out to be inhumation burials.

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