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MONOGRÁFICO04



Algo más que galbos y cacharros. Etnoarqueología y experimentación cerámica

Something more than galbos and pots. Ethnoarchaeology and ceramic experimentation

Eva Alarcón García, Juan Jesús Padilla Fernández, Luis Arboledas Martínez y
Linda Chapon (editores)



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Late Neolithic Vinča burnished pear-shaped pots with slip marks.

3.3. FUNCTION, USE AND DISCARD VS. TYPOLOGY: NEOLITHIC POTTERY REEXAMINED*

FUNCIÓN, USO Y RECICLAJE VS. TIPOLOGÍA: REEXAMINANDO LA CERÁMICA NEOLÍTICA

Jasna Vuković¹

Abstract

Analyses of Neolithic pottery from Central Balkans revealed weaknesses in traditional classification and typologies in pottery studies, i.e. their inability to: a) infer vessel function, in contrast to use-alteration and morphological analyses; b) define dimensional classes and recognize their importance in identification of vessel function, in contrast to quantitative analyses; c) adequately explain statistical data about type frequencies as indicators of past human behavior and dynamics of assemblage formation; and d) recognize variety of pottery reuse related activities and their role in reconstruction of everyday life and formation processes.

Keywords: Neolithic Pottery, Typology, Shape, Function, Use, Ethnoarchaeology.

Resumen

Los análisis de cerámica neolítica hallada en los Balcanes Centrales siempre han estado centrados en su clasificación y estudio tipológico, olvidando: a) La función de los vasos y su relación con una forma predeterminada; b) prestar atención a su volumen y dimensiones; c) la realización de tablas estadísticas y frecuencias para observar dinámicas de comportamiento humano; y d) el reconocimiento de la existencia de diferentes usos y el importante rol que juega diariamente en la vida cotidiana de la comunidad que las utiliza.

Palabras clave: Cerámica Neolítica, Tipología, Forma, Función, Uso, Etnoarqueología.

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1. INTRODUCTION

Traditional type-variety system is, unfortunately, still predominant approach in pottery analysis of Neolithic archaeology in the Balkans. Such approach, however, meets many constraints when it comes to interpretation of past behavior, activities, social relations, as well as formation processes of pottery assemblage. It is usually based on description of vessel morphology and "evolution" of ornamental techniques in order to establish detailed chronological sequence of archaeological cultures. Aspects such as manufacture, function and use, among others, are rarely discussed; long and detailed statistical data related to frequency of certain pottery attributes without information of contexts and other relations are the only source of information about ceramics. Neolithic pottery is, therefore, still unknown, and many questions remain unanswered. What are the reasons for such situation? Why is traditional typology weak in providing comprehensive insight into pottery material? and Which methods should be introduced to reveal other aspects of pottery?

2. CLASSIFICATION AND TYPOLOGY: CONSTRAINTS AND LIMITATIONS

Scientific classification, created by the analyst, is the basic procedure for structuring archaeological data. One of its main goals is to provide better understanding between scholars through shared terminology and nomenclature. Therefore it should be expected that some sort of standardized terminology based on detailed classificatory criteria is used. Unfortunately, that is not the case. When publishing material, authors rarely discuss criteria for classification, and many of the pottery attributes remain undefined. As a consequence, universal terminology has not been developed, and confusion about basic pottery characteristics still exists (e.g. Vuković, *in press*).

Classification of vessel morphology in traditional typologies is often based on different criteria and therefore many misunderstandings arise. Bowls are never explicitly defined. The definition of bowls as "vessel having a height no more than equal to but no less than one-third of its maximum diameter" (Deal, 1998: 177) is not always applied to Neolithic vessels. Judging from the published illustrations, bowls are considered to be open vessels, but usually small in size. On the other hand, synonyms such as "činjica"

are sometimes mentioned (Garašanin, 1979). It is very hard to define this term. It seems that it refers to a group of open vessels that can be defined in the same manner as bowls, but with some differences: they are of larger dimensions, shallower than bowls and with everted rim. In definitions of morphological classes confusion is often caused by usage of terms referring to specific vessel forms common in later, i. e. historic periods, such as amphorae or pythoi. Neolithic amphorae, however, greatly differ from them. Amphorae of historical periods usually have clearly defined shapes (narrow neck, elongated body and two handles), and function of storage and transport, but Neolithic specimens have so little in common with them: they are significantly smaller, handles can be absent, walls are thin and so on. Furthermore, separate type called "amphoretta" exists; it refers to the vessels of the same shape as amphorae, but smaller in size, made of finer fabric, with thinner walls and usually with polished exterior surfaces. In the case of pythoi, situation is even more complicated. Their shape is never defined, and the basic attribute for their identification is their big size, so the function of long-term storage is presumed. In Late Neolithic Vinča pottery typologies, pythoi are of the same shape as amphorae with only one difference: they are bigger in size. In Early Neolithic typologies size is also the main criterion, but the shape is similar to hemispherical or spherical bowls. Finally, the most complicated is determination of cooking-pots. This class consists of many different morphological features and their attribution to specific class is highly impressionistic, usually based upon their rough fabric and thick walls. It should be also stressed that unclear terms such as "vase" are also used. It can be assumed that vase refers to a group of finely fashioned vessels, with painted decoration or uncommon shape, for example. It can be concluded that traditional morphological classifications of pottery are based upon heterogeneous criteria: by their shape (bowls), by analogies with later periods (amphorae), by size (pythoi), by formal properties and assumed function (cooking-pots), and by presumed attribution to the group of luxury goods (vases).

Classification should be a set (or sets) of empirical groupings established for convenience (Gifford, 1960: 346) and therefore it is not a final goal of any science, but basic procedure by which the data are structured (Rice, 1987: 275). The object of classification is to create types. There are several definitions

of types and classes in literature (for overview see Rice, 1987: 275-277), but their main characteristic is that they are abstract, i. e. ideational. Typology should be, in fact, theoretically oriented classification that is directed towards the solution of some problem or problems (Gifford, 1960: 346). These differences were not recognized in archaeology in the Balkans. Usually, the goal of pottery "analysis" is rough classification, often called "typological analysis", and problem-oriented goals are lacking. On the other hand, type-variety system is broadly used. The type-variety framework consists of broad class of ceramics defined on the basis of a small number of diagnostic traits (type); variety differs from the type in one or more minor details (Wheat *et al.*, 1958). There is a vast number of pottery types and their varieties in literature (e.g. Bogdanović, 2004; Nikolić, 2004), as well as in typologies used for pottery processing (unfortunately usually not published). The main question, however, arises: what these types and varieties tell us about people? It seems that in traditional approach pottery is considered as a static phenomenon. If pottery is considered as a dynamic feature which interacts with people and environment in many different ways, the need for completely different approach arises.

3. THE ROLE OF ETHNOARCHAEOLOGY

Pottery vessels were manufactured, used and discarded in a variety of activities and they entered into archaeological record in a variety of processes. With its main goals - to aid archaeologists in understanding archaeological material (Kramer, 1985: 77-78; Arnold, 2000: 106) and to help understand the past (Reid *et al.*, 1975), pottery ethnoarchaeology is one of main sources of information about pottery related processes and activities. There are several areas of ethnoarchaeological research that are instructive and important for Neolithic pottery studies. Use-alteration analysis, i. e. identification, distribution and frequency of use-wear traces, mostly developed during ethnoarchaeological research (e.g. Skibo, 1992; Schiffer and Skibo, 1989) applied to Neolithic ceramics greatly relativized the results of traditional classifications known from literature. Ethnoarchaeological studies of ceramic longevity, use-lives (e.g. Arnold, 1985: 155-157; DeBoer, 1974), reuse and recycling (Deal, 1998) seem to be of great importance in understanding of human behavior and formation processes of pottery assemblages.

One other aspect of ethnoarchaeological research and ethnographic data is also significant for archaeological ceramics. When it comes to morphological classification of pottery vessels, central place of traditional typologies, researcher should bear in mind that classes, or even types and varieties of shapes that he created may not have been distinguished by their producers and users. Ethnoarchaeological studies revealed one striking cross-cultural feature: terms for pottery used in traditional societies are almost always based on projected use (e.g. Arnold, 1985; Rice, 1987: 278), in contrast to majority of archaeological classes or types. It should be also stressed that attributes that archaeologists are often focused on (rim and lip variations, for example, are often criteria for definition of varieties or even types) are of minor importance to their makers and consumers (Birmingham, 1975: 372). They depend on the motor skills, experience of the potters, aesthetic expressions of the artisan, or even accident (Henrickson and MacDonald, 1983: 635), but they do not affect their primary function.

Previously, presence of inconsistent methodology of Neolithic pottery classification, weak when it comes to interpretation of processes, interactions, and activities related to pottery manipulation and use was pointed out. In order to reveal such processes and phenomena analyses of Neolithic pottery were conducted according to methods and data provided by ethnoarchaeological research. Analyzed ceramic material was excavated at Early Neolithic site of Blagotin, Central Serbia, and Late Neolithic Vinča near Belgrade.

4. FORM AND FUNCTION: TYPOLOGY VS. ACTUAL USE

Functional analyses based on use-alteration analysis, as well as analysis of metrical parameters was conducted. It revealed weaknesses in traditional shape classifications and typologies, suggesting the need for reanalysis of pottery from other Neolithic sites.

4.1. EARLY NEOLITHIC

In many traditional typologies bowls of various shapes are seldom interpreted in terms of function; when burnished or polished bowls of fine fabric

were in focus, they were often interpreted as an expression of fine craftsmanship, and therefore as some kind of luxury goods (e.g. Garašanin, 1979). Other groups of bowls were almost never mentioned. Although never explicitly discussed in literature, it is widely accepted that bowls had function of serving food and drink. Functional analysis, however, revealed completely different picture (Vuković, 2011b): bowls could have served for a wide variety of different functions. Intensive carbon deposits on interior and sooting clouds on exterior surfaces of hemispherical bowls of larger dimensions prove their function as vessels for wet-mode cooking, not used over an open fire, but slightly above it. Another activity was recognized: abraded marks on the interiors probably were caused by stirring the contents. Another group of deep unprofiled bowls shows traces of non-abrasive processes in the form of intensive, deep damages covering whole internal surfaces suggesting occurrence of chemical processes like fermentation or even brewing (e.g., Vuković, 2010, 2011b). Different kinds of use-alterations were identified on so-called fine bowls, i.e. small specimens made in fine fabric, with burnished or polished slip on one or both surfaces. Presence of carbon deposits on their interior bases suggests heating of foods in dry-mode, like parching the seeds. Surprisingly, this kind of use-wear traces does not appear on other vessel classes. The most common use-wear traces present on fine bowls are mechanical damages of different appearance and distribution. Abrasion is noted along the rims. Is caused by mechanical contact with an abrasive with higher hardness than ceramics, possibly some kind of lid. Another use-wear trace were identified on the neck, in the form of notches parallel to the rim; they may have resulted from tying up a cover made of a soft material (Vuković, 2011a, b). Both kinds of traces indicate the possibility that the vessels could have been closed, which undoubtedly indicates the storage function. Since these vessels are always small in size, we can assume that food kept in small quantities such as seeds, dried herbs, etc. was stored there. Conclusion can be drawn: Early Neolithic bowls served almost all existing functions: serving and consuming of foodstuffs, food processing without heat, cooking and long-term storage.

Large group of vessels of so-called S-profilation is often regarded as cooking-pots in traditional typologies. However, these pots seldom show use-alteration traces which indicate exposure to high heat, such

as carbon deposits, sooting clouds and oxidation discoloration. Moreover, abrasion marks are always lacking. It should be stressed that these vessels often have handles in the form of small ribs, feature that suggests possibility that they were manipulated and handled a lot. In contrast to conclusions in literature, they can not be interpreted as cooking-pots, and their storage and transport functions seem to be more certain.

Another group of burnished pear-shaped pots with slip and four handles exhibit mechanical damage on the handles, shoulder and lower parts (Plate. 1). Such marks may have been caused by tying some kind of string through the handles. Bearing in mind that these pots, without any exception have burnished slip on both sides, it can be assumed that they were used for transport and storage of liquids, probably water.

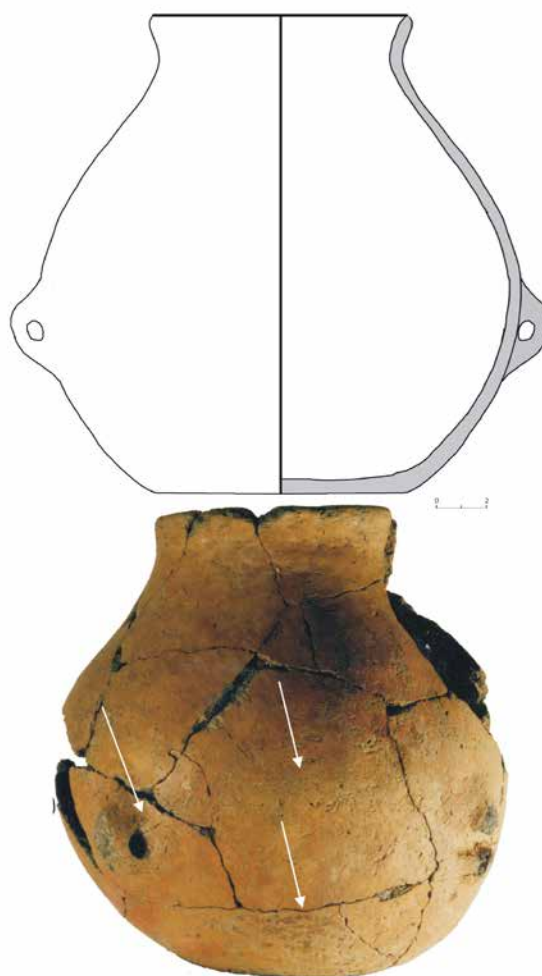


Plate 1. Late Neolithic Vinča burnished pear-shaped pots with slip marks.

It is very important to stress again that traditional typologies are highly descriptive, but they do not reveal everyday activities, especially when several different archaeological sites are compared. The best example is the case of Early Neolithic large conical bowls. They predominate in many Early Neolithic assemblages in Serbia with more than 60% of the total ceramic material. If we compare vessel shapes from two contemporary sites of Blagotin and Lepenski Vir (Perić and Nikolić, 2004) only by using typological analyses, the conclusion could be drawn that the two sites are very similar and share the same characteristics. But if we compare their functional features, important differences emerge. Blagotin conical bowls show absolute absence of use-alterations of any kind. Since their interiors have burnished slip, they were interpreted as group of vessels for short-term storage, probably of liquids, for everyday use in the household. On the other hand, almost all conical bowls from Lepenski Vir have intensive carbon deposits on the interiors and sooting clouds on the exteriors, so there is no doubt that they were used as cooking vessels. Carbon accretions on the interiors are distributed in many different ways: in a clearly distinguished zone on the lower part of the vessel; that pattern indicates dry-mode heating. On the other hand, specimens with carbon deposits on the upper part indicate wet-mode cooking. The conclusion therefore must be different. The two sites actually have no similarities, on the contrary, they are quite different in terms of everyday activities, food habits and probably even economy and subsistence strategies. It is important to stress that these differences are clearly distinguished only by functional analysis; other kinds of analyses would emphasize only their similarities. Unfortunately, for time being, no similar analyses were conducted on the assemblages from other Early Neolithic sites in the Central Balkans, and they are generally lacking in European pottery studies. They would be crucial for comparison of contemporary sites and in assessing deeper insight of everyday practices of past societies.

4.2. LATE NEOLITHIC

In case of Late Neolithic pottery, analyses conducted on more than 30 000 fragments and whole pots from Vinča revealed very interesting preliminary results. In many traditional typologies we find distinct group of pots, usually called cooking-pots. Their attribution to functional class of thermal food-processing was

usually based upon their formal properties: rough fabric with coarse-grained mineral temper and thick walls. Functional analysis revealed, however, that use-alterations caused by exposure to heat are completely lacking in this group. Some kinds of use-wear traces are, however, present. In the interior of the lower part of the pots, marks in form of surface pitting in the lower part of the vessel are common. Traces of mechanical damage are also lacking, which means that these pots were not frequently moved and manipulated. Thus, the function of cooking can be rejected, but the usage for fermentation or milk processing is highly probable.

Functional analysis of Late Neolithic ceramic assemblage revealed only one distinct group of rough pottery which stands out as a functional class for cooking (Vuković, forthcoming). It is rarely taken into detailed consideration in traditional typologies, and is often attributed to the group of conical bowls. It is a group of shallow, thick-walled unprofiled vessels of larger dimensions - usually 30 cm in diameter, with oval or circular receptacle, often with handles below the rim. Almost all specimens showed marks of use-alteration, surface accretion and mechanical damage. Inner surfaces show intensive carbon deposits on the whole interior or on a clearly distinguished zone below the rim. Abrasion marks caused by stirring the contents with utensil are lacking. Outer surfaces show sooting clouds, sometimes on the whole surface, sometimes as irregular patches of darker colour on upper vessel parts. Bottoms show heavy abrasion, which caused removal of original surface and temper. Forceful contact from 90° angle with abrader harder than ceramics causes this kind of abrasion. Such traces, therefore, could have been originated by dragging and setting down a full pot on the oven floor (Skibo, 1992: 115). Important ethnographical and ethnoarchaeological analogy for Vinča baking-pans are bread-baking pans known from the whole region of the Balkans (Đorđević, 2011). Although the differences with this kind of vessels and Vinča pans exist, the similarities are striking: not only in form and dimensions, but also regarding use-alteration traces and their distribution. Therefore, Vinča pans are the only one clearly distinguished Late Neolithic functional class vessels for baking in the ovens, probably of bread.

Other vessel forms in Vinča assemblages do not exhibit use-wear traces, except light mechanical damage. Their functional attribution is made by consideration

of certain morphological features and their archaeological contexts. So-called amphorae can be divided in two basic groups according to openness of their profiles, i.e. neck width and height; these attributes refer to types of vessel contents - solids and liquids. Amphorae with high narrow neck also have two handles, a feature that additionally determines them as vessel with function of transfer and storage of liquids, probably water. Specimens with low neck are identified as vessels with function of short-term storage (because of their openness) of food, probably grains. The only morphological feature that differs pythoi from amphorae is absence of handles. Their large dimensions, position in the houses, and contents undoubtedly determine them as vessels for long-term storage. Finally, in the contrast to Early Neolithic bowls, Vinča specimens do not exhibit any of use-wear traces, except abrasion, usually on the bottoms, caused by long period of usage. Therefore, Late Neolithic bowls were used for serving and consuming, and their multifunctionality is excluded.

5. SIZE DOES MATTER: TRADITIONAL VS. QUANTITATIVE TYPOLOGY

Pot dimensions are rarely dealt with in traditional typologies; the differences between vessels of identical shapes, but different dimensions and similarities of vessels of same dimensions, but different shapes were never taken into account. Usually, data about vessel dimensions are lacking in published papers, except vague and unusable remarks such as "small" or "large" vessel. The only one exception is typological distinction between Late Neolithic amphorae and previously mentioned amphorettae, vessels of the same shape, but different fabric and dimensions.

Dimensions are, however, of great importance. Ethnoarchaeological studies revealed that native classifications of pottery refer not only to specific function, but also to size (Rice, 1987: 278). Vessel dimensional classes, therefore, may reveal many important features: specific functions, but also some of social aspects of pottery production such as number of potters, presence of standardization, and even craft specialization. Ethnoarchaeologists have an advantage over archaeologists, since they are able to study dimensional classes of pottery according to classification made by their producers. Archaeologists have to turn to other methods, i. e. statistics. Quantitative typologies are constructed and evaluated using

statistical techniques; techniques used, types and number of variables employed in constructing typology vary depending on research goals, and specific ceramic assemblages (Sinopoli, 1991: 55). Identification of dimensional classes is possible if the valid statistical sample is present in ceramic material, and can be drawn by scatter-plot diagrams with metrical parameters (rim and shoulder diameters and height, for example) as variables. However, many authors stress that only class of small-sized pots can be easily identified; when vessels of larger dimensions are considered, grouping of variables, especially in highly fragmented assemblage, is much harder to detect (e.g. Stark, 1995).

Metrical parameters of Neolithic vessels were plotted. Results for Early Neolithic pottery showed absence of any kind of grouping. This was expected, since Early Neolithic pottery production is considered to be small-scale, part-time domestic production. Results for Late Neolithic pottery were more promising. Metrical parameters for Late Neolithic Vinča bowls were plotted, and only one dimensional bowl class stands out - bowls with rim diameter under 15 cm (Fig. 1). Another interesting conclusion can be drawn: bowls with inverted rim are generally of larger dimensions than biconical bowls with pronounced carinated shoulder; this difference in dimensions between two types indicate their different functions or maybe different potters. Metrical parameters of other functional classes such as storage vessels were also plotted, with no results. Considerable vessel fragmentation and absence of statistically valid sample of whole vessels with more metrical parameters could have caused this situation. This should not be discouraging, though; further research in this field is, however, much needed. More research on statistically valid samples could reveal many aspects of pottery production.

6. VESSEL LONGEVITY: TYPOLOGY VS. TYPE FREQUENCIES

Traditional typology approach in pottery analysis never intends to explain differences in type frequencies within ceramic assemblage. Considerably high number of one type does not mean that people in the past preferred that specific type, and that they did not know or want to make some other. It means that more specimens of one type entered into archaeological record, as a consequence of frequent breakage.

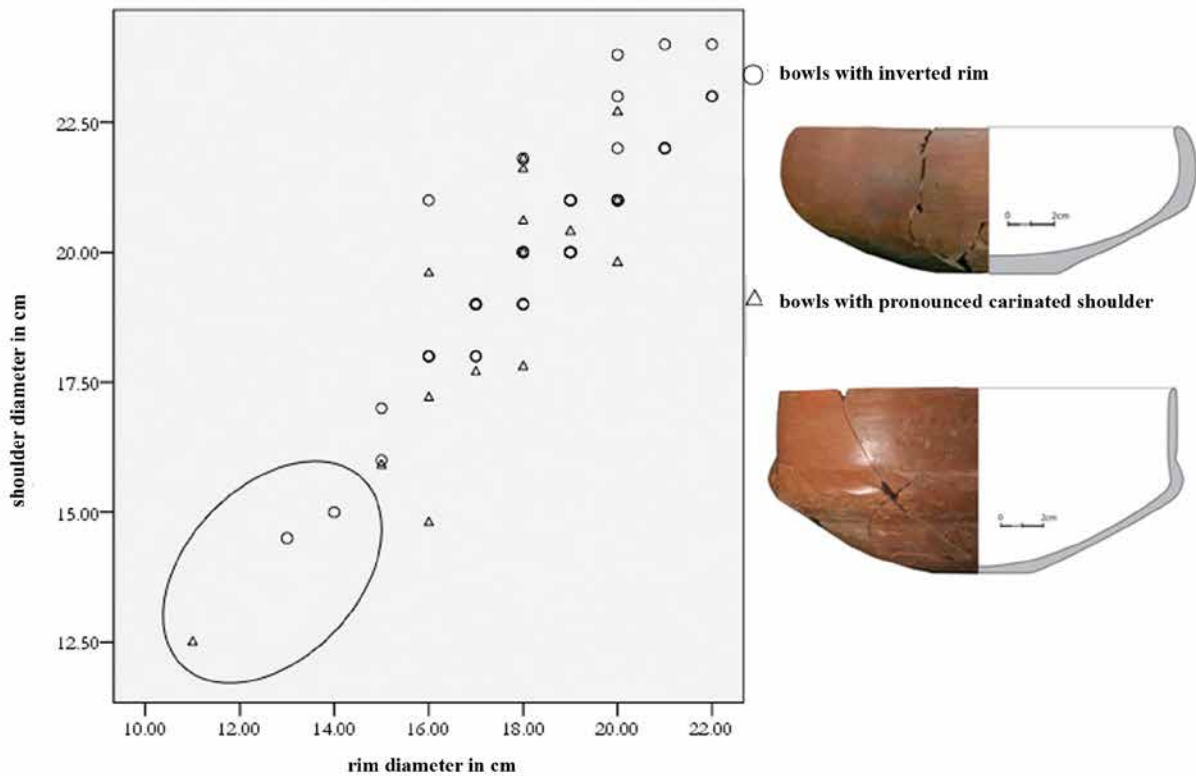


Fig. 1. Metrical parameters for Late Neolithic Vinča bowls.

In other words, importance of vessel use-lives, breakage and replacement rates and discard patterns is not recognized in traditional typology. Ceramic census data, provided by ethnoarchaeological research [Arnold, 1985: 157; Kramer, 1985: 89-92] seem to be critical for understanding ceramic assemblage formation processes and it should be noted that another important factor in vessel longevity is also frequency of use. Differences in frequencies of fine bowls in Early and Late Neolithic assemblages were interpreted in the light of their low, i. e. high use-frequency, low/high breakage and replacement rates, caused by their different functions (Vuković, 2011a).

Another example of interpretation of type frequencies is the case of previously mentioned Early Neolithic conical bowls in Blagotin assemblage. Absence of use-alteration traces lead to conclusion that they were not used as cooking vessels; burnished slip on interior surfaces suggested liquids as their contents, and rough exterior surfaces easier portability when vessel was full and wet. Their open profiles, however, exclude function of long-distance transport and long-term storage. Their high frequency in the assemblage suggests their frequent manipulation, breakage and replacement. Therefore, they are attri-

buted to a functional class of short-term storage of water, for daily activities in the household. Such attribution easily explains their high breakage and replacement rates: they were manipulated frequently and were exposed to risks of breakage, probably “stood in the way” of household members or even animals (Foster, 1960: 608). This example clearly shows that storage function does not necessarily imply static and isolated position of the vessel, but rather depends on duration of storage.

7. REUSE AND RECYCLING: WHOLE POTS VS. SHERDS

Comprehensive understanding of pottery assemblage could not be complete if the case of reuse and recycling of ceramics is not considered. Traditional typology again exhibits weaknesses in identification of such practice in past societies. Late Neolithic pottery assemblage from Vinča contains many examples of secondary use, reuse and recycling of whole pots or their sherds. These phenomena were not identified in previously conducted traditional analyses from any other Late Neolithic site of the Central Balkans. According to ethnoarchaeological data, secondary

use and recycling are very common in traditional societies, and they occur on the fragments and whole vessels with shortest use-lives (Deal, 1998). Therefore it is not surprising that bowls and their fragments from Vinča are most commonly reused. Many bowl fragments were additionally reshaped and further used as tools for thinning of the vessel walls and burnishing of the surfaces during manufacturing process; rounded edges of handle fragments belonging to pots of larger dimensions exhibit effect of fluvial abrasion, which means that these fragments stayed in water for a long periods of time, indicating their use as net weights. Finally, pottery fragments were used as a building material, especially for paving oven foundations. Therefore we have to assume that in the Neolithic settlement of Vinča specialized disposal areas of broken pottery existed, and our further efforts should concentrate on their identification. On the other hand, wide usage of pottery sherds as raw material indicates lack of other resources, mainly stone. Traditional typology rarely take into consideration "atypical" fragments. In other words, diagnostic specimens are usually selected, because they are used for shape classification, while other numerous fragments are discarded or only some group measures (such as total weight) are taken. The study of pottery reuse is, therefore, at its beginning and for time being it can only be stressed that more research in this field is needed and only future examination of varieties of reuse and recycling and related human activities (Vuković, in preparation) could shed more light in understanding certain aspects of everyday life in the past.

8. CONCLUSIONS

In this brief review, the shortcomings of the traditional typological approach in pottery analysis were examined, using Neolithic pottery of the Central Balkans as an example. It was emphasized that traditional typology based on classification of shapes reveals weaknesses in at least four vital issues in pottery studies: pottery function, identification of dimensional vessel classes, interpretation of statistical data regarding type frequencies, and recognition of variety of reuse related activities. Therefore, importance of wider perspective in pottery studies must be pointed out. Pottery function, usage, and discard patterns must be taken into consideration in order to reveal complex interactions between pottery and people in past societies.

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