УДК 903.23”634”
Vita Antiqua,
№ 11, 2019, с. 138-143
DOI:10.37098/VA-2019-11-138-143

ISSN 2522-9419 (online)
ISSN 2519-4542 (print)

Marta P. Andriiovych*

THE BRIEF «WALK-THROUGH» IN THE ARCHAEOLOGICAL CERAMIC INVESTIGATIONS IN THE WAY TO A NEW APPROACH IN NEOLITHIC CERAMICS STYLES RESEARCH

The study of ceramic is one of the broadest research areas in archaeological sciences. Over the last two centuries, archaeologists have developed a number of approaches and methods that have had different goals of the studies: from the study of ceramics as an object of art to the reproduction of the manufacture technologies, and the study of pottery as a «mediator» for the study of everyday life of the ancient population.

The purpose of the article is a brief review of the scientific methods developed at different times in Western and Eastern Europe, North America, and to discover new combinations of research approaches that would allow archaeological ceramic complexes to be explored at a new level. This is especially true of the difficulties encountered in the study of Neolithic utensils, given the incomplete forms of utensils, the relatively small number of finds, and natural damage.

The new paradigm in ceramics investigations is the studies of the raw material of Neolithic ceramics using natural methods of analysis, such as binocular, p-XRF, spectrographic analyses. The results may open up new knowledge regarding the mobility of the ancient population and the cultural exchange between different groups of the Neolithic population.

Key words: *Neolithic, ceramic studies, pottery, migration, cultural exchange.*

Pottery is one of the most interesting resources for studying and understanding Neolithic societies. The ceramics accompany a person all his life: pottery was a part of the everyday life of a human as well as a part of the funeral.

From the first artifacts collections and the beginning of archaeological science onwards, ancient ceramics was one of the most researched artifacts categories.

Since the end of the XIX century, archaeological scholars were looking for different approaches in the ceramic studies. Most of the earliest methodological approaches (before and during XIX century) consisted in sampling and collecting (Klein 2011) pottery for the future development of typological classification in order to establish chronologies. For a long time, ancient ceramics had told about itself just as an object or art piece which emphasizing its being and links belongings to the old rituals or unknown man population, but not much more. Towards the end of the XX century, ceramics studies became more diverse: pottery vessels were investigated to reconstruct technological and manufacturing processes.

During the XX century, Western and Eastern European scientists belonged to different philosophical schools and political camps of that time. As the result, there are today very different approaches in the way of how archaeological research on pottery is conducted.

At the turn of the 19th and 20th centuries, the main objective of Eastern European archaeological research had been to reconstruct the vessels as well as the investigations of pottery production technologies, and the analyses of technological features of ceramics, which were slightly contiguous to the application of the methods of natural sciences in the archaeology. According to the main political ideas of the Soviet Union, the vectors had been changed to the socio-economic problems in Prehistory, which became the main research focus and examining, manufacturing technologies the means to this end. The works of the soviet archaeologists V.A. Gorodtsov (1901), M.V. Voyevodskiy (1936), A.A. Bobrinskiy (1978) can be seen as the base of ceramics studies in Eastern Europe: they developed the methods of the visual and technological descriptions of ceramics, in the different research approaches (Glushkov 1996). A summary of the main researching ideas of the A.A. Bobrinskiy and his scientific school was written by Y.B. Tsetlin in the monograph “Ancient Ceramics. Theory and Methods of Historical-and-Cultural Approach” (2012), in which the author described the ideas of the advantages and disadvantages of the Cultural History approaches in the ancient ceramics research, and summarized the methods and results. In 2017 Y.B. Tsetlin published “Ceramics. Concepts and Definitions of the Historical-and-

marta.andriiovych@iaw.unibe.ch

* University of Bern, Institute of archaeological sciences

Cultural Approach" (2017) a dictionary of the main terms and concepts of the way of scientist investigation.

During the same time, there was a stronger tendency in Western Europe and North America to use the methodology from the natural sciences in ceramics investigations. From the end of the XIX century European archaeologist started to use petrographic and chemical studies to investigate ethnological collections from different ethnic groups from the colonies with attention to used clays, admixtures, shaping and decoration techniques, colors etc. (Glushkov 1996).

During the XX century, several outstanding works were published in pottery studies, which are still relevant today. Some of the most important work was done by Anna Shepard. She wrote the seminal guidebook "Ceramics for the Archaeologist" for potteries studies, which connected archaeological approaches with chemical and physicals analyses (Shepard 1986).

On the end of XX and beginning of XXI century, many institutes provide their scientific researches about such broad topic as a ceramics and pottery ("Pottery analysis. A Sourcebook" by Prudence M. Rice, 1987; "Ancient Ceramics. Theory and Methods of Historical-and-Cultural Approach" by Y.B. Tsetlin, 2012 and etc.). These works concentrated on the description of all basic methods and analyses of ceramics studies at that time: from the scientific description of the vessels to the analyses of the clay structure and types of the admixtures, typological as well as decorative aspects, and manufacturing techniques.

Accordingly, the methodology of pottery studies today is connected to different sciences including ethnography, cultural and social anthropology, and – of course – archaeology and archaeometry. What most research traditions have in common is that the scholars define methodological groups within pottery studies:

1. Form description;
2. Patterns analyses;
3. Reconstruction of the cultural traditions of the pottery.

In the past decades Ukrainian and Soviet archaeological works on archaeological ceramics concentrated on the questions of typology (based on pottery classification systems created by V.F. Gening; other Neolithic pottery scholars N.S. Kotova, 2015, S.Zh. Pustovalov, 2001, etc.). The first concern thereby was the morphological form description (definitions and types of the rim, bottoms, handles) and further strategies of the classification and so-called "cultural attribution" of the ceramics. Which is an important and fundamental ground for ceramics artifacts attribution.

But in one of the points, the pottery "research-potential" had been conserved in the definition of "culture" and were squeezed with terms of "type". Changing the paradigm at the use of ideas of what is "culture" and what is cultural attributes directly influenced how the archaeologist should interpret the artifacts. Earlier all methodological groups of the pottery analyses aimed at final cultural interpretation.

Beyond that, since the beginning of the XX century archaeologists in Western Europe and Northern America started to use the chemical and physical methods of survey. The close collaboration between archaeological and natural sciences gave new possibilities in archaeological researches. This can be done by applying analytical methods for identification of the used raw material for making the ceramics, binocular microscope, as well as different other petrographic, spectrographic, different chemical and X-ray diffraction analyses.

Using these methods, it is important to formulate precise questions regarding the different archaeological context so that the results might answer to them. As A.O. Shepard pointed out, archaeologists studying ceramics have to use not only a historical-anthropological perspective, but also being trained in geological science as optical mineralogy, geochemistry, and clay mineralogy (Shepard 1985). As a lot of physical and chemical methods are very complex to understand for the archaeologist because this would require a lot of domain knowledge, the best way is to combine them with binocular observations and descriptions.

The next analytical step the pottery description (morphological, pattern, strength and porosity, color and firing details, etc.), typological classification, and obtaining the results of the mineral and chemical composition of the paste, the main question is to verify received data and to compare it with the archaeological data with a point to figure out contacts and cross-influences between different social groups.

During the XX century, physical methods for the study of ceramics have been most commonly used on the antique ceramic, Bronze and Iron Age pottery, and rarely prehistoric pottery. As A.O. Shepard explained, because of the composition of the paste and the destroyed crystalline structure of clay during the firing.

Nevertheless, the physical methods are strongly relevant for the Neolithic pottery studies. So far, we are having limited resources to figure out the prehistorical societies' networks. And some of the physical methods become a key to open more information not only about

vessels as artifacts, but also to discover relations, networks and other social aspects of the prehistoric communities.

Therefore, to understand why it is so important, we should start again from the bases of ceramics investigation. Moreover, from the basic statement of archaeological studies of the XX century. Starting from the famous definition of the Gordon Childe, which became the main statement during all century of the scientific investigation:

"We find certain types of remains – pots, implements, ornaments, burial rites and house forms – constantly recurring together. Such a complex of associated traits we shall call a "cultural group" or just a "culture". We assume that such a complex is the material expression of what today we would call "a people" (Childe 1929).

So, this statement judged all ceramics findings: they were classified, and then attributed connected to the "culture" or "culture ethnic group". We need to specify, that for each individual culture or cultural group, researchers have tried to identify a set of specific dominant traits to determine the "type" of a vessel based on its morphology and decoration. This "type" (it can be one major type or a group of the vessels, like pots, bowls, cups, amphorae) became a kind of "a reference sample" for comparison. In a further study, new find complexes, which are having these traits, are interpreted as belonging to the same cultural group. This idea is reasonable but also has drawbacks. Especially in case of the XXI century discussions about the reasonability of using concepts like "culture", "culture area", "ethnical group" etc. (Roberts, Linden 2011, p. 1-21). The understanding of the broad concept of the term culture leads to an over-generalization of characteristic features, and to the creation of additional sub-categories of local variants and in the end, they still belong to the common territory culture. Therefore, this consequence is controversial in the concept of the culture-defining process. As a result, it might cause excessive division of archaeological sites into different cultures.

When we talking about humans as a representative genus Homo we always should remember about such psychological specialties as creativity and curiosity. Therefore, we can presume that this curiosity creates the main motivation, to use modern terms, a curiosity to come out of the regular comfort zone. That means looking for new resources but also adapting and adopting new skills, traditions and techniques. However, at the same time, natural human creativity does not always lead to a simple direct copy of the new techniques but some time leads to adopting them. From one point of view, in process of copying the new techniques there a big chance to create something completely new, but from another perspective simple lack of background knowledge and special raw materials might not allow doing that, but the creative adaptation result is again new. Dramatically, for man also a characteristic feature is the creation of traditions (both in the occult meaning of the ritual and in the meaningful sequence of the production process). This way stops the fast adoption line of innovations from strangers by human behavior.

All these human's psychology background is turning in a very interesting effort of studying. Let us suppose that each social group in prehistoric time came to the common idea of the ceramics usage. In this assumption, let us neglect the question of how this group came to the manufacture of ceramics, and focus on the formation of the tradition of a particular group. With the complication and stratification of the social structure of Neolithic society, it is logical to single out a group of artisan potters, who have been developing the main pottery style of the community. We would call this basic typical style of ceramics for a certain period of time as a traditional. This "traditional" pottery style would include special morphological proportions of the vessels, typical clay components, and also the same ornamentation style.

Together with these peculiarities in ceramic came the special attitude of the people from the same community. Y.B. Tsetlin in his work mentioned one interesting point that the ornamentation styles from a social perspective also is a symbol of social recognition at the level of others (Tsetlin 2012). In addition, Y.B. Tsetlin stated that even in the middle of the XX century was a tendency to keep the secrets of pottery craft inside of the family artisans. We can assume that for prehistorical society it was even more important to keep the information about pottery technology inside of the artisan's group.

Together with all this back-up knowledge, we coming again to the important question: How we can investigate spatial mobility and development of prehistoric society through the ceramics artifacts?

When we are talking about the development of the ceramics styles with a goal to figure out the migration tendentious and influences. Again, we have to come back to the questions about the reasons, which could have triggered these migrations. Caroline Heitz and Regine Stapher (2017) in article "Mobility and pottery production, what for? Introductory remarks" mention basic types of mobility by W. Wendrich and H. Barnard (2008), which can be divided into groups:

— all group migration, from resource to resource,

— all group migration, with the fixed mobility (year, season, etc.) rout,

— migration of the part of the group, which had moved to and from specific resource areas,

— migration of the part of the group, who was moving for new resources and then returned to base camp.

This group can move in a specifically defined route, which can be repeated from year to year or be at time as totally new one. For us is important, because all these groups would take with them their knowhow about different pottery styles and manufactory technics.

Caroline Heitz and Regine Stapfer had created a complex approach for the investigation of Neolithic population mobility through the examination of the local and non-local ceramics designs and ornamentations, in their project "Mobility, Entanglements, and Transformations in Neolithic Societies on the Swiss Plateau (3900-3500BCE)" (Stapfer et al. 2019). First of all, they had deeply "rethinking" of the meaning of main archaeological concepts as "culture", "mobility", "things", turning the focus from object-centered to actor-centered perspective (Heitz, Stapfer 2017). With a strong focus on the relations between humans and things, the goal is to understand which changes in the things were results of intention and which not. Furthermore, the creative and transformative potential of encounters of potters belonging to different communities of practice or traditions in the contexts of spatial mobility is on focus of their proposed methodology. The second important part of the project investigation was using archaeometric analyses such as a pXRF analysis and develop a methodological approach which would be appropriate for the heterogeneous clays to prove the ideas of the "moved" vessels or technics in Neolithic's communities.

As a case study, they used ceramics from the wetland settlements on Lake Constance, Lake Zurich and Lake Bienne. Previous research of the region had been restricted on establishing relative chronological orders of artifact assemblages using pottery and the distinction of "cultural" groups. The project's result was that in all the sites, non-local pottery vessels were present. They indicate that certain kinds of contacts existed between the settlement communities in Eastern France, the Rhine Valley or Central Switzerland etc. Accordingly, pottery was identified on the Swiss plateau which is typical for adjacent regions and there referred to as Michelsberg-style, Munzingens-style, Hornstaad-style, Pfyn-style, Cortaillod-style, NMB-style in the time between 3900-3500 BCE (Stapfer 2017).

The material analyses part of the newly developed methodology within the scope of the "MET" – project, consists of three steps:

— using the binocular microscope to categorize the raw material into the groups;

— screening by means of pXRF-analyses for finding different chemical groups and check if the vessels of these groups belong to different local or non-local stylistic groups;

— specifying a detailed chemical and mineralogical analyses by subsampling some shreds for further analyses – like thin section analyses – which might finally enable assumptions on the geological origins of the used raw materials and thus answer question of spatial mobility.

Detailed information about the evaluation of p-XRF-analyses to research handmade heterogeneous Neolithic pottery from an archaeometric point of view is perfectly described in the article of Regine Stapfer et al. (2019). "Interdisciplinary examinations carry out on heterogeneous coarse ceramics from Neolithic lakeside settlements in the Northern Alpine Foreland (3900-3500 BCE): Analysis strategy and preliminary results from a test series using p-XRF" (Stapfer et al. pp. 217-238).

I would like to draw your attention to the summarized results of the project`s investigation. Almost all settlements had pottery form more than one style. Of course, the biggest amount of measured vessels turned out to be of locally available raw materials, made in typically local designs and decoration styles ("local vessels"). However, interestingly, there were also some vessels of local raw materials but non-local style ("intermediate vessels"). In addition, researches figured out that a rare part of the vessels that had been made of the non-local clay, design and decoration style ("translocal vessels"), which basically means, that these vessels were made in another settlement and brought to the site where they were finally found (Heitz, Stapfer 2017). The information about raw materials makes it possible to do a more specific grouping of the finds. They were able to show that complex networks based on spatial mobility had linked the settlement communities on the Swiss Plateau to those living beyond (Heitz, Stapfer 2017; Stapfer 2017; Stapfer et al. 2019).

The approach created by Caroline Heitz and Regine Stapfer gives a new perspective for Neolithic pottery research and might be successfully applied to investigate other Neolithic communities and the pottery. On the territory of

Ukraine, the methodology might be useful to analyze the ceramics from the Mariupil-type cemeteries and the big settlements of the Middle and Low Dnieper region. The results might clarify the pattern of mobility of people beyond big "cultural groups" as Azov-Dnieper, Dnieper-Donetsk, Surska "cultures" (Andriiovvych 2018; Andriiovych, Hafner, Shydlovskyi 2019). If we gain a better understanding of the mobility of Neolithic communities inside of Middle and Low Dnieper regions and would be able to specify the relationship between settlements and at least Lysa Hora and Mykilske Mariupil-type cemeteries, we would have a better understanding on ways of Neolithization process and waves of migration on the territory of Ukraine.

The new theoretical approaches together with physical-chemical analysis can open a lot of earlier hidden information about prehistoric societies. New era pushing us to cooperate with contemporary ideas and use old well-proven analytical methods within the scope of new paradigms.

Acknowledgement

I am very grateful to Caroline Heitz for helpful comments on this article, mentoring, and inspiration for the investigation of theoretical questions in Archaeology.

REFERENCES:

Andriiovych, M. 2018. A sign of mobility and cultural exchange? The ceramics with scribble line ornamentation from Lysa Hora cemetery. *VITA ANTIQUA*, 10, Prehistoric Networks in Southern and Eastern Europe, 43-47. DOI: 10.37098/2519-4542-2018-1-10-43-47

Andriiovych, M., Hafner, A., Shydlovskyi, P. 2019. A sign of mobility and cultural exchange? The ceramics with scribble line ornamentation from Lysa Hora cemetery. In: *Beyond Paradigms. 25th EAA Annual Meeting* (Bern, 2019) – Abstract Book, p. 323.

Bobrinskiy, A.A. 1978. *The Pottery-Making of Eastern Europe: Sources And Methods of Study*, 272 p. (In Russian).

Childe, V.G. 1929. *The Danube in Prehistory*, Oxford University Press, Oxford.

Glushkov, I.G. 1996. *Ceramics as a historical source*. Novosibirsk: Publishing House of the Institute of Archaeology and Ethnography SB RAS, 328 p. (In Russian).

Gorodtsov, V.A., 1901, Russkaya doistoricheskaya keramika. *Trudy 11 Arkheologicheskogo syezda v Kiyeve*, p. 576-672. (In Russian).

Heitz, C., Stapfer, R. 2017. Mobility and pottery production, what for? Introductory remarks. In: *Mobility and Pottery Production. Archaeological and anthropological perspectives*, p. 11 – 39.

Klein, L.S. 2011. *Istoriya archeologicheskoy mysli*, S.-Pererburg, 694 p. (In Russian).

Kotova, N.S. 2015. *Drevneyshaya keramika Ukrainy.* Kyiv, 154 p. (In Russian).

Pustovalov, S.Zh. 2001. Classification of Catacomb Ceramics. In: *Bronze Age of the Don-Donetsk Region: Materials of the 5th Ukrainian-Russian Field Archaeological Seminar*. Kiev – Voronezh, p. 88 – 95. (In Russian).

Rice, P.M., 1987. *Pottery analysis. A Source book*, 559 p.

Roberts, B.W., Linden, M.V. 2011. *Investigating Archaeological Cultures: Material Culture, Variability and Transmission*.

Shepard, A.O. 1985. *Ceramics for the Archaeologist*. Washington, 414 p.

Stapfer, R. 2017. Special pottery in 'Cortaillod' settlements of the Neolithic western Switzerland. In: *Mobility and Pottery Production. Archaeological and anthropological perspectives*, p. 141 – 167.

Stapfer, R., Heitz, C., Hinz, M., Hafner, A. 2019. Interdisciplinary examinations carried out on heterogeneous coarse ceramics from Neolithic lakeside settlements in the Northern Alpine Foreland (3900-3500 BCE): Analysis strategy and preliminary results from a test series using pXRF, *Journal of Archaeological Science: Reports 25*, p. 217 – 238.

Tsetlin, Y.B. 2012. *Ancient Ceramics. Theory and Methods of Historical-and Cultural Approach*. Moscow: IA RAS, 395 p. (In Russian).

Tsetlin, Y.B. 2017. *Ceramics. Concepts and Definitions of the Historical-and-Cultural Approach*. Moscow: IA RAS. 346 p. (In Russian).

Voyevodskiy, M.V. 1936. K izucheniyu goncharnoy tekhniki pervobytno-kommunisticheskogo obshchestva na territorii lesnoy zony Yevropeyskoy chasti RSFSR. *Sovetskaya arkheologiya*, T. 1, p. 51-79. (In Russian).

Wendrich, W., Barnard, H. 2008. The archaeology of mobility. Definitions and research approaches. In: H. Barnard and W. Wendrich (eds.) *The Archaeology of Mobility. Old World and New World Nomadism. Costen Advances Seminar Series 4*. Los Angeles: Costen Institute of Archeology, University of California, p. 1-21.

Андрійович М.П.

КОРОТКИЙ ОГЛЯД АРХЕОЛОГІЧНИХ КЕРАМОЛОГІЧНИХ ДОСЛІДЖЕНЬ У ПОШУКАХ НОВОГО ПІДХОДУ У ВИВЧЕННІ НЕОЛІТИЧНОЇ КЕРАМІКИ

Вивчення керамічного посуду є одним з найширших дослідницьких напрямків в археології, а керамічні вироби є одним з найінформативніших ресурсів для дослідження первісного населення. За останні два століття археологами було розроблено чимало підходів та методів, які мали різні цілі: від вивчення кераміки як об'єкту мистецтва до відтворення технологій виробництва, та вивчення посуду як «медіатора» для дослідження повсякденного життя давнього населення. Дослідники розділили методи вивчення кераміки на групи: 1. опис технологічної інформації; 2. опис форми; 3. аналіз орнаменту; 4. реконструкція культурної традиції гончарства. Разом з розвитком фізичних методів в археологічних дослідженнях услід також змінюються методи і моделі аналізу.

Стаття має на меті коротко переглянути наукові методи, що були розроблені в різний час на теренах Західної та Східної Європи, Північної Америки та виявити нові поєднання дослідницьких підходів, які б дали змогу вивчати археологічні керамічні комплекси на новому рівні. Особливо це стосується труднощів, що виникають під час дослідження неолітичної кераміки, зважаючи на не повні форми посуду, порівняно не багаточисельну кількість знахідок, та природні пошкодження. В попередніх дослідженнях основним фокусом виступало вивчення морфології та технології виробництва, а результати були зосереджені на культурній інтерпретації. На сучасному рівні знань, після фази опису та класифікації, головне питання полягає у співвіднесенні керамічних виробів з конкретними групами населення та з'ясуванні контактів та впливів між спільнотами.

З цієї точки зору, перспективним є вивчення сировини неолітичної кераміки за допомогою природничих методів, таких як бінокулярний, p-XRF та спектрографічний аналізи. Результати, можуть відкрити нові знання, щодо мобільності та культурного обміну між різними групами неолітичного населення.

Ключові слова: *неоліт, керамологія, посуд, міграції, культурний обмін.*