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EXPERIMENTAL ARCHAEOLOGY AS AN ALTERNATIVE DIRECTION IN THE CONDITIONS OF MILITARY CONFLICT

With the beginning of Russian aggression, conducting archaeological excavations became dangerous. An alternative way of obtaining information in the new conditions is experimental archaeology, which is safer. During the active phase of hostilities, a team of enthusiasts created a full-fledged field laboratory, where a series of successful experiments were conducted.

Keywords: *experimental archaeology, war, reconstruction, research, laboratory, safety, ancient crafts.*

With the beginning of the introduction of martial law in Ukraine, due to the attack by Russia, archaeologists faced numerous problems. Many of them voluntarily went to the front line as part of the Ukrainian armed forces, where they continued to protect archaeological sites from destruction, combining this with their military duties. Today, in the areas affected by military actions, there is a huge amount of ammunition and mines. This has led to the fact that it will be impossible to explore these regions in the near future until complete demining is achieved. However, this article should convince the reader that scientific data can be obtained not only as a result of excavations. In these difficult conditions, there is an alternative direction - experimental archaeology, which can provide no less important experience. This field has a very impressive number of advantages. I would like to demonstrate, based on my own experience, that experimental archaeology is a promising direction.

With the onset of hostilities, together with colleagues, we found ourselves in the occupied zone, from where we were able to evacuate to the base of the Kanev archaeological expedition, which became our temporary refuge. During this period, it was impossible to continue fieldwork, and access to literature was limited. Under these conditions, an initiative group of people emerged who wanted to continue archaeological research, but did not have the opportunity to do so. We decided to start mastering ancient crafts based on our professional knowledge. The resource base and the site for conducting experiments were accessible, so it was decided to work in several directions: experiments with ceramics, experiments with metal, and the creation of replicas of archaeological objects (pits, ovens, ash mounds). During the Scythian period, this region was densely populated by various tribes, indicating a large resource zone that satisfied the needs of the population. These events were carried out in our free time, using improvised means and minimal financial costs. As a result of these studies, all participants deepened their knowledge in the field of ancient crafts through practical work. Theoretical data on the reconstruction of processes that occurred in ancient times were also verified. In addition, labor costs, logistical routes, and possible traces resulting from human activity were calculated.

Experiments with Ceramics. Ceramic material is one of the most common finds in archaeology. However, few archaeologists possess practical skills in making ceramics. It is obvious that acquiring such a skill expands the researcher's horizons and allows them to look at artifacts from a new perspective. For the experiment, the monograph by Anatoly Heyko "Pottery of the Scythian population of the Dnieper Forest-Steppe Left Bank" (Гейко, 2011) was used as a theoretical basis. The author of this monograph conducted experiments with ceramics himself, but when we attempted to recreate the process, we encountered certain difficulties. The proportions of clay and various materials did not correspond to those in the publication, as clay in different regions has different properties and composition. Therefore, we had to independently select the composition for the successful completion of the experiment. During archaeological reconnaissance in the vicinity of the archaeological base in previous years, many ancient settlements were discovered and documented (Болтрик та ін. 2019). However, when we started looking for clay, it turned out that the amount of its deposits was limited. This forced us to spend several days searching for the necessary material. In the end, we found clay that met the necessary requirements. But during our search, our team began to view the economy of ancient communities, which also searched for the necessary material in these places, differently. Later, we repeatedly went to the same place for clay. This example of searching for raw materials and its transportation gave us reason to reconsider our ideas about the functioning of any human settlement. We began to discuss possible logistical routes, roads,

and the resource base of local settlements. Such an approach is known in archaeology, but only through personal experience of reconstruction can one change their attitude towards it.

We have set ourselves the same tasks as ancient masters, limiting ourselves to ancient technologies in search of practical solutions. Despite possessing a wealth of knowledge about the world around us, we had to go through all the stages of ceramic production, just like the ancient masters. During the experiment, we compared the resulting ceramics with artifacts that are widespread in local archaeological sites. The results of the comparison showed that our knowledge of the ceramic production process is insufficient, as we were only able to replicate the technology in rare cases. The process of firing, the composition of the ceramic paste, the drying process, and the ornamentation of ceramics are described by archaeologists. However, attempts to recreate this technology based on theoretical knowledge, even with the use of additional literature and video recordings by ethnographers, have been unsuccessful. In this matter, historical reenactors, who are more focused on the question of creating replicas of artifacts, proved to be more competent and provided us with assistance at some stages. This is a serious reason for re-evaluating the existing situation in which very few archaeologists are involved in the activities of historical reenactment communities.

The reconstruction of pits. To produce charcoal in small quantities, it was decided to use the pit method. During the Scythian period, when iron was first widely used in Ukraine, archaeologists almost never recorded the existence of complexes where charcoal was extracted. At the same time, there are pits that are interpreted as grain storage, with traces of fire and a small amount of charcoal (Моруженко, 1988., с. 35-36). We dug a similar pit to use it for making charcoal and to find out what characteristic traces this process leaves behind. As a result, traces of temperature effects were recorded on the edges of the pit (light brown), while the bottom of the pit hardly changed. The obtained results confirmed the hypothesis that such traces can be obtained as a result of making charcoal in the pit. A pit with walls expanding near the bottom proved to be more efficient for making charcoal, since the firewood in it burned faster due to the circulation of oxygen along the walls. At the moment, we continue to observe the process of pit destruction. After the operations were carried out and the obtained charcoal was extracted, there were many characteristic traces left around the pit in the form of dust from the burned earth and small coals. When such traces are found on an archaeological site, there is reason to put forward a hypothesis that the complex was used in this way. Additionally, the dust that formed was found to be very similar to the soil that makes up the so-called "ash hills". Taking into account the origin of this dust, as well as the evidence of fire worship among the local population, it is possible that the ash hills were filled with coal production waste.

The reconstruction of the furnace was based on general ideas about these structures. Using the assumptions of the archaeologist M. Rudinsky (Рудинський, 1949, с. 78) and our experience of excavating furnaces at other sites, we gradually formed a reconstruction. Initially, the walls of the furnace were plastered with clay on a frame of rods. Furnaces in this form are preserved in the ground, and we find them exactly like this. Then we gradually formed the dome. The dome had to be rebuilt several times, and after unsuccessful operation, we added a chimney. After many attempts, we obtained a ready-made version of a working Scythian furnace, which corresponded to our ideas about its construction. In this furnace, we tried to bake ritual clay objects ("loaves") and cook food. Currently, the furnace is being destroyed, and we are observing this process.

Experiment with the smelting of iron from scrap metal. Details of this experiment have been published (Потоцький, 2022). As part of this experiment, our team acquired a large amount of practical and theoretical knowledge about metallurgy. In just a few months, our understanding of these processes significantly deepened. In addition to this, all team members improved their approach to conducting archaeological surveys. We began paying attention to the surrounding environment, characteristic traces of iron production, and the analysis of individual artifacts.

As a result of our team's activities, many new data were obtained. The forced hiatus of the expedition gave us the opportunity to rethink the role of practical knowledge. It turned out that many archaeological reconstructions and hypotheses require practical verification. Such experiments and reconstructions allow archaeologists to work with minimal risk to life during wartime. At the same time, experiments provide no less important data about the past than excavations, which are impossible in some regions.

This research was conducted in the researcher's free time, using readily available materials and without any additional funding. Support was provided by volunteers, and valuable information was obtained from reenactors who specialize in ancient crafts. This underscores the importance of collaborative work.

The unpopularity of experimental archaeology among archaeologists in Ukraine is due to insufficient financial support for archaeology as a whole. Most experimental archaeology projects are self-funded by researchers. Researchers have low motivation to use this method because it is not a priority, many do not understand its practical benefits, and have little experience in this field. Archaeology students throughout the country are not familiar with crafts and have little understanding of how the artifacts they study are made. Due to the war, historical clubs are fully engaged in volunteering, and many open-air museums are not operational. Therefore, the only direction that can bring positive change and activate scientific and educational processes in such conditions is experimental archaeology and living history. Experience shows that there are almost no special conditions required for conducting such work, and the material resources do not exceed the budget of ordinary excavations. Based on expeditions, which are currently temporarily suspended, it is entirely possible to create one's own field laboratories and ensure further successful operation.

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ЕСПЕРИМЕНТАЛЬНА АРХЕОЛОГІЯ ЯК АЛЬТЕРНАТИВНИЙ НАПРЯМОК В УМОВАХ ВІЙСЬКОВОГО СТАНУ

З початком російської агресії стало небезпечно для життя проводити археологічні розкопки. Альтернативним способом отримання інформації в нових умовах є екпериментальна археологія, яка є більш безпечною. Під час активної фази бойових дій командою ентузіастів було створено повноцінну польову лабораторію, де було проведено ряд успішних експериментів.

Ключові слова: *експериментальна археологія, війна, реконструкція, дослідження, лабораторія, безпека, давні ремесла.*