Containers and grains: food storage and symbolism in the Central Balkans (Vinča period)

Boban Tripković

Department of Archaeology, Faculty of Philosophy, University of Belgrade, RS btripkov@f.bg.ac.rs

ABSTRACT – Since Flannery, who showed that types and locations of storage facilities provide a variety of associations for explaining social change, the economic and social role of storage has been reviewed numerous times. So far, no research pertaining to storage practice has been conducted in the Central Balkans. However, storage strategies play an important role in the agricultural history of the region. Similar, or exactly the same storage techniques have been practiced from the Early Neolithic until modern times, and even today some are practiced by traditional farming communities. Hence this article, which is intended to lay the foundations for understanding the relation between economic and social processes as reflected by storage behaviour in the Late Neolithic-Early Eneolithic in the Central Balkans region.

IZVLEČEK – Gospodarska in družbena vloga skladiščnih prostorov je bila že večkrat pregledana, odkar je Flannery pokazal, da zagotavljajo tipi in lokacije shramb raznolika združevanja za pojasnitve družbenih sprememb. Do sedaj ni bila opravljena še nobena raziskava praks skladiščenja za področje centralnega Balkana. Podobne ali celo povsem enake tehnike skladiščenja so v uporabi od zgodnjega neolitika do sodobnega časa, nekatere tehnike se še danes uporabljajo v tradicionalnih poljedelskih skupnostih. V članku nameravam postaviti temelje za razumevanje odnosov med gospodarskimi in družbenimi procesi, kot so izraženi v vedenju pri skladiščenju v poznem neolitiku – zgodnjem eneolitiku v centralni balkanski regiji.

KEY WORDS - Central Balkans; economy; grain storage; houses; social strategies

Introduction

The idea of food storage is related to the need to preserve an asset and use it when the distinctive need for it arises. The most common cases are poor harvests or general shortages. Stockbreeding or the possession of prestige items may have a similar role, reflecting the potential of a household to act within particular social/economic networks. In all cases, storage mediates between acts of production and consumption. Since Flannery, who showed that the types and locations of storage facilities provide a variety of associations for explaining social change (Flannery 1972; 2002; see also Flannery 1993), the economic and social roles of storage have been reviewed numerous times. So far, no research pertaining to storage practice has been conducted in the Central Balkans region. However, storage strategies play an important role in the agricultural history of the region. Similar, or exactly the same storage techniques have been practiced from the Early Neolithic until modern times, and even today some are practiced by traditional farming communities (*Jevtić 2011*). Hence, the idea for this article, which is intended to lay the foundations for understanding the relation between economic and social processes as reflected by storage behaviour in the Late Neolithic-Early Eneolithic in the Central Balkans.

The Late Neolithic-Early Eneolithic economy of the Central Balkans

It is universally accepted that the agricultural societies that existed between 5300-4600/4500 BC in the Central Balkans maintained high economic and technical standards, evinced by long-term settlements with elaborate architecture (Chapman 1981; Tripković 2007), intensive agriculture, possibly by means of ploughing (Chapman 1990; cf. Porčić 2010), copper mining and smelting (Jovanović 1982; Borić 2009; Radivojević et al. 2010), involvement in an intercultural exchange network (*Chapman 1981*), etc. Pottery decorated with channelled ornaments on dark fired and burnished vessels, the highly standardised production of figurines, altars and other objects (Garašanin 1979), as well as evidence of displays of personal individuality in the wearing of exotic jewellery (Dimitrijević, Trip*ković 2006*) are all parts of the same cultural pattern.



Fig. 1. Map of Starčevo and Vinča settlements mentioned in the text.

This universal view of regional Late Neolithic-Early Eneolithic conflicts somewhat with the varying physical and biological features of the Central Balkans, which argue against such a simplified view of the cultural landscape (Fig. 1). The Central Balkans, with its economic and cultural differences, was characterised throughout the late prehistoric and historic eras and to this day by many specific traditions within a regional cultural practice. Therefore, the rooted opinion that the Late Neolithic-Early Eneolithic periods were periods of elaborate domestic practices is debatable, given the inconsistency in understanding the multitude of specific local histories. For example, the latest research shows that exotic and valuable resources were not equally available to all communities. On the one hand, it is easy to identify communities like Vinča, with nearly a thousand years of agriculture, accompanied by trade in objects made of Spondylus and Glycimeris marine shells (Dimitrijević, Tripković 2003; 2006; Tripković 2006), obsidian from the Carpathian region (Tripković, Milić 2008) or Dentalia fossil beads collected from the area surrounding the settlement (Dimitrijević, Tripković, Jovanović 2010). On the other hand, many settlements in the vicinity of Vinča do not seem to have had such an elaborate social and economic system (Chapman 1981). Therefore, the existence of such diversity demands further explanation.

In recent decades, there has been a growing body of evidence regarding the occurrence of Vinča settlements in varying geographical settings (Chapman 1981; 1990; Tringham 1992). In some, a hunting based economy was predominant, as was noted in Opovo (Tringham, Brukner and Voytek 1985; Tringham et al. 1992; Russell 1993) and Petnica (Orton 2008). Other settlements show a strong dependence on domesticated plants and animals, as discovered in Divostin (McPherron and Srejović 1988). In addition, some of the long-lasting settlements, like Selevac (Tringham, Krstić 1990) and Gomolava (Orton 2008), bear witness to a gradual change in the local economy. During the earlier phases of the Selevac settlement, hunting had a very important role, whereas in later phases the use of domesticated animals became more common (Legge 1990). These changes, as stated previously, are part of a widespread tendency in the character of Vinča settlements that were transforming from more mobile into more sedentary communities (Kaiser, Voytek 1983), resulting in the emergence of the household as an autonomous socio-economic unit (Tringham, Krstić 1990).

Research aims

The variety of economic practices in the Central Balkans during the Late Neolithic-Early Eneolithic clearly indicates production, distribution, and consumption on differing scales, a trend found in the Late Neolithic in other regions. Accumulation and storage, as well as the agents between production and consumption, may connect the different levels of

the Central Balkans economy into a comprehensive picture, thus giving important answers to questions regarding social and economic practices during the 6th and 5th millennium BC. From the Early Neolithic, agricultural products in the Central Balkans were stored in pits and large ceramic vessels, as documented at many archaeological sites. More than fifty storage pits were found at Biserna obala near Nosa (Garašanin 1959; 1961). Although information regarding the character of the settlement is still pending, the fact that many of the pits were intersected indicates that storage was practiced for an extended period in the same segment of the settlement. The pits' location in an open area indicates their public character, which continued for several generations (Gara*šanin 1959*). The cases of three storage pits located in the housing area at Divostin (Bogdanović 1988), and another in the same context as querns from Zlatara (Leković 1988) suggest different storage organisation or varying rhythms of retrieving and processing stored goods.

My aim is to review storage activities in the Central Balkans during the Late Neolithic-Early Eneolithic, that is between 5300–4600/4500 calBC. The intensive production, distribution, and consumption which occurred with Vinča culture are part of a new economic and social context in which innovation and the further development of storage techniques played an important role. Therefore, it is important to understand the social contexts in which food storage occurred, as well as the levels of its reflexivity, regardless of whether meat or grains were being stored. Some of the most important questions are:

- How was the idea of storage utilised by the socially and economically diverse Vinča communities?
- Are there local and regional differences in storage techniques?
- What is the correlation between food storage and the accumulation of other goods?
- Is the role of food storage simply to ensure the survival of the group (family, household, community) or does it also play an important role in the social strategies of Vinča communities?

Attention is given to the preserved plant remains and objects which have been ethnographically identified as storage structures. To find answers to the proposed questions, one must focus on two sources. The primary source of information is long-lasting settlements, which have been extensively researched and well dated by radiometric methods. This has enabled the determination of different methods of storage, as well as its change through time. Secondary sources are the notes on storage from other excavated settlements, mainly those where an extensive research context is lacking, which are necessary to understand the role of storage in local histories.

Grain storage in the Central Balkans: the evidence

The partial understanding of plant storage in the Central Balkans is due to the relatively small number of extensively excavated sites and relatively late adoption of paleobotanical analysis in archaeological research. Respectively, evidence of storage has been limited to the macroscopically confirmed presence of cereal and legume remains (Fig. 2), as well as containers whose role has been ethnographically attested. This allows a direct association of containers with certain goods and the expansion of research regarding storage techniques to similar objects, regardless of whether any plant remains have been discovered in them. Implemented on a regional scale, this approach can provide a good result. Therefore, different storage techniques, *i.e.* storage containers such as pits, bins, and large ceramic vessels, will be used to reconstruct the relation between the economic and social processes that took place during the Late Neolithic-Early Eneolithic in the Central Balkans.

Storage pits

These are recognised by their regular, bell or cylindrical shape, and in some places it is possible to find traces of an above ground edifice. In order to sufficiently isolate the content, they were usually dug into a hard non-porous base or, when this was not the case, their sides were covered with platter and then plastered over with clay. The primary role of such pits was to store agricultural products, and occasionally they would be opened for retrieving and consuming the contents (Buttler 1936; Gronenborn 1997.435-436; Reynolds 1979). Storage pits have been noted in more or less all agricultural areas, but regional prospects in European prehistory are still rare (*Šumberova 1996*). The reason for this can be found in decades of attention to researching household contexts, but also the relatively late integration of paleobotanical analysis into archaeology. There are also additional problems in defining storage pits. Ethnography clearly states that many pits are of regular shape, some resembling siloi. In cases where they do not contain remains of stored goods, it is possible that they were used for other purposes (Gronenborn 1997; Evans 1982; Reynolds 1979). In addition, the bell or pear-shaped pits may be the result of wall erosion, where the uppermost parts of

Sites/ References	Storage pit	Granary	Clay bin	Perishable container?	Pithos	Small vessel
Banjica (Tripković 2007)				concentration of grains within house 7		
Beletinci (Chapman 1981)			grains within house 1			
Gomolava (van Zeist 1974)	grains					
Medvednjak (Galović 1975)				concentration of cereals (Triticum diccocum, Triticum aestivum, Triticum monococcum) within a house		grains – two vessels within a house
Selevac (Tringham and Stevanović 1990)	Triticum diccocum, Lens esculenta – silo A; concentration of grains – silo B	Triticum diccocum within house 7				
Stapari (Chapman 1981)					grains within house 1	
Tuzla (Baum 1958)					grains	
Valač (Tasić 1960)				concentration of grains within a house		
Vinča (Vasić 1936; Tasić, Đuričić and Lazarević 2007)				concentration of <i>Triticum diccocum</i> within house 01/06		grains within house ▼2.98/3.48

Fig. 2. Storage containers with the evidence of cereals in the Central Balkans, Late Neolithic-Early Eneolithic.

the pit would remain intact due to support from roots (Bowen, Wood 1968; Reynolds 1979).

In the Central Balkans, some regularly shaped pits contained concentrations of grains and other plants. This information was used to determine the storage purpose of these pits. Two such pits (Silo A and B) were discovered in Selevac (Tringham, Stevanović 1990). Silo A has a semi-circular base and its sides are covered with platter that was plastered over with clay (Fig. 3a). On the bottom was a 5cm layer of charcoal. The inside of the pit was filled with earth mixed with ash and carbonised grains of Triticum monococcum and Lens esculenta. On top of the fill, an anthropomorphic figurine was discovered (Tringham, Stevanović 1990.59). Silo B served a dual purpose, because a clay wall divided it (Fig. 3b). It also contained earth mixed with ash and carbonised wheat grains, with one-half of the pit containing a concentration of grains (Tringham, Stevanović 1990. 61). An unmarked pit at Gomolava provides additional evidence of grain storage (van Zeist 1974). It is

not clear whether feature 41 at Opovo, dated to the oldest phase of the settlement, was also used for storage. Feature 41 was probably comprised of two pits which were not noted as such during the excavation. The pit on the west side was plastered with clay and contained a large amount of cereals; it is assumed that it was used as a silo (*Borojević 1998.172; 2006*).

Only a small number of pits in the Central Balkans contain organic remains; however, small pits with a clay lining and the remnants of a superstructure can be added to the body of evidence. Many of these, such as the additional four or five at Selevac, have a clay lining and are interpreted as silos (*Tringham, Stevanović 1990*). There is further evidence at Banjica, with three or four storage pits in the open area from the oldest phase of the settlement, as well as five more from the later phases located inside houses (*Todorović and Cermanović 1961; Tripković 2007*); at Vinča there are five bell-shaped silos grouped in the open area dating to the oldest settlement phase (*Vasić 1936.147–148; 1948*), and also a pear-



Fig. 3. Selevac – silos A and B from 1969–1970 excavation, trench 7 (adapted after Tringham, Stevanović 1990).

shaped pit from Crkvine-Mali Borak (Živanović and Spasić 2008), which is a typical example of a storage pit (Fig. 4). In Aradac in Vojvodina, an earlier excavation uncovered two storage pits (Karapandžić 1923), while two additional ones were supposed by using a formal analogy (Tripković 2009a). Pits 3 and 5 from the same site contained pithoi which occupied the whole area of the pit (Karapan*džić 1923*). In Crna Bara, three bell-shaped pits were discovered. Two pits that contained traces of a superstructure (Garašanin, Garašanin 1957) were most probably used for storage. In the older phase of Potkućnica site, a repository with a diameter of 2.1m and depth of around 1m was noted. It was plastered with the same clay as the floor, and the trace of a post was found at its centre (Derikonjić 1996. 102, Fig. 19).

Bins

These types of storage structures were usually located inside houses. While one cannot speculate on the function of the structures without contextual data, in instances where such evidence exists, it is doubtless that they were used for storage (Bogard et al. 2009; Kalicz, Raczky 1987.19). The remains of unspecified cereals in the Central Balkans were discovered in one of the two bins located in the south side of house 1 in Beletinci (Chapman 1981). The body of evidence can be extended to other settlements as well. In the three-roomed house, 2/79, at Banjica, four-sided bins were located in the adjacent rooms next to an oven containing pithoi and fragments of pottery (Fig. 5). In one of these, a pair of bull's horns was also discovered (Todorović 1981; 2007.95). Similarly, a trapezoid bin from the central room of house 01/06 from Vinča also contained two pithoi (Tasić, Đuričić and Lazarević 2007; Vuković 2011). In houses 13, 14, 15 and 17 at Divostin, the storage bins are of varying shapes - some were empty and others contained pottery, loom weights, and flint blades (*Bogdanović 1988*). At Parţa and Uivar in Romanian Banat, bins were also a regular part of house inventories (Fig. 6). The building in trench XI at Uivar housed four containers in a row containing a stone axe blade, a turtle shell and huge storage vessels (*Schier 2006*). Similar clay bins containing carbonised cereals were found in houses P9 and P18 at Parţa. Shrines 1 and 2 at the same site housed

a few more containers, probably with a ritual function (*Lazarovici, Drasovean and Maxim 2001*).

A certain regularity can be observed regarding the location of bins; most are located in the vicinity or in the same room as the oven (Banjica, house 2/79; Divostin, houses 13, 14 and 15; Vinča, house 01/06); only in rare instances are the bins located in other rooms (Beletinci, house 1). In cases when the entrances to the houses can be identified, it is noted that the bins are located opposite the entrance, in a deeper part of the house (Banjica, kuća 2/79). In houses containing multiple bins, certain regularities can be observed, possibly of local importance. For instance, in house 1 in Beletinci, two four-sided bins were found in a lateral room which does not contain an oven, while in Divostin the bins were located in different rooms always containing an oven (Bogdano*vić 1988*). This regularity in the distribution of bins in houses at Divostin contradicts the irregularity of their shapes; they are square, triangular, trapezoid or round. Also, the bins contained ceramic vessels and other artefacts such as loom weights and flint blades, thus indicating that besides storing daily necessities, they were used to store other objects. This observation serves to remind us that the study of storage should not be limited to necessities or exotic goods; at the same time, it opens a new perspective for understanding the dynamics of domestic activities in Vinča houses. The contents of bins in Divostin houses, also house 2/79 at Banjica, clearly indicate that the house inventory can be divided into objects that were being used and deposited objects that were not being used. Among these one should look for the starting point for understanding the cyclic nature of domestic practices in Vinča houses (Tripković 2009a).

The frequent use of storage bins for storing grain or depositing objects indicates a possibility that houses where bins have not been observed had containers made of organic materials for storing goods. Namely, on the floors of some Vinča culture houses, concentrations of grains were found, and until now it has often been proposed that at least some of these were in a container made of organic material which did not survive; this includes concentrations of cereals found on the floor in the house at Medvednjak (Galović 1975), in house 7 at Banjica (Todorović and Cermanović 1961; Tripković 2007), in house 01/ 06 at Vinča (Tasić, Đuričić and Lazarević 2007) and in



Fig. 4. Crkvine-Mali Borak – storage pit (adapted after Živanović, Spasić 2008).

house at Valač (*Tasić 1960.17–18*). Also, due to the detection of a large concentration of grain in the building labelled house 7 at Selevac, it is supposed that the structure was not used for habitation, but that it was a raised floor granary.

Pithoi and other ceramic vessels

The abundant evidence regarding large volume vessels from the Late Neolithic of Central Balkans clearly indicates that storage in ceramic containers played an important role in the economic strategies of Vinča households. A functional analysis of vessels from Belo Brdo in Vinča points to a wide variety of options for the storage both of dry and liquid contents in vessels of varying sizes (Vuković 2008), indicating that the correct interpretation of ceramic containers is the key to understanding the daily routine of Vinča households. Dilemmas about the goods stored are also multiplied by numerous testimonies through prehistory and history regarding the wide variety of goods stored in them (Christakis 1999). If we wish to observe these plant remains from Central Balkans, the evidence is unfortunately rather scant. It can be narrowed down to the remains of cereals in large vessels discovered in house 1 in Stapari (Chapman 1981) and Tuzla (Baum 1958). Other larger or smaller vessels may have been used for holding cereals in certain situations, also serving as vessels with a particular function. In this context, we may mention the small vessels with grains in the house at Medvednjak (Galović 1975), as well as another example found in a sunken storage pot in house 3 at Vinča (house 3/1980 - M. Jevtić, personal com*munication*). They could have been used as measures for retrieving grain stored in the larger pithoi or bins. For this reason, small vessels of different types discovered in a storage context can be attributed to domestic practices occurring between storage and food preparation. Moreover, the recognition of vessels with organic remains and their interrelation could lead to a better understanding of the measurement systems used by Vinča culture households.

A certain variability can be observed in the size and number of storage vessels. Three roomed house in Jakovo (house 2) contained more than 20 storage vessels, some of which were used to house dried foods and others for liquids (Jovanović, Glišić 1961). Another three unit houses, like 4/75 at Gomolava (Petrović 1993), 2/79 at Banjica (Tripković 2007), and house 1 at Beletinci (Brukner 1962) also contain several pithoi. The average area of these houses is 35m². On the other hand, the large houses in Divostin whose areas vary from 40 to 100m² (Bogdanović 1988) contain only one or two pithoi (Madas 1988), thus pointing to the fact that the number of storage vessels does not correlate with the area of the house floor, respectively the size of the household group (Fig. 7). The reasons for these inconsistencies could be different local economic and social histories (Tripković 2009a).

Variability can also be observed in contexts in which pithoi have been found; some have been found inside as well as outside houses. Pithoi noted inside the house are in the same or in different rooms, mostly on the ground floor. Some are also sunk into the floor, as is evidenced in house 2 at Opovo (*Tring*- ham, Brukner and Voytek 1985). In house 2/79 at Banjica, pithoi were found in two rooms in storage bins next to the oven (Todorović 1981; 2007). Pithoi have also been recovered on the outside. It is interesting to note that in Aradac a pithos was discovered in at least one storage pit (Karapandžić 1923). The fact that pithoi can be found in different contexts, despite their dimensions, makes them convenient for understanding the dynamics of storage in Vinča culture households.



Fig. 5. Banjica – house 2/79 (after Tripković 2007).

When studying storage in pithoi, the six Divostin houses play an important role in explaining the complexity of storage behaviour in Vinča culture. Pithoi in these houses can be observed within the social context of households, thus allowing for their comparison. Each of the houses that were found contained a pithos, while houses 13, 15 and 18 contained two pithoi. They were usually located in the corner of a room, next to or opposite the oven; they were usually not decorated and some had handles. By examining the pithoi, a certain individuality in the households within the settlement can be observed. Namely, unlike other vessels which have been reduced to only a few types, no two pithoi are alike in the houses at Divostin (*Madas 1988*).

The rare occurrence of pithoi, considering the unusually large size of the houses, increases the possibility that other types of vessel were used for the same purpose. If the contents of Divostin houses are carefully observed, their inventory is comprised of large pots and bowls usually interpreted as vessels used in food preparation and consumption (*Madas* 1988). It is possible that a certain number of these large vessels were also used for food storage.

Discussion

There was a variety of storage techniques in the Central Balkans during the Late Neolithic-Early Eneolithic. In most cases, this diversity was not chronological by nature, nor a result of specific local preferences, because all of the storage techniques have been noted in different phases of Vinča culture and often in the same settlement. More probably, it was the result of the society's rational need for the planned use of stored goods, where certain types of containers were ascribed a specific function. Following this line of interpretation, in the same settlement, storage in pits, bins, and pithoi could have been practiced together, from long-term storage in pits to medium- and short-term in bins, pithoi, and other ceramic containers. This can be postulated particularly in places where a variety of storage containers have been found in the same context: in house 7 at Banjica, where in the 'deeper' rear part of the house, a storage pit (Todorović and Cermanović 1961), a concentration of cereals (in an organic container?) on the floor of the house, and pithoi (Tripković 2007) were discovered; in Divostin (Bogdanović 1988), and house 2/79 at Banjica (Tripković 2007), where storage was divided between bins and pithoi; or house 01/06 at Vinča, where bins, pithoi, and a concentration of processed cereals (Tasić, Đuričić and Lazarević 2007) were discovered. On the other hand, it is apparent that this variety is absent from other settlements. For instance, the inhabitants of Jakovo used ceramic containers for storage in their houses (Jovanović, Glišić 1961), which was also probably the case with most of the households in Gomolava (Petrović 1993). In house 2 at Jakovo, there were 22 storage vessels, and in house 4/75 at Gomolava, at least 11 storage vessels were found. Intensive production by households, and possibly, storage time scales were all represented by a large number of storage vessels of varying types, which were deposited in all three rooms of the houses (Tripković 2009a).

Based on the location of containers, it is possible to notice certain changes during the life-span of the settlement. These are evident in the gradual transformation of storage from the public to the private domain, which has been noted in more or less all the settlements (Fig. 8). Storage pits outside houses are common in the early phases of the settlement. Similar to the tradition of the Early Neolithic period, they are sometimes located in groups, suggesting that these particular parts of the settlement were used for a long period. That most of the storage pits discovered were from the early phases of settlements (Fig. 9a, b), storage outside suggests something interesting about the nature of the society that started the settlement. Follo-



Fig. 6. Building from trench XI at Uivar (after Schier 2007). 1 Large fireplace. 2 Half-tube with compartments. 3 Cassette made of thin loam walls containing an axe blade and a turtle. 4, 5 Similar cassettes. 7, 8 Broken storage vessels. 6, 9a-c Fireplaces. 10 Medieval pits.

wing Chapman's idea regarding settlement histories (*Chapman 2008*), it is highly probable that the grouped storage pits in the founding settlements, or at least in some of them, reveal the communal nature of the society. The nature of this communality pertains to the way the Vinča settlements were founded, which at present is unknown. Ethnographic research shows that the establishment of new settlements can be accomplished through a social group connected by kinship, which might have been the case in the Central Balkans. This might be further supported by the DNA analysis of 25 male individuals whose remains were discovered at Gomolava. The result of the analysis indicates that all of them belonged to a single kinship group (*Stefanović 2008*).

In the later phases of settlements, grain storage was mostly inside houses. The gradual shift from storage outside to storage inside the house happened in the Central Balkans as part of important social and economic changes. The character of these changes is reflected in a more sedentary life style, as well as intensified use of resources, especially in late Vinča culture (Kaiser, Voytek 1983). Tringham accordingly defined the move from the public to the private domain in Vinča culture as the emergence of the household as an autonomous socio-economic unit (Tringham, Krstić 1990). Yet there was no further consideration of whether, in the variety of social reproduction in the Central Balkans, the symbolism of storage may have carried a different communal connotation. There are several examples of this.

Within the occupational horizon II at Banjica, storage pits are located in the central areas of long houses. The houses covered an area of between 100-200m², and as postulated, were occupied by multifamily or extended family households (Tripković 2003). The symbolic representation of the centralised organisation system is represented by the central position of the storage pits and hearths. In this particular case, the building of long houses and the location of storage containers constitute the local cultural norm that aimed to internally homogenise or control these small 'house societies'. More or less at the same time as when the building horizon II at Banjica was occupied, some 200km to the south at Divostin near Kragujevac, there is a different example. In houses 13, 14 and 15, which had 1-2 rooms additionally built, the ovens were always placed in the old and the new parts of the house (Bogdanović 1988). During the contextual analysis of the house inventories at Divostin, additions to the houses were interpreted as part of the social reproduction process of the household, representing the spatial demarcation of the new family (Tripković 2009a; 2009b). Contrary to the houses at Banjica, where storage has a tendency to show internal order, the storage containers in the expanded buildings at Divostin reflect a more complex social message (Tripković 2009a). The pithoi, with the exception of house 13, are located in the older part of the building, reflecting the control of storage by older members of the household. On the other hand, dissatisfaction and social tensions can be observed based on the location and

form of the storage bins and ovens in the added units. They are generally located opposite their counterparts in the older part of the building; also, the storage bins have a different shape, while ovens are decorated with different motifs (*Tripković 2009a*).



Fig. 7. The pithoi in Divostin houses. Marked in red – fireplaces; marked in green – bins (made after Madas 1988 and Bogdanović 1988).

So far Opovo is the only examined Vinča culture settlement where all three building horizons provide no clear evidence supporting the change from public to private storage (Tringham, Brukner and Voytek 1985; Tringham et al. 1992). The reasons for this may lie in the economy of the settlement, which was based on wild rather than domesticated resources, while long-term storage of cereals was of less importance. Opovo is located in a marshy environment which is not conducive to intensive agriculture; only small quantities of cereals were discovered even in structures resembling storage pits, while the houses contained insignificant evidence of cereal processing (Borojević 1998; Tringham et al. 1992). Therefore, the lack of long term change in the character of grain storage can be interpreted as a result of the settlement's non-reliance on agriculture for survival; we can also accept that social status was achieved through the distribution of meat rather than the accumulation of grain (Russell 1993).

In the case of Opovo, the possibilities of a further review of storage practices in the Late Neolithic period of the Central Balkans can be expanded, because besides accumulation this aspect can be observed through the distribution and consumption of meat. Some recent ethnographic and archaeological research has shown that the accumulation of plants and distribution of meat are two opposing economic strategies (see Bogard et al. 2009). The first is directed only at the economic survival of the group, with a clear notion that storage extends the useful life of certain items, and that the benefit is clearly seen during bad harvests. On the other hand, the distribution of meat is seen strictly as an activity that ensures social status. It is usually manifested through conspicuous symbolism in the form of bucrania, carvings in stone stellae, or zoomorphic figurines. There is some evidence in the Central Balkans to further corroborate this. For instance, all of the storage containers in house 7 at Banjica are located deep inside the house (Todorović and Cermanović 1961), indicating their private and strictly economic character. An example to the contrary would be the pits from Opovo, which are filled with animal remains, indicating the practice of communal feasting (Russell 1993). However, we do not consider 'opposing strategies' as a valid term, mainly because of the reflexive nature of goods (cf. Sherratt 1999; Robb, Farr 2005) as well as 'regimes of value', which may be constantly changing (Koppytof 1986). While in some instances in the Central Balkans storage can be understood as a strictly economic strategy, there is a multitude of instances where certain types of plant had

a symbolic use. Silo A in Selevac, filled with cereals with a figurine on top, is the most obvious example. The combination of storage bins and pithoi in the building in trench XI at Uivar, which in the preliminary report was interpreted as a ritual building (Schier 2006), or grains inside a provision vessel found in a cassette within shrine 2 at Parta (Lazarovici, Draşovean and Maxim 2001.386) may be evi-



Fig. 8. Storage containers from the central Balkans in their settlement context: \bigcirc - storage on the outside; \blacksquare - storage within the houses.

dence of further expansion of research regarding containers and cereals in a symbolic context.

According to this research, it can be expected that pithoi and other large volume vessels had the most dynamic role in social strategies (which include storage). Namely, the possibility of role transformation is at its highest in pithoi. They can be used for the long-term storage of a considerable amount of material, as well as for everyday consumption. In addition, pithoi are portable, and with a little effort could be placed in any context, inside or outside a house, in a pit or above ground (on the ground level of a house or in the mezzanine). All of these contexts have been observed in the Late Neolithic-Early Eneolithic in the Central Balkans. This is best illustrated by the pithos in a storage pit at Aradac or pithoi in storage bins in house 2/79 at Banjica and house 01/ 06 at Vinča. Therefore, in certain situations, pithoi can become a political means by which social differences are hidden or accentuated.

Still, in most cases, the answers remain hidden. For instance, some pithoi were decorated and some not, as is the case at Gomolava, Jakovo, Banjica, and at other settlements. We suggest that the social role of the decorated pithoi is defined through the visual message that should not be separated from messages conveyed by other aspects of material culture. Also, in situations where there was a need to move the pithoi, there must have been some kind of mechanism to make the process easier. Probably for practical reasons, some pithoi in Vinča culture houses have handles and some do not. The examination of their positions shows that those without handles occupied a fixed position, mostly standing in the central or main room of the house, near the oven, in association with the quern. These were usually decorated. Meanwhile, pithoi with handles in all houses were undecorated and not placed in any specific position (*Tripković 2009a*). The two types of pithoi, the decorated examples without handles and undecorated ones with handles, apparently conve-



storage pits (after Vasić 1936).

yed different social messages. These messages suggest that pithoi were used in more complex ways than merely to store and preserve agricultural products.

Conclusion

The review of storage techniques from the Late Neolithic-Early Eneolithic in the Central Balkans shows that different kinds of consumable goods, as well as artefacts, could have been stored for later use. In the case of grain storage, two important facts have been discovered. The first is the complementarity of storage techniques, where pits, bins, and pithoi were used according to a different time-scale of storage, ranging from long-term to short-term. The second is the gradual movement of storage containers from public to private spaces, which can clearly be associated with social change within Vinča culture societies. In the early phases of settlements, storage facilities were located in open areas, whereas in the later stages of the settlements, goods are stored in houses in pits, bins and pithoi. Based on the examples from Banjica and Divostin, one can argue that it is essential to redefine the strictly practical role of storage containers in the household context during the Late Neolithic-Early Eneolithic in the Central Balkans. In addition, observing individual settlements, rather than attempting to find an all-encompassing definition, could provide better overall insights into storage behaviour. In the future, pithoi could play an important interpretative role, considering that they have important social and economic attributes: they could be used for long-term, intermediate, and shortterm storage, and they could be moved from one context to another.

ACKNOWLEDGEMENTS

I would like to thank Mihael Budja for the invitation to participate in the Neolithic Studies seminar. The research which forms the core of this article was financed by Ministry of Science, Republic of Serbia under the project Bioarchaeology of Ancient Europe: people, animals and plants in the prehistory of Serbia (47001).

•••

REFERENCES

BAUM M. 1958. Arheološka istraživanja Zavičajnog muzeja u Tuzli. *Starinar 7-8: 235*.

BOGAARD A., CHARLES M., C. TWISS K. C., FAIRBAIRN F., YALMAN N., FILIPOVIĆ D., DEMIRERGI G. A., ERTUĞ F., RUSSELL N. and HENECKE J. 2009 Private pantries and celebrated surplus: storing and sharing food at Neolithic Çatalhöyük, Central Anatolia. *Antiquity 83 (321): 649–668*.

BOGDANOVIĆ M. 1988. Architecture and Structural Features at Divostin. In A. McPherron and D. Srejović (eds.), *Divostin and the Neolithic of Central Serbia*. Narodni muzej – University of Pittsburgh, Kragujevac-Pittsburgh: 35–142.

BOKONYI S. 1988. The Nolithic Fauna of Divostin. In A. McPherron and D. Srejović (eds.), *Divostin and the Neolithic of Central Serbia*. Narodni muzej – University of Pitsburgh, Kragujevac – Pittsburgh: 419–446.

BORIĆ D. 2009. Absolute dating of metallurgical innovations in the Vinča Culture of the Balkans. In T. K. Kienlin and B. W. Roberts (eds.), *Metals and Societies. Studies in honour of Barbara S. Ottaway*. Universitätsforschungen zur prähistorischen Archäologie. Habelt, Bonn: 191–245. BOROJEVIĆ K. 1998. *The relations among farming practices, landownership, and social stratification in the Balkan Neolithic period*. Unpublished doctoral dissertation. Washington University in Saint Louis. Missouri.

2006. *Terra and Silva in the Pannonian Plain: Opovo Agro-gathering in the Late Neolithic*. BAR International Series, S1563. Archaeopress. Oxford.

BOWEN H. C., WOOD P. D. 1968. Experimental storage of corn underground and ist implications for Iron Age settlements. *Bulletin of the Institute of Archaeology 7: 1–14.*

BRUKNER B. 1962 Praistorijsko naselje na potezu Beletinci kod Obreža. *Rad vojvođanskih muzeja 11: 89-122*.

BUTTLER W. 1936 Pits and Pit-dwellings in Southeast Europe. *Antiquity 10: 25–36*.

CHAPMAN J. 1981. *The Vinča Culture of Southeast Europe*. BAR International Series 117. Archaeopress. Oxford.

1990. The Neolithic in the Morava – Danube area: a regional assessment of settlement pattern. In R. Tringham and D. Krstić (eds.), *Selevac: A Neolithic Village* *in Yugoslavia*. The Institute of Archaeology, University of California, Los Angeles: 13–43.

2008. Meet the ancestors: settlement histories in the Neolithic. In D. Bailey, A. Whittle and D. Hofmann (eds.), *Living Well Together? Settlement and Materiality in the Neolithic of South-East and Central Europe*. Oxbow books, Oxford: 68–80.

CHRISTAKIS K. S. 1999. Pithoi and food storage in Neopalatial Crete: a domestic perspective. *World Archaeology* 31(1): 1–20.

DERIKONJIĆ S. 1996. *Neolitske zajednice Polimlja*. Zavičajni muzej. Priboj.

DRAŞOVEAN F. 2008. The neolithic tells from Parţa and Uivar (South-west Romania). Similarities and diferences of the organization of the social space. *Analele Banatului S.N. Arheologie-Istorie XV: 19–32*.

DIMITRIJEVIĆ V., TRIPKOVIĆ B. 2003. New Spondylus Findings at Vinča – Belo Brdo: 1998–2001 Campaigns and Regional Approach to Problem. *Starinar* 54: 47–62.

2006. Spondylus and Glycymeris Bracelets: Trade Reflections at Neolithic Vinča – Belo Brdo. In M. Budja (ed.), 13th Neolithic Studies. Documenta Praehistorica 33: 1–16.

DIMITRIJEVIĆ V., TRIPKOVIĆ B. and JOVANOVIĆ G. 2010. Perle od dentalijuma – ljuštura fosilnih morskih mekušaca na nalazištu Vinča-Belo brdo. *Starinar 60: 7–18*.

EVANS C. 1982. Whether Pits be Vats: Some Further Interpretations of Subterranean Features. *Bulletin of the Institute of Archaeology 19: 171–176.*

FLANNERY K. 1972. The origins of the village as a settlement type in Mesoamerica and the Near East: A comparative study. In P. J. Ucko, R. Tringham and M. Dimbleby (eds.), *Man, Settlement and Urbanism*. Duckworth, London: 23–53.

1993. Will the Real Model Please Stand Up: Comments on Saidel's "Round House or Square?". *Journal of Mediterranean Archaeology 6 (1): 109–117*.

2002. The origins of the village revisited: from nuclear to extended households. *American Antiquity 67 (3):* 417–433.

GALOVIĆ R. 1975 Neolitska ritualna grupa iz Smederevske Palanke. *Zbornik Narodnog muzeja 8: 21–30*.

GARAŠANIN M. 1979. Centralnobalkanska zona. In A. Benac (ed.), *Praistorija jugoslavenskih zemalja*. ANU BiH, Centar za Balkanološka ispitivanja, Sarajevo: 79–212. GARAŠANIN D. 1959. Nosa – Biserna obala. Arheološki pregled 1: 9–12.

1961. Nosa – Biserna obala, praistorijsko naselje. *Starinar 11: 228–229*.

GARAŠANIN D., GARAŠANIN M. 1957. Praistorijsko naselje u Crnoj Bari. *Rad vojvođanskih muzeja 6: 199–218*.

GRONENBORN D. 1997. An Ancient Storage Pit in the SW Chad Basin, Nigeria. *Journal of Field Archaeology 24* (4): 431-439.

JEVTIĆ M. 2011. *Čuvari žita u praistoriji*. Gradski muzej Vršac – Filozofski fakultet Beograd. Vršac – Beograd.

JOVANOVIĆ B. 1982. *Rudna Glava. Najstarije rudarstvo bakra na centralnom Balkanu.* Muzej rudarstva i metalurgije i Arheološki institut. Bor-Beograd.

JOVANOVIĆ B., GLIŠIĆ J. 1961. Eneolitsko naselje na Kormadinu kod Jakova. *Starinar 11: 113–139*.

KAISER T., VOYTEK B. 1983. Sedentism and Economic Change in the Balkan Neolithic. *Journal of Anthropological Archaeology 2: 323–353*.

KALICZ N., RACZKY P. 1987. The Late Neolithic of the Tisza region: A survey of recent archaeological research. In P. Raczky (ed.), *The Late Neolithic of the Tisza region*. Szolnok County Museums, Budapest – Szolnok: 11–29.

KARAPANDŽIĆ D. Đ. 1923. Aradac. Jedan prilog preistoriji Vojvodine. *Starinar 1: 151–174*.

KOPYTOFF I. 1986. The cultural biography of things: commodization as process. In A. Appadurai (ed.), *The Soial Life of Things. Commodities in cultural perspective*. Cambridge University Press, Cambridge: 64–94.

LAZAROVICI G., DRAŞOVEAN F. and MAXIM Z. 2001. *Parta*. Museum Banaticum Temesiense. Timisoara.

LEGGE A. L. 1990. Animals, Economy and Environment. Selevac: A Neolithic Village in Yugoslavia. In R. Tringham and D. Krstić (eds.), *Selevac: A Neolithic Village in Yugoslavia*. The Institute of Archaeology, University of California, Los Angeles: 215–242.

LEKOVIĆ V. 1988. Zlatara – Ruma. In D. Srejović (ed.), *The Neolithic of Serbia. Archaeological Research 1948– 1988.* Faculty of Philosophy, Centar for Archaeological Research, Belgrade: 108–109.

MADAS D. 1988. Ceramic Vessels from the Divostin II House Floors. In A. McPherron and D. Srejović (eds.), *Divostin and the Neolithic of Central Serbia*. Narodni muzej – University of Pitsburgh, Kragujevac – Pittsburgh: 143–172. MCPHERRON A. and SREJOVIĆ D. (eds.) 1988. *Divostin and the Neolithic of Central Serbia*. Narodni muzej – University of Pitsburgh, Kragujevac – Pittsburgh.

ORTON D. 2008. *Beyond Hunting and Herding: Humans, animals, and the political economy of the Vinča period.* Unpublished doctoral dissertation. Faculty of Archaeology and Anthropology. University of Cambridge. Cambridge.

PETROVIĆ J. 1993. Keramika i alatke iz kuće 4 na Gomolavi. *Rad vojvođanskih muzeja 35: 7–26*.

PORČIĆ M. 2010. Arheologija vinčanskih kuća: teorijsko-metodološki okviri proučavanja demografije i društvene strukture. Unpublished doctoral dissertation. Department of Archaeology. Phylosofical Faculty. University of Beograd. Beograd.

RADIVOJEVIĆ M., REHREN T., PERNICKA E., SLJIVAR D., BRAUNS M. and BORIĆ D. 2010. On the origins of extractive metallurgy: new evidence from Europe. *Journal of Archaeological Science 37: 2775–2787.*

REYNOLDS P. 1979. *Iron-Age Farm. The Butser Experiment.* British Museum. London.

ROBB J., FARR HELEN R. 2005. Substances in Motion: Neolithic Mediterranean "Trade". In E. Blake and A. B. Knapp (eds.), *Archaeology of Mediterranean Prehistory*. Blackwell Publishing, Oxford: 24–45.

RUSSEL N. 1993. *Hunting, herding and feasting: Human use of animals in Neolithic Southeast Europe*. Unpublished doctoral dissertation. University of California. Berkeley.

SCHIER W. 2006. Neolithic House Building and Ritual in the Late Vinča Tell Site of Uivar, Romania. In N. Tasić and C. Grozdanov (eds.), *Homage to Milutin Garašanin*. Serbian Academy of Sciences and Arts, Macedonian Academy of Sciences and Arts, Belgrade: 325–340.

SHERRATT A. 1999 Cash-crops before cash: organic consumables and trade. In Ch. Gosden and J. Hather (eds.), *The Prehistory of Food. Appetites for change*. Routledge, London-New York: 13–34.

STEFANOVIĆ S. 2008. Late Neolithic Boys at Gomolava Cemetery (Serbia). In K. Bačvarov (ed.), *Babies Reborn: Infant/Child Burials in Pre- and Protohistory*. BAR International Series 1832, Archaeopress, Oxford: 95–99.

ŠUMBEROVA R. 1996. Neolithic Underground Storage Features. *Památky archeologické 87: 61–103*.

TASIĆ N., ĐURIČIĆ S. and LAZAREVIĆ B. 2007. Analiza konstrukcije žrvnja iz objekta 01/06 u Vinči. *Glasnik Srpskog arheološkog društva 23: 211–218*.

TASIĆ N. 1957. Praistorijsko naselje kod Valača. *Glasnik Muzeja Kosova i Metohije 2: 3-64*.

1960. Završna istraživanja na praistorijskom naselju kod Valača. *Glasnik Muzeja Kosova i Metohije 4–5:* 11–82.

TODOROVIĆ J. 1981. A recently discovered House in the Neolithic Settlement of Banjica in Belgrade. *Archaeologia Iugoslavica 18: 13–16*.

TODOROVIĆ J. and CERMANOVIĆ A. 1961. *Banjica – na-selje vinčanske kulture*. Muzej grada Beograda. Beograd.

TRINGHAM R. 1992. Life after Selevac: Why and how Neolithic Settlement is abandoned. *Balcanica 23: 133–146*.

TRINGHAM R., BRUKNER B. and VOYTEK B. 1985. The Opovo Project: a Study of Socioeconomic Change in the Balkan Neolithic. *Journal of Field Archaeology 12(4):* 425–444.

TRINGHAM R., KRSTIĆ D. 1990. Conclusion: Selevac in the Wider Context of European Prehistory. In R. Tringham and D. Krstić (eds.), *Selevac: A Neolithic Village in Yugoslavia*. The Institute of Archaeology, University of California, Los Angeles: 567–616.

TRINGHAM R., STEVANOVIĆ M. 1990. Field Research. Selevac: A Neolithic Village in Yugoslavia, In R. Tringham and D. Krstić (eds.), *Selevac: A Neolithic Village in Yugoslavia*. The Institute of Archaeology, University of California, Los Angeles: 57–213.

TRINGHAM R., BRUKNER B., KAISER T., BOROJEVIĆ K., BUKVIĆ L., ŠTELI P., RUSSELL N., STEVANOVIĆ M. and VOYTEK B. 1992. Excavation at Opovo, 1985–1987: Socioeconomic Change in the Balkan Neolithic. *Journal of Field Archaeology 19(3): 351–386*.

TRIPKOVIĆ B. 2003. *A dialogue between the household and community: a case of Banjica. Early symbolic system for communication in Southeast Europe.* BAR International Series 1139. British Archaeological Reports, Oxford: 447-457.

2004. Obsidian Deposits in the Central Balkans? Tested Against Archaeological Evidence. *Starinar 53: 163– 180*.

2006. Marine Goods in European Prehistory – A New Shell in Old Collection. *Analele Banatului, S. N., Arheologie – Istorie XIV(1): 89–102.*

2007. *Domaćinstvo i prostor u kasnom neolitu: vinčansko naselje na Banjici*. Srpsko arheološko društvo. Beograd. 2009a. *Domaćinstvo i zajednica u kasnom neolitu centralnog Balkana*. Unpublished doctoral dissertation. Department of Archaeology. Faculty of Philosophy. University of Belgrade. Belgrade.

2009b. House(hold) continuities in the Central Balkans, 5300/4600 BC. *Opuscula archaeologica 33: 7–28.*

TRIPKOVIĆ B., MILIĆ M. 2008. The Origins and Exchange of Obsidian from Vinča. *Starinar 58: 71–86*.

van ZEIST W. 1974. Ugljenisani biljni ostaci na višeslojnom nalazištu Gomolava. *Rad Vojvođanskih Muzeja 23–* 24: 5–18.

VASIĆ M. 1936. *Preistoriska Vinča 2*. Državna štamparija Kraljevine Jugoslavije. Beograd.

1948. Jonska kolonija Vinča. Zbornik filozofskog fakulteta u Beogradu 1: 77-235.

VUKOVIĆ J. 2008 *Funkcionalna analiza neolitske grnčarije centralnog Balkana – metodi, tehnike i primena.* Unpublished master dissertation. Department of Archaeology. Faculty of Philosophy. University of Belgrade. Belgrade.

2011 *Neolitska grnčarija – tehnološki i socijalni aspekti*. Unpublished doctoral dissertation, Department of Archaeology. Faculty of Philosophy. University of Belgrade. Belgrade.

ŽIVANOVIĆ A., SPASIĆ M. 2008. Vinčanski lokalitet Crkvine-Mali Borak kod Lajkovca: preliminarna razmatranja. *Glasnik Srpskog arheološkog društva 23: 189–208.*