POTTERY FUNCTION AND USE: A DIACHRONIC PERSPECTIVE

Edited by

Jasna Vuković and Vesna Bikić

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PREFACE

International meetings of pottery experts, even though pottery is the most numerous material found during excavations, are surprisingly rare. Except for large conferences, for instance meetings of the European Association of Archaeologists, with the possibility of organizing themed sessions, the existing conferences dedicated exclusively to pottery are focused on a specific field of research, such as archaeometry, or are limited to a specific period. This is why we came up with the idea of establishing an international conference specializing in archaeological pottery, with the main goal of bringing together researchers dealing with different periods and geographical areas, and originating from different research traditions. We strongly felt that, for instance, medieval experts share similar research doubts and difficulties as prehistoric archaeologists and that all of us eventually use similar methodologies, ask similar research questions and, consequently, can potentially learn a lot from each other. Therefore, the *BECAP – Belgrade Conference of Archaeological Pottery* was established as a biennial, themed conference, with minutely formulated topics aimed at pottery specialists, regardless of their cultural/chronological preferences.

The first meeting, entitled *Pots in context: Vessels' use, function, and consumption, research strategies, and methodology,* was planned for May 2020. We wish to express our gratitude to our colleagues, the members of the Scientific Committee of the Conference, who were very enthusiastic about the conference and took an active role in evaluating all the submitted abstracts. The global outbreak of COVID-19, however, heavily impacted all aspects of life and, as a consequence, challenged scientific practice as well. Like many other conferences, the BECAP meeting was postponed and was held online several months later, in February 2021: 45 participants from 16 countries were presenting, while many researchers from Europe took part in a range of fruitful discussions. Adjusting to the new pandemic situation and the necessity for remote communication, as many fellow archaeologists experienced themselves, however, revealed some positive sides. The BECAP meeting was live-streamed on YouTube, and it turned out that several hundred people watched it live and later via the BECAP channel. We are grateful to all participants and colleagues who served as moderators for the conference, for making it dynamic, interesting and engaging, both for us and the audience.

The present edited volume encompasses some of the papers presented at the meeting held in 2021. It is the first book examining pottery use and function diachronically in this part of the world: different theoretical perspectives and methodological approaches, and several case studies, we believe, enable a more thorough understanding of pottery and raise new questions and research challenges. The book is organized into several sections. The introductory chapters consider the state of research and methods for use-wear analysis, with valuable methodological guidelines, and the importance of the contribution of experimental archaeology (Forte), whilst also presenting an overview of current knowledge related to pottery function in the Balkans (Vuković and Bikić). The first section of the book is dedicated to analyses of actual use of pots, culinary practices, and secondary use. A combination of analyses of vessel morphology/typology and use-alterations, use-modes of Early Neolithic Starčevo, Serbia (Burke), Early Iron Age, France (Philippe) and Late Bronze – Early Iron Age, Latvia (Visocka) pottery were explored. The usage of basin-covers during the Late Antique period and the Early Middle Ages in Italy reveals a long tradition of baking bread in a specific way (Gelichi), while food habits in Ottoman Buda, Hungary, are explored by examining written sources, archaeozoological and macrobotanical evidence and pottery analyses (Kollath). Ceramic containers used in the process of iron smelting and tar production in medieval Poland (Błoński et al.), and secondary use of pots for illumination in medieval Bulgaria (Manolova) reveal some of the non-food related activities involving pottery. The relations between technology and production, and pottery use are explored in the second section: morphometric data revealing standardization, and formal attributes combined with the analysis of use-wear traces were used to assess the function of one class of bowls in Late Neolithic Serbia (Svilar). The importance of vessel volumes is also stressed: based on the results of capacity data analysis, the interrelationship between size and function was explored for the medieval assemblage from Bulgaria (Koleva) and, additionally, users' group sizes for the Neolithic assemblages from Grat Hungarian Plain were established (Füzesi). The third section is dedicated to various research related to contextual, spatial, and chronological analyses and function. The notion of functional assemblages and their contents was explored in the cases of Cucuteni-Tripolye sites from the Prut-Dniester interfluve (Palaguta, Starkova); a methodological contribution focused on analyses of stratigraphy and pottery from Late Antique Greece sites reveals how possible errors in interpretation may emerge if the investigation is conducted only by using a typological approach (Petridis); the analysis of formal properties, chronology, and establishing regional groups of medieval cauldrons of the

Great Plain of the Carpathian Basin are presented (Takács). Finally, prof. Skibo reconsiders the significance of the "ugly" cooking-pot as an innovation, and reexamines the reasons of devaluing such important technology in archaeology.

We would like to thank all the contributors for their interesting articles, for their patience during the review process, and for fulfilling our, the editors', very demanding requests. We would also like to thank the reviewers, who promptly and meticulously read the papers and offered their suggestions. Our gratitude is extended to our institutions, the Faculty of Philosophy, University of Belgrade, and the Institute of Archaeology, for supporting us, and enabling funding for this book. Finally, we would like to express our special thanks and appreciation to Professor James Skibo for his support and promotion of the BECAP conference.

Jasna Vuković and Vesna Bikić

POTTERY FUNCTION IN THE ARCHAEOLOGY OF THE CONTINENTAL BALKANS: AN OVERVIEW

Jasna Vuković and Vesna Bikić

Introduction

Pottery function and use are one of the most complex issues in pottery studies because they comprise the study of different interactions, behaviors, and activities related to ceramic vessels. In the early days of archaeology as a discipline, pottery studies were focused on the classification of pots and the establishment of sequences to understand chronological and spatial relations between pottery groups, as the most prominent markers of archaeological cultures. Therefore, pottery usage did not attract attention as an important segment of research, except in the early days of American archaeology: in the pioneering attempts of pottery classification, evidence of use, such as layers of soot suggesting cooking, were taken into account (Nelson 1916). Apart from sporadic considerations about function, it was not until the '80s that studies of pottery function achieved full recognition. It seems that stressing an obvious fact – that the pots are tools (Braun 1983), designed to be used (Skibo 2013, 27), was necessary to bring about a shift in considerations about pottery. With the seminal works of D. Hally (1983a,b, 1986), and especially of J. Skibo and M. Schiffer (Schiffer and Skibo 1987, 1989, 2008; Skibo 1992, 2013; Skibo and Blinman 1995), examination of pottery function was theoretically grounded, and its methods were fully established, including experimental and ethnoarchaeological research.

In the study of pottery function and use, making a division between two aspects of function – intended and actual use, is of great importance, especially because focused studies aimed exclusively on pottery function are still rare. Intended function refers to the technical choices potters make

related to function (Skibo and Schiffer 2008, 18; Skibo 1992, 35-37; 2013, 27) or, in other words, the determination of the suitability of ceramic vessels for specific functions depending on their performance characteristics. These are defined as the "behavioral capabilities that an artifact possess to fulfill its functions in a specific activity" (Schiffer and Skibo 1987, 599), or as the ability of a vessel "to do certain things" (Hally 1986, 268), and they are mostly related to resistivity to mechanical and thermal stresses during use. These mechanical and physical properties depend on vessels' formal attributes, usually recorded during pottery data processing: fabric, surface treatments and decoration, wall thickness, and shape.

The significance of shapes was early recognized as important for the considerations about function (Linton 1944; cf. Hally 1983b). Some of the performance characteristics are exclusively connected with vessel forms: capacity (Smith 1985, 273, table 11.2), stability, ease of access, and transportability (Shepard 1956, 237; Rice 1987, 225), among others. Contours of the vessels' walls also affect performance, especially its thermal properties: for example, the presence of a low neck – constriction – reduces evaporation and prevents boiling over, and is, therefore, suitable for simmering for longer periods (Smith 1985; Rice 1987, 240; cf. Vuković 2019a) in contrast to open pots, suitable for boiling. Metric parameters (height, volume, and rim, shoulder and base radii) and different indexes – calculated ratios between some of the metric parameters – were also examined as important indicators of suitability for specific functions (Smith 1985; Hally 1986). Besides the fact that indexes enable strong empirical data, their numerical values are especially useful for comparative analyses of different assemblages or vessel classes.

The potential function or suitability of a vessel for a specific function does not reveal how the vessels were actually used. The actual function refers not only to traces of use – use alterations (use-wear and surface accretions), but also to use-related activities, and it is based on the identification of traces and the examination of their distribution and frequency (Skibo 1992; 2013; for an overview, see Forte, this volume). Considerations of some kinds of surface attrition, i.e. mechanical damage, are also useful for the identification of re-use and extended use of pots.

The analyses of function, including ethnoarchaeological research, were first developed to primarily understand prehistoric pottery. In contrast to assemblages from prehistoric sites, considerations about pottery function within the ceramic assemblages from the historical periods are quite rare. Due to many primary sources, which contain data on vessel types and their use, the course of ceramic studies was mainly based on issues of typology, production centers, especially in the case of fine wares,

and chronology, both of individual types and whole assemblages. Therefore, the issues of function were approached primarily from the aspect of formal attributes and morphology. Along with the shape and wall curvature, much attention was paid to the fabric, i.e. the types of inclusions, and thickness of the vessel walls, as clear indicators of their function.

Among the pottery assemblages from historical periods, namely, the Classical era, use-wear analyses were sporadically done. In this regard, Margaret Ward's (1993) functional analysis of *terra sigillata* (Samian ware) from the Roman fort at Piercebridge (United Kingdom) is rather representative. The Samian ware collection revealed evidence of frequent and extended use, most probably in a process of mixing ingredients (spices), based on the presence of heavy abrasion on the bases and walls (Ward 1993, 19; Peña 2007, 60, Fig. 4.2). The function of Batavian hand-made pottery in the Roman military context of the Augustan castrum in Nijmegen (Netherlands) was also examined (Stoffels 2009, 147-149). Based on the presence of soot and secondary burning, it was established that these pots had actually been used as cooking pots. The presence of two other functional groups (tableware and storage), and the spatial distribution of vessels, suggest the usage of locally made pottery for cooking, presumably to fulfill the eating habits of the native Batavian auxiliary soldiers in the Roman fort (Stoffels 2009, 153). On the other hand, P. Arthur (2007b) examined cooking-pot types in relation to food resources, including archaeozoological and archaeobotanical remains, to determine the distribution and application of different cooking techniques in the centuries between Late Antiquity and the Early Middle Ages. He put forward an interesting thesis that a change in cooking pots, from predominantly closed with flat bases to predominantly open forms with convex bases, should be seen as a consequence not only of regionally available meat, cereals, and vegetables but also migrations of people, that is, a culture of food preparation and cooking habits. A similar assumption was made in the case of tableware, primarily African Red Slip ware, which changed in terms of size and typology during the same period. However, the use of ceramic vessels in historic sources, i.e. old cooking texts, challenges Arthur's model due to a different nomenclature, primarily when it comes to the function of *olla* and *caccabus* (Donelly 2015, 143–144). On the other hand, during the 5th and 6th centuries, a decrease in the variety of pottery types, i.e. profiles and sizes (volumes), was recorded. This was largely due to the economic regression and the disappearance of large-scale pottery production (Arthur 2007a, 164-165). This phenomenon, clearly visible in the archaeological record, coincides with the data in the texts. Nevertheless, Arthur's model showed that cooking pots can be evidence of cultural (gastronomic) boundaries in antiquity, although due to the unreliability of

his conclusions, it was suggested that other methods should be included, primarily analyses of use-alterations and residue analyses (Arthur 2007b, 146). Concerning the modes of cooking in late antique pottery, according to the distribution of sooting clouds, it was assumed that pots with rounded bottoms were probably placed on some kind of metal base, trivet, or grid that allowed equal heat distribution, while closed, flat-based cooking-pots were placed by the fire and in front of the hearth or stove; their thin walls allowed heat to be distributed more evenly on one side without constant mixing (Vroom 2008, 299–301, Figs. 13,15). In contrast, late medieval cooking-pots, glazed as well as unglazed, exhibit visible sooting clouds on the outside. Although it was suggested that they were placed directly in the fire (Vroom 2004, 286), these use-accretions rather indicate the position of the pot at a distance from the heat source.

In early medieval archaeology, the need to examine pottery from the aspect of use was first recognized in the research of the old Slavic settlements. Excavations in Central Europe in the 1970s and '80s yielded, among other things, large ceramic assemblages containing whole vessels. They provided a deeper insight into the technological style, but also the use of pottery in the early Middle Ages. One of the best examples is the site of Březno near Louny (Czech Republic), a Slavic settlement dated to the 9th century. Relying on ethnographic studies, an extensive experiment focused on building old Slavic huts and living in them, including food preparation, was conducted (Pleinerová 1986; Pleinerová and Neustupny 1987). The research revealed that the pots were placed in front of the oven opening because of the need for frequent stirring; therefore, half of the cooking pot was exposed to open fire. Additionally, the correlation between mode of use of certain oven types, cooking technique, and the form and size of the vessels was established (Curta 2001, 286, 289–290), revealing some aspects of the household organization of old Slavic communities.

Finally, secondary use, reuse, and recycling are important parts of the artifacts' life cycles (Schiffer 1987, 13-15, 271) or use-lives. Reuse – a change in the user or use or form of an artifact following its initial use (Schiffer 1987, 28), or use of an object in a secondary context when it can no longer serve its original function (Deal and Hagstrum 1995, 111), are an important part of dynamic interactions between people and pottery, as well as an important aspect of formation processes. Recycling – the return of the artifact to the manufacturing process (Schiffer 1987, 28-32), in the case of pottery needed to be redefined, and it was proposed that recycling should refer to the usage of fragments of pots, as tools, building material, or raw material (Vuković 2015). Important ethnoarchaeological research (Deal 1998) revealed the complexity of ceramic vessels' use-lives, but these issues were more rarely examined on pottery revealed from archaeological

contexts (for example Sullivan 1989). The usage of ceramic sherds as tools attracted some more attention in the research of archeological assemblages (López Varela et al. 2002; Van Gijn and Hofman 2008). An extremely important contribution regarding these stages of vessels' use-lives was made by T. Peña (2007), who examined numerous secondary uses of Roman amphorae, including their reuse in burial customs, and the recycling of their fragments (props for cooking vessels, tools, gaming pieces, weights, etc.).

The issue of extended use is usually connected with repairs of the pots. The most frequent ways of mending ceramic vessels were making perforations along the breakage, and tying together the vessels' fragments with some kind of string, rope, and even with metal wire (Dooijes and Nieuwenhuyse 2007, 2009). Roman *terra sigillata*, for example, was often repaired with rivets and staples (Ward 1993, 19–20), while amphorae were mended using the hole and clamp technique with the use of lead (Peña 2007, 237–249) or by filling the cracks with wax, resin, gypsum, crushed ceramics or glass, using animal glue, beeswax, or pine resin as adhesives (e.g. 213-215). The repairing of pots was usually connected to their high value, and a statistical method, the so-called frequency-of-mending (FreqMend), describing the frequency of repair per pottery type, was developed (Senior 1995). This is why analyses of secondary use, reuse, and extended use reveal a deeper insight into lifestyles and common practices of communities of the past.

Studies of pottery function in the Balkans

Although the considerations about pottery function and use from different perspectives became one of the inevitable parts of pottery studies in the West, conducted to understand various aspects of everyday life in the past, the analyses of pottery in the archaeology of the Balkans were understood differently for a long time. Primarily, because of the strong roots of the culture-historical approach to archaeology, the main concerns of the researchers until recently were traditional stylistic and typological considerations conducted exclusively to establish relative chronological divisions. This approach was, and still is, especially strong in the field of prehistoric archaeology, where pottery was seen almost as a separate organism that existed completely independently from human decisions and actions (cf. Vuković 2013a). Consequently, the technological process of pottery-making, pottery use, and discard were not taken into account or were taken for granted. Considerations about the function of pottery from historical periods are also lacking, partly because of the same reasons. Additionally,

due to the common belief that historical written sources (as well as pieces of art such as frescoes) provide indisputable data, while ethnography brings forth secure analogies, use and function were omitted from the research, probably as an unnecessary effort concerning quite "obvious" practices. Although data on fabric, wall thickness, capacity, recipient shape, profile (curvature), and other attributes can often be found, analyses were conducted with the goals of understanding production features and establishing the chronology of the assemblages, rather than identifying vessels' uses in the processes of food preparation and cooking. Nevertheless, it would be too much to claim that use and function are completely absent from pottery analyses, especially in recent years, because researchers have recognized the need for a more detailed understanding of pottery. Bearing in mind that it is not possible to list all mentions of pottery use and function, in the following text main trends and issues will be summarized[1].

Intended function: Formal attributes related to performance characteristics

Given that formal attributes of pottery (fabric, surface treatments, shape and wall thickness) are an inevitable part of the methodology of pottery processing, it is not surprising that considerations about function are mostly related to these pottery features. The relations between fabric and surface treatments and intended function are the most numerous and, especially recently, are combined with archaeometric analyses. The performance characteristics such as abrasion, impact, thermal shock resistance, and heating effectiveness/conductivity were connected with fabrics and surface treatments in the case of Neolithic Cucuteni (Bodi and Solcan 2009), Gumelnița (Ignat et al. 2013), Eneolithic Vučedol (Miloglav 2016, 162-171), Krivodol-Sălcuța-Bubanj in north-western Bulgaria (Merkyte 2005, 84), eastern Romanian Middle Bronze Age Costișa (Drob et al. 2021) cultures, among others, suggesting potential functions such as thermal food processing, solid/liquid storage, serving/consumption, and transport. The choice of adding organic temper, namely chaff, of Early Neolithic Starčevo (Central Balkans) potters was explained as the need for lightweight pots, despite their poor performance during cooking, thus making transportability the most desirable requirement, suggesting a partly mobile lifestyle (Vuković 2019). Surface treatments were also

1 The main concern of this paper is the archaeological analysis of pottery function. Therefore, archaeometric lipid analyses, conducted on many assemblages, are omitted from these considerations.

examined in relation to permeability, thermal shock resistance, and other important performance characteristics.

The issue of the textured surfaces of prehistoric pottery must be emphasized. They were examined in a few cases, bringing into question techniques, especially barbotine, traditionally regarded as decorative. The advantages of barbotine for cooking and handling/holding were determined both for Early Neolithic (Vuković 2013a, 2019a) and Eneolithic pottery (Miloglav 2016, 162-163); these observations made this technique to be regarded as a kind of surface roughening instead of a method of ornament execution. In the case of Starčevo pottery, impresso-ornaments were also regarded primarily as a form of surface roughening. Other techniques traditionally regarded as decorative were brought into question as well. Applied bands on the vessels of the Late Bronze Age, as research revealed, did not only have a decorative, but also a functional role, and were intended for handling the vessel (Karavanić and Kudelić 2019, 98).

The relation between surface treatment and performance characteristics is particularly apparent in the case of glazed pottery. Although known since more ancient times, glazing technology was widely accepted in Late Antiquity, as well as in later periods, during the Middle Ages, when it was applied to all ceramic types (Peacock 1982, 63–65; Cvjetićanin 2006; Arthur 2007a, 176–178). Functionally, glaze increases liquid impermeability, acid resistance, and facilitates vessel cleaning (Rye 1980, 44). Moreover, it significantly affects other performances, especially thermal properties, important for cooking pots, thus resulting in the absence of use-alterations, which will be discussed in the following text.

Considerations about shapes and sizes are usually related to existing typologies for pottery processing, based on morphology as a hierarchically dominant feature. One of the first investigations was conducted on the assemblage from the Late Neolithic site of Divostin, Central Serbia (Madas 1988). The analysis was based on the examination of shapes and sizes of the vessels and their position on the house floors, and several main categories were established, although not elaborated in detail: solid and liquid storage, food preparation, and food consumption. Even though the classification was made according to the pots' potential function, the criteria for such a division are not particularly clear, especially because vessels of the same shape can be found in different categories – cooking and storage. According to the large sizes and large quantities of vessels for food preparation, it was concluded, without further elaboration, that sources of foods were stable, and this stability was associated with cattle breeding.

Recently, only a few studies have been focused on intended function, based on features related to shape. The assemblage from the Eneolithic site of Maharski Prekop in Ljubljansko Barje (Slovenia) was subjected to analyses of morphometric parameters (including sizes) and related performance characteristics (stability and accessibility), and five functional groups were established (individual consumption of liquids, individual consumption, group serving vessels, food preparation/thermal processing, and storage) (Mlekuž et al. 2012). Organic residue analyses confirmed previously established groups, but mostly in the group of medium-sized vessels, indicating that cooking at the site was conducted on a small scale, for small groups, although cooking of large quantities occasionally took place. Morphological features along with calculated indexes (ratios between metric parameters) were analyzed on the assemblage from the Early Neolithic site of Blagotin, Central Serbia (Vuković 2019a). The metric (rim diameter, volume, wall thickness, orifice constriction values, and stability indexes) and shape (curvature of the walls and presence of handles) parameters were examined and associated with performance characteristics (ease of access to the contents, vessel stability, thermal shock resistance, thermal conductivity, and empty/full weight), and, subsequently, with potential function (storage of solids/liquids and suitability for thermal food processing). Similar analyses were conducted on the assemblage from the Late Bronze Age site of Kalnik-Igrišče, north-western Croatia (Karavanić and Kudelić 2019, 97-98): along with ease of access and stability, the transportability of pots was also considered. Capacities were calculated, and the author observed regularities and grouping by size. According to the sizes, vessels for short/long-term storage of solids and liquids and transport were distinguished. The estimations on population size and the quantity of commodities used per person were calculated based on vessels' capacities for the Bronze Age hillfort Monkodonja (Croatia) (Hellmuth Kramberger 2017, 305–318). Along with analyses of spatial distribution of the pots, these pointed to the importance of this fortified site as a central community within a larger settlement system and implied a special social organization oriented towards management, storage, protection, and distribution of different commodities. The development of methods for calculation of vessels' capacities is also worth mentioning (Vinazza 2019).

The suitability of certain shapes for specific functions was considered for the Late Eneolithic Vučedol pottery, from eastern Croatia (Miloglav 2016, 162-171): the curvature of S-profiled vessels enabled them to withstand thermal shock during cooking, the presence of handles enabled hanging over the fire and easy handling, and large rim diameter facilitated ease of access during cooking; the *omphalos*-base of the bowls made these

vessels ergonomically suitable for holding in one hand, but also made them suitable for scooping from a larger vessel.

The morphometric approach, established on the early medieval material from Slovakia and the Czech Republic (cf. Vlkolinská 1994, 1995; Fusek 1995), was sporadically applied to pottery belonging to the Middle Ages in the Balkans. The formula for calculating various ratios on a complete pot is based, for the most part, on two parameters: the ratio between the base and the neck of the vessel (with intervals 0.50-0.65, 0.66-0.83, 0.84-1.10) and the ratio between the vessel's body and its height (from 0.52 to 1.50). It was most commonly used as a tool for differentiating typological groups (pot, lid, bowl and pot-like beaker) and their variants, depending on the wall contours to determine the manufacturing techniques and changes in curvature during the early medieval centuries, while the definition of their function remained unclear (Sekelj Ivančan 2001, 69–87; 2010, 103–137). Therefore, despite the importance of this analysis for understanding production styles, some of the issues regarding function are still open, especially those related to the use of medium and small pots, and particularly the usage of medium-sized pots that had been multifunctional.

The identification of dimensional classes of vessels proved to be important for the pottery of the Middle Ages. Three sizes of the pots of the same shape from medieval Belgrade enabled their functional determination: pots of large sizes were used for storage, middle-sized specimens for food preparation, while pots of small sizes were used for food serving and consumption (Bikić 1994, 31). A step further in these considerations is the analysis of size/use classes of pots from the Nova Tabla site (Pavlovič 2017). The spatial distribution and occurrence of pots of different (and the same) size/use classes was taken as an indicator of the relative chronology of residential structures and also of their function. However, since the function of the pots was not considered accordingly, the question of the function of the structures remained unresolved.

In the archaeology of the continental Balkans, especially related to later prehistoric periods, it is common that specific classes within the assemblages attract the attention of researchers. Late Neolithic Vinča tricolored, black-topped vessels, known from many sites, represent one of the most attractive pieces of pottery, yet the issue of their function was completely neglected. Recently, it was argued, however, that, due to extremely complex technological requirements, as well as their low quantities, and traces of curation and mending, they were considered valuable and, therefore, their function was not simply utilitarian. Rather, they had a symbolic meaning or were prestigious or status objects related to ritual

or ceremonial practices (Vuković 2019b). The use of so-called Baden cups was also a topic of a separate study (Spasić 2010). These are small vessels with one strap handle surmounting the rim, belonging to the so-called Baden culture of the Late Eneolithic. There is no doubt that the majority of Baden cups were vessels used for serving and drinking: besides the shape and the presence of one handle, their small capacities, absence of any traces of exposure to heat, and high breakage rates as a consequence of frequent handling, typical for serving vessels, additionally support this attribution. Noting the fact that cups are extremely rare, or even non-existent in previous periods, M. Spasić stresses that the presence of cups implies radical changes in social relations, i.e. beginnings of social complexity and strengthening of individuality, suggesting their usage in communal feasts. He argues that the Baden cups were used for milk consumption[2], although the possibility of alcoholic drinks is not fully excluded.

Cups belonging to another Late Eneolithic, Kostolac culture, represent another pottery functional class whose unique shape points to a specific function, however, its function or use mode so far has not been taken into account. Their unique morphology – pointed or flat bottom, the small size of the receptacle, and oversized, extremely high handle surmounting the rim was not recognized as functionally significant, but to have had a visual, decorative role (Nikolić 2000, 50). Although this morphological type is known as a "cup", its morphology suggests a completely different function. The pointed base rules out the possibility that the vessel could stand on its own, the small size of the receptacle implies relatively small quantities of the content (possibly valuable), while an extremely high handle excludes the possibility of holding the cup while drinking. On the contrary, these features rather indicate its usage as a ladle-like implement, used for scooping content, most probably liquid, from a (possibly) deep storage vessel. These vessels could have been connected with alcoholic beverages, although not as vessels for serving and/or individual consumption of drinks, but for ladling beverages out of storage containers. A similar function, as measuring cups or scoops, was proposed for Baden cups with rounded bottoms (Spasić 2010, 35). Concerning the handles, their sudden "flourishing" during the Eneolithic did not attract the attention of many researchers. Examining pottery from the site of Lĭga (NW Bulgaria), the enormous usage of handles during the Krivodol-Sălcuța-Bubanj sequence was brought into question (Merkyte 2005, 83). Bearing in mind that their forming represents an additional step in the manufacturing process and that they are not economic in relation to space usage, it was argued that

2 This hypothesis relies on the results of lipid analyses, which confirmed that the Copper Age Baden and Boleraz cups contained lactolipids (Craig et al. 2003).

their usage must be explained as behaviorally conditioned. The numerous vessels with handles reflect changed ideas on space and furniture usage (vessels were being kept hanging instead of standing on floors or shelves), but more importantly, handles indicate higher transportability, suggesting increased population mobility.

Considerations about a special group of vessels were also focused on so-called sauceboats of Coțofeni and Baden cultures: elongated vessels with round bottoms, a flared spout, and a handle (Popa 2016). The term was brought into question because the vessels were named after the modern-day vessels used for serving sauces, and this probably was not the function of prehistoric specimens. Similar to Spasić's interpretation of Baden cups, these vessels were connected to prestigious goods and the elite status of their users. Although the author considers drinking alcohol and its association with symbolic values, complex social relations, and the construction of social identity, the issue of the sauceboats' function remains open.

A common practice in Balkan archaeology – the use of inadequate terminology, which, to a great extent, affects considerations about function, must also be stressed. In prehistoric archaeology, it is common to use terms "borrowed" from later periods, such as *kantharos* or *kylix*. This is especially the case with amphorae and pythoi. Prehistoric vessels named amphorae, in fact, differ in many characteristics from their "role-models" from ancient Greece or Rome: they are of medium sizes, they lack handles, and they were used for storage, not for transport (Vuković 2017a, 60; 2018). Contrary to the debate in the literature concerning the usage of terms connected with Classical era vessels, however, Late Bronze Age amphorae in modern-day Bulgaria were interpreted as vessels for transport (Nenova 2018, 170). In this case, it does not imply trade, but rather the transport of commodities (namely liquid content) along with population movement. At the same time, some of the amphorae are also interpreted as display pots – "table amphorae", with the function of pouring liquids (e.g. 171). The discrepancies between widely accepted nomenclatures/terms and the function of the pots, therefore, result in significant confusion regarding the vessels' function.

Finally, possible non-food usages of pots have been considered only in a few cases. Recently, Late Neolithic shallow vessels, usually called pans, bearing a massive strap handle on the inner base were identified on the site of Kovačke Njive, in southern Serbia (Vuković et al. 2016, 176, Pl.II/4). Its function was connected with plant fiber processing: the vessel was filled with water, and the fibers were pulled through the handle; this way they were moistened before being spun. Further elaboration on

this class of pots was conducted by M. Svilar, who examined several Late Neolithic specimens of spinning-bowls from the sites of Belovode (2017), and Pločnik (2016), (eastern and southern Serbia, respectively). However, the handles on vessels from these sites were different compared to the one from Kovačke Njive – shaped as lugs, with several perforations – and she argued that apart from tightening the yarn, their function was to separate the threads as well, also indicating that many different spinning techniques related to the use of ceramic vessels in this process existed.

Widely known vessels on hollow feet with perforations, from the Late Neolithic Cucuteni culture, were interpreted as sound devices – drums (Kovacs 2021). A special form of vessels connected with acoustics in medieval assemblages is the so-called acoustic pot: spherical vessels with a small circular opening. These resonators were built into the walls of sacral buildings, mainly domes, and served as ancient amplifiers (Bikić 1994, 108). Over time, various pots were used to improve the acoustics in public spaces, primarily theaters and churches, most notably pots and bowls (Valière et al. 2013). During the Late Middle Ages and in the Early Modern Period, a special group of glazed vessels were specifically intended for use in pharmacy (Bikić 2019, 180–181, Fig. 99). Vessels made in the techniques of Italian majolica and Habana faience often have an inscription field on the front, intended for labeling of the content, usually tinctures and medicinal herbs in pharmacies. Regarding the non-food usage of pots, chamber pots (Bikić 2003, 155-156, Fig. 35) should also be mentioned, as well as structural parts of brick kilns in the form of conical pots, which were part of residential interiors during the Late Middle Ages and the Early Modern Age (Bikić 1994, 105-108, Figs. 41, 42; Bikić 2003, 154-155, Fig. 34).

Actual function: Use-alterations and cooking practices

In contrast to the considerations about formal attributes related to function, use-alterations are examined sporadically. If mentioned at all, their appearance, frequency, and distribution are seldom discussed. More detailed use-alteration analyses were conducted on Neolithic pottery assemblages from the Central Balkans. The identification and examination of different kinds of traces revealed different usages of the Early Neolithic Starčevo pottery: wet-mode and dry-mode thermal food-processing, including traces of stirring with an implement and washing of the pots (Vuković 2011a), non-abrasive attrition indicating fermentation – pro-

duction of a beer-like beverage was assumed (Vuković 2010), and mechanical damage on the rims suggesting covering, i.e. a storage function of bowls made in fine fabric and with burnished/polished surfaces (Vuković 2011a,b); despite different kinds of uses, however, most of the pots were multifunctional, exhibiting different kinds of traces. Substantial work on use-wear was done on the Early Neolithic assemblages from south-western Bulgaria, by combining macro– and microscopic analyses (Vieugué 2014). It was established that most of the vessels had a long and/or frequent use, according to the mechanical damage on the bases; abraded rims on the fine bowls were also observed and, apart from the possibility of covering with a lid, it was proposed that the vessels were kept in an upside-down position while not in use. A similar interpretation was proposed for abrasion marks observed on glazed medieval bowls from the Studenica monastery (Bikić 2015, 180, Fig. 10). Especially important is the study of the Early Neolithic painted pottery of the Starčevo tradition (Bajčev 2018). This group of pottery was traditionally regarded as luxurious, display pottery, but the analyses revealed different kinds of attrition, indicating their utilitarian function: storage and mechanical food-processing, namely usage of the vessel as a pestle during grinding activities, and the usage of an implement was also assumed.

Use-alterations in the form of carbon deposits in the assemblage from Late Neolithic Vinča were recorded only on one morphological pottery class: shallow baking pans of different sizes, used in ovens (Vuković 2013c); other vessels used for thermal food processing were not recorded, leaving the issues of cooking practices in the Late Neolithic settlement still unresolved. Discoloration and carbon deposits were mentioned for the Middle to Late Neolithic pottery belonging to the Vădastra tradition of southern Romania (5200-4900 BC), and the usage of pots over an open fire was established (Dragoman 2019). Mechanical damage on the neck of the vessels was explained as an indication of frequent usage or usage over a long time period, while traces on the inside (not elaborated) were explained as the usage of an implement to ladle out the content. Use alterations were observed and analyzed on the Late Bronze Age assemblage from Kalnik-Igrišče (Croatia) (Karavanić and Kudelić 2019, 96). A unique kind of surface erosion was observed on the outer walls of two pots. The possibility that they originated as a consequence of post-depositional processes was excluded, but the position of the traces is still puzzling. The usage of the pots during the process of fermentation, maybe in secondary use, was not completely excluded. The authors also mention carbonized food traces under the rim, as well as whitish layers on the inner bases of the pots, raising the possibility of the preparation of an encrustation paste

made of bones for decoration. Other alterations mentioned are discoloration or occasional sooting clouds.

As was noted before, medieval glazed pottery stands out from other contemporary pottery classes. Bearing in mind that the glaze improves the vessel's strength and the resistivity to many stresses during use, it is not surprising that it exhibits surface alterations very rarely. Analyses of assemblages from the Studenica monastery and the fortified town of Novo Brdo revealed that surface attrition traces, both mechanical damage and those originating from non-abrasive processes, are less frequent on glazed pottery compared to non-glazed specimens (Bikić 2015, 176-180; 2020, 318-332). Small and occasional attrition traces can be observed on the edges of the bases, originating from pulling the pot over a hard surface, and on the vessel's interior, originating as a consequence of mixing or scooping of food with a metal spoon/ladle (Bikić 2015, Figs. 9–13). Other use-wear traces were already mentioned.

Following the methodology established by Pleinerova, J. Pleterski (2008) applied the same principles in the research of the culinary culture of the ancient Slavs. The results he obtained were published in a single book so far, which is entirely dedicated to the archaeological experiment to reconstruct the use of pottery in the medieval household. Similar to Pleinerová, the experiment tested several cooking techniques (a hearth, clay oven, and so-called heating stones, or unvaulted stone oven). Different dishes were prepared, primarily milk porridge, vegetables with meat, pork cracklings, jam, etc., and alterations on pots left by different foods depending on the mode of cooking, its duration, and temperatures were recorded (Pleterski 2008, 47–72, Abb. 411–4.80). Furthermore, as in the case of Březno, according to the ethnographic data, it was assumed that one household contained from 5 to 7 ceramic pots: several vessels with capacities of 3-5 liters, used for cooking milk porridge, lentils/wild peas with meat, vegetables, and soups predominated, one smaller pot (ca 1 l) for milk, and one larger (ca 15 l) for grain storage (Pleinerová 1986, 162–165; Pleterski 2008, 94–97). It is important to stress that the pots were not multifunctional: on the contrary, each group of food/dishes was prepared in a specific vessel to avoid the mixing of odors and fats that remain in the pores of the pots.

During Antiquity, the custom of baking bread and cooking food under a large lid was established; this type of large lid is most commonly referred to as a baking cover or cooking bell and is used as a stand-alone item or in combination with baking pans (Cubberley et al. 1988; Gelichi, this volume). In addition to the fabric with inclusions that increase the resistance to thermal shock, and the spherical shape, an important indica-

tor of function are burnt traces around the rim and on the upper surface around the vent, formed by placing the lid directly on the fire (Cubberley et al. 1988, 106, Figs. 1, 2). In the case of specimens from the late antique Balkans, the sooting clouds on the outer surfaces are, almost as a rule, very intense (Lako 1984, 183, Fig. 30; Hoxha 2005, 261; Popović and Bikić 2009, sl. 47). The baking bells were used identically during the early Middle Ages (Zábojník 2006; Bikić 2021a, 291, Fig. 3), and later, practically until the present (Filipović 1951; Tomić 1970; Đorđević 2011), thus testifying to the long tradition of preparing food under the bell in a unique way.

Of particular importance for medieval archaeology are the outdoor cooking areas, in the form of a bonfire. In addition to small hearths, a few meters away from the house (Pleinerová 1986, 159), bonfires were also used as cooking spaces for several families. Two such bonfires with accompanying ceramic sets were discovered within the fortresses of Ras and Vrsenice, in the area of medieval Ras, in southern Serbia (Bikić 2021a). The cooking process was performed by placing a large number of cooking vessels of different volumes around the fire; this activity left typical sooting clouds (Bikić 2021a, 289–301). Their intensity depended on the proximity, i.e. distance of the vessel from the fire. In addition, these traces appear only on one side of the vessel, indicating that it was not moved (turned) during cooking and that the content needed to be mixed, to ensure that it was evenly exposed to heat (Bikić 2021a, 297).

The process of cooking in ovens leaves almost identical soot deposits. This was observed on the vessels from the Studenica monastery: as a rule, they have sooting clouds on one half of the vessel, on its entire height, while the handle, if present, remains out of reach of the flame (Bikić 2015, 174–175, Figs. 1–4). On the inside, carbon deposits were usually noticed in the rim zone and the upper half of the cooking pots (e.g., 175–176, Figs. 5–8). Functional analysis of pottery from the Studenica monastery, the first of its kind on material from the Middle Ages, revealed even more peculiarities in pottery use. Use-attrition traces are not numerous, because a large number of the pots have a surface additionally protected by glaze. Cooking pots, as well as certain table bowls, exhibit use-attrition marks on the rim edge, originating from covering with ceramic or metal lids, as well as on the edges of the base, caused by pulling the vessel over a hard surface. Only in one case, the inside of the pot was scratched, probably during mixing or grabbing the content with a metal spoon (e.g., 176–177, Figs. 9–13). In addition, judging by the interior spalling, fermented content was kept in some jugs (e.g., Fig. 18). The procedure of preparation of food and handling of pots did not change significantly in the following

centuries. This was confirmed by the analysis of late medieval pottery from Novo Brdo (Bikić 2020, 318-332), as well as military cooking pots from Belgrade, dating back to the early 18th century (Bikić 2019, 184–185, Fig. 103).

Secondary use and recycling

The practices of extended and secondary use, reuse, and recycling of pots or their fragments are also rarely discussed, although mentions about a specific class of reused or recycled fragments exist in papers considering pottery assemblages. For example, vessel fragments secondarily circularly shaped, often with a perforation in their center, are very common on the Neolithic sites in the Balkans, and they are usually interpreted as spindle whorls (for example Dragoman 2019, 51; Vuković 2017b, 65, Fig. 4). Similar examples are known from medieval assemblages as well. Sherds with a modified shape could have been used as spindle whorls, but also as pendants (Bekić 2009, 2013, T. 4/9; Šmalcelj Novaković and Hršak 2017, 147, Fig. 13). The use of fragments of handles as net weights was identified in the Late Neolithic Vinča culture: many specimens of such tools were found at the eponymous site: on the floor of one of the houses a concentration of such objects was found, indicating the place where fishing nets were stored (Vuković 2017b, Fig. 5). It seems that the practice of shaping pottery sherds in geometric forms during the Late Neolithic was widely applied (for example Merkyte 2005, 89), although researchers seldom paid attention to such unattractive finds. A substantial number of tools made of pottery sherds from the site of Vinča, near Belgrade was analyzed (Vuković 2013b). Tools with a working edge (including specimens where the vessels' rims were used as working edges) and tools with abraded surfaces were distinguished based on macroscopic examination. Observing the distribution, appearance, and kind of use-wear, as well as the position and shape of the working edge, the direction of movement and the position of the tool during use were reconstructed, and activities such as scraping and burnishing of pottery during manufacture were assumed, while their usage in the processes of fiber processing was not excluded. More elaborated analysis, including both macro– and microscopic investigation, was conducted on pottery sherds from Early Neolithic sites in south-western Bulgaria (Vieugué 2015). Similarly, it was established that the sherds were used in pottery making, but also probably for hide processing – for softening animal skins. Combined with experimental testing, it was also established that ceramic tools had very short use-lives.

Fragments of ceramic vessels were also used as a building material. Such usage is widely known from Neolithic sites. For example, a substantial number of sherds were used for oven foundations (Vuković 2015, 118-120). Summarizing all the kinds of secondary use and different use-life cycles of ceramic sherds at the Neolithic site of Vinča, it was assumed that disposal areas, i.e. provisional discard, must have existed within the Neolithic settlement. The usage of fragments of large pots as a building material was observed during Roman times: amphorae sherds were used as construction material for building a tomb in Viminacium (Golubović 2017) or for drainage of the outdoor areas of the workshops (Lipovac Vrkljan 2011).

Secondary use and reuse were recorded even more rarely. Examples of pots with shape modifications were identified in the assemblage from the Late Neolithic Vinča – the function of large circular holes perforated on the belly of the bowl is still left open (Vuković 2015, Fig. 1). Within the Lǐga assemblage, perforations on the bases were made to be used as funnels (Merkyte 2005, 90). The purpose of holes on the bases of pedestaled Early and Late Neolithic bowls/goblets from Serbia (Karmanski 2005, TCXI/1; Vuković 2019, 39-40, TI/4) is still unclear, although in the case of Pavlovac-Čukar specimens, the round edge of the holes suggests water abrasion. Similar interventions were also observed in medieval pottery: after a certain time of initial use for cooking, the bases of some cooking vessels were perforated to further serve as strainers (Bikić 2021b). The secondary use of damaged pots as storage containers for small pots and tools was recorded in the assemblage from Pločnik in southern Serbia (Svilar 2020). The use of amphorae and jugs as resonators in medieval churches in the Balkans has already been mentioned. Their shapes were modified, whether perforated on one or more spots or broken in the upper part (Aleksova 1960, 210–211; Bajalović-Hadži-Pešić 1981, 73, fn. 134; Bulić and Crnčević 2010). In this way, the pots were adjusted to the curves of the vaults, and the need for acoustics.

The extended use of pots is often observable by their curation and mending, usually by the presence of perforations used for joining together two broken fragments. These perforations are found among ceramic assemblages from the Early Neolithic onwards, but are rarely examined in more detail. So far, the only detailed study was focused on the Late Eneolithic assemblages from north-eastern Croatia (Miloglav 2020), including Freq-Mend statistics. The repair holes are present in small percentages, and bearing in mind that mending was usually connected with highly valued pots, it was argued that the value of the Vučedol bowls lay in de-

manding technological process which included encrusted decoration, but also because of the presence of beeswax as the waterproofing agent. The repair holes are also present on the feet of the already mentioned Late Neolithic Vinča tricolored goblets, but this class of finds bears another form of curation (Vuković 2019b). Repairs were observed on their bottoms: the (broken?) pedestals were flattened by using some abrasive stone tool, making the vessel usable, thus extending its use-life. The same kind of intervention was recorded on similar vessels among the Vădastra assemblages in Romania (Dragoman 2019, 51). Although the repairs are usually related to highly valued pots, it seems that value was not always the reason for their curation. A similar intervention in the form of flattening of the base was observed on a plain, ordinary, utilitarian Early Neolithic bowl (Vuković 2017c). It was argued that the reason for the repairs was not the value of the vessel, but rather their shortage, bearing in mind that pottery making was a seasonal activity. An interesting example of a medieval pot from the town of Novo Brdo can be similarly explained (Bikić 2020, 328, Fig. 7). Given the interior had been covered with a white slip, this container was probably intended for storing liquid contents. However, after the cracking of almost the entire middle of the base, which could have been the consequence of an error in the making process, the crack was filled with pieces of pottery, so it could continue to be used to store cereals or nuts.

Why do we need analyses of function anyway?

The previous brief overview of the approaches to the analysis of pottery function clearly reveals that the issues regarding the use of pots and related activities attract the attention of researchers. However, these are still isolated studies, mostly conducted as a part of wider considerations about pottery and extremely rarely as focused studies oriented towards the reconstruction of human behavior, their activities, and society. The majority of considerations about ceramics are still crude classifications (usually wrongly named stylistic-typological analyses), followed by descriptive statistics revealing the frequencies of different "types", without further explanation or discussion about the meaning of the obtained data. Researchers are usually unaware of the importance of the studies of pottery function and, consequently, they do not record data related to function, especially data about use-alterations. Therefore, although it seems quite odd, we must again return to one simple question: why do we need analyses of function?

Food habits, (non)culinary practices, and spatial and social organization

First of all, studies of function reveal modes of food preparation. The archaeozoological and archaeobotanical records along with lipid analyses reveal what plants and animals were used in the diet, but not in what way they were prepared. Furthermore, it is common that food preparation with the use of heat is usually called "cooking", even though various methods of thermal food processing existed both in ethnographic and archeological records: parching, boiling, simmering, frying, baking, or roasting, for instance (cf. Hally 1986). It also should be borne in mind that exposure to heat was not the only method of food processing: activities such as soaking, drying, grinding, or mixing occurred both in food and non-food related activities – the preparation of (alcoholic) drinks or dairy products, but also fiber processing or pigment crushing, for example. The determination of the modes of food preparation is equally important for prehistoric and historic periods. Although old cooking texts provide information about the types of dishes and beverages prepared, the issues related to preparation modes/techniques and the context of consumption remain important, especially because everyday practices, to a considerable extent, differed from what was recorded in written sources. For example, closed vessels – jugs are generally considered to be tableware, i.e. display vessels for serving liquids and drinking. However, evidence from the Studenica monastery (Bikić 2015, 179, Fig. 18b) revealed interior spalling, suggesting their usage for fermentation, i.e. to sour wine in the process of vinegar preparation.

The differences in food habits and culinary practices reveal different traditions and lifestyles, and their identification is essential for the understanding of past societies. One interesting example concerns the so-called large conical bowls, very frequent within the ceramic assemblages of the Early Neolithic of the Central Balkans – the Starčevo tradition. However, their usage between at least two settlements differed (Vuković 2018)[3]: in the Danube Gorges, they were used over fire, based on the presence of carbon deposits on the upper interior zone of the pots, in contrast to the settlement in modern-day Central Serbia, where such vessels lack any surface accretions. This difference suggests, among other things, that Early Neolithic communities were not culturally uniform, contrary to the common archaeological views on traditionally defined archaeological "cultures".

3 The assemblages from the sites of Lepenski Vir (The Danube Gorges) and Blagotin (Central Serbia) were examined.

The identification of vessel function, the spatial distribution of pots, and the examination of the archaeological context may reveal activity zones and, consequently, the spatial organization of the household or the whole settlement. For example, such considerations about the structure from Late Neolithic Vinča (Borojević et al. 2020) revealed two zones for grinding, probably cereals, near the walls of one large room, suggesting simultaneous work of at least two persons, further posing new questions about the organization of the Late Neolithic household. Recently, infrastructure projects in Slovenia and Croatia have brought significant progress in the knowledge of medieval settlements, primarily due to advanced spatial analyses and context studies (Guštin 2002; Bekić 2016; Sekelj Ivančan et al. 2017). The spatial distribution of vessels within the settlements, primarily in the areas of hearths and stoves, provided new insights into the activity zones related to food preparation. It was especially important to determine the function of pit-dwellings and above-ground buildings, and pits of different shapes and depths, which are distinctive for settlements between the 6th and 9th centuries (Pavlovič 2017, 33–45). The research revealed a complex organization of the settlements, including the presence of communal structures with different functions related to food preparation – for grinding, storing cereals, cooking, etc. Additionally, changes in the kitchen culture through time were established by the usage of vessels of different sizes: firstly one size, while in the second phase vessels of three different sizes were used.

Considerations about the dimensions of the pots revealed that the size actually matters (Vuković 2018; see also Füzesi, this volume). Until recently, data about the sizes of the vessels were lacking, except for unreliable and unclear formulations such as "small" or "large" vessel. It must be stressed again, however, that the size directly influences a vessel's function, but even more importantly, group size of the pots' users. In other words, the dimensions of vessels for food preparation may reveal the number of persons the meals were prepared for. In this sense, very interesting results were obtained for pottery from the medieval Studenica monastery (Bikić 2015): small cooking-pots (up to 2 l) predominate within the assemblage. In contrast to common ideas about the organization of the monastery kitchen, where the meals were prepared in large vessels for all monastic community members, it seems that they were prepared in portions for two, or a maximum of three persons. It was proposed that this practice was connected to the rigid regulations concerning the quantities of food and the size of the individual portions, thus revealing not only modes of food preparation, but also previously unknown aspects of the economic organization of the monastery. The size

may also point to the duration of storage. Contrary to the common belief that storage vessels must be large, vessels of small dimensions may also have had this function. Probably because the first association with storage is the storage of grains, many researchers do not take into consideration the possibility of storing other kinds of commodities. In the case of small polished, in some cases painted, Early Neolithic bowls, according to their low frequencies in the assemblage it was assumed that they were used for storage (Bajčev 2018; Vuković 2011), probably for dry herbs, or similar commodities stored in small amounts. This possibility is again in contrast to traditional views about thin-walled polished pottery, usually considered to be display-pottery.

Analyses of function, especially use-alterations, may point to practices not necessarily related to food preparation, thus revealing distinct behaviors, activities, and even ideas. The practices of curation and mending suggest ideas about the values in past societies, and may reveal high-status or prestige objects; they may also point to economic aspects of everyday life, such as shortage in supplies in contrast to demand, or raise questions regarding recycling, usage of raw materials, and discard areas.

Methodological issues in pottery processing: traditional typologies vs. analyses of function

Analyses of function reveal the need for reexamining analytical methods for pottery processing, and especially the usage of and high dependence on widely used traditional typologies. However, in such an approach to the classification, the definition of "type" is challenging, due to the intertwining of functional and morphological features within a class that becomes a "type". It is very common to consider, for instance, cooking-pots as thick-walled vessels made in coarse fabric, and with roughened surfaces, contrary to the serving/consuming vessels represented mostly by bowls of various sizes. In the case of the Early Neolithic, for example, it was established that so-called cooking-pots lack any accretions, and the bowls were actually used as cooking-pots (Vuković 2011a, 2018), while in Late Neolithic Vinča assemblage, not a single cooking-pot was identified. Baking-pans, used in ovens, are the only vessel class identified for thermal food processing (Vuković 2013c). The discrepancies between typologies and functional classes distinguished by use-alterations, as can be observed from these examples, lead to a somewhat bizarre situation: typological class of cooking-pots refers to the storage containers for the Early Neolithic; the Late Neolithic class of cooking-pots is non-existent. Nevertheless, these typological divisions are still in use!

On the other hand, in medieval and post-medieval assemblages, mostly closed vessels appear, and all of them are commonly called cooking pots. Although researchers of them assume a different function (for cooking, storage, measuring, consumption), mainly based on the presence of different dimensional classes, as we have seen in the aforementioned examples, it can be deceptive and certainly insufficient to determine the actual use of vessels. The presence of multifunctional vessels must also be borne in mind, as many vessels had different functions during their use-lives, from Neolithic (Vuković 2011) onwards. In the Studenica monastery during the 14th and early 15th centuries, closed glazed vessels (with or without a handle) were mostly used for cooking, but there are specimens with traces of use not originating as a consequence of exposure to fire (Popović 2016, 212). The opposite is observed in the case of unglazed pitchers, which sporadically exhibit surface accretions.

Dependence on traditional typologies can also misguide conclusions concerning comparative analyses between several sites. In the case of the already mentioned Early Neolithic conical bowls, according to the typological analyses, ceramic assemblages from two sites are almost the same, exhibiting a predomination of conical bowls. In reality, as was already stressed, culinary practices significantly differed, suggesting not only different diet and food habits but different lifestyles as well.

Traditional typologies and views on ceramics especially fall short in the case of the notion of pottery assemblages. All of the considerations on stylistic-typological features, including descriptive statistics, although not explicitly stated, perceive assemblages as simultaneous, neglecting the dynamic use-life of pots and their fragments (cf. Schiffer 1987, 13-15, 271). The relations between functional class frequencies in the assemblage and frequencies of their use and, consequently, breakage and replacement rates, as well as complex use-lives or "biographies" of individual vessels are usually not taken into account. However, the quantities of functional classes may reveal the frequencies of use, manipulation of the pots, or their static vs. dynamic use-context.

Finally, one of the shortcomings of traditional typologies, as was already noted, is the use of inadequate terminology, implying a specific function only because of the morphological similarities with the vessels belonging to some other period or culture. In this way, a considerable research bias emerges: instead of recording clearly defined attributes of the investigated vessel, the identification of function is based on a preconception of the analyst.

Conclusion

Investigations of pottery function in the archaeology of the Balkans are still rare. The most numerous are considerations related to the intended function, i.e. the suitability of the vessels for a specific use, while focused studies based on actual function are still rare. Based on this brief overview of the state of research, several points can be made. First of all, after decades of research, the importance of the studies of pottery function has to be emphasized again, especially its importance for the reconstruction of everyday activities, behavior, culinary practices, and other issues related to social relations, economic aspects, and lifestyle in general. Secondly, a common belief that analyses of pottery function are unnecessary for historical periods must be reconsidered, because, as a few studies have suggested, they may reveal previously unknown practices. Finally, the methodological approaches and procedures of pottery processing must be reexamined in order to avoid research biases and preconceptions about pottery.

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