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Pottery production in prehistoric cultures of Croatian and Austrian Danube regions

Lončarstvo u prapovijesnim kulturama na području hrvatskog i austrijskog Podunavlja

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Key words: ceramics, archaeometry, Danube region, provenance of raw material, technology Ključne riječi: keramika, arheometrija, Podunavlje, podrijetlo materijala, tehnologija

The results of the ongoing bilateral interdisciplinary project "Pottery production in prehistoric cultures, especially Hallstatt culture, of Croatian and Austrian Danube regions" will be presented. The subject of this biannual research project is ceramic material from different prehistoric cultures that existed in the south-east Alpine region and part of the Croatian Danube region. Ceramics, as other handmade artefacts, reveal a social context of man in the past - his behaviour and activities as well as the social, economic and political arrangement. The main goals of the project are: (1) to determine the availability, as well as mineral and chemical characteristics, of raw materials; and (2) to reconstruct technological processes (selection raw material, preparation of clay paste, modelling techniques; firing methods, styles of decoration) of pottery production. Some of the major centres, in terms of prehistoric settlements and cultures, were situated along the Danube and its tributaries. Danube was one of the most important trade links on the European continent. The purpose of the project is to determine to what extent Danube can be seen as a unique area in prehistoric times, by examining: (1) whether the exchange of material goods included the exchange of technology (at the level of cultural horizon or at the level of smaller communities), or it is always related to the production centre, and (2) to which extent technological processes were conditioned by landscape (availability of raw materials), economic or social factors (matter of choice).

In the frame of the project, analysed material includes artefacts from Early Neolithic to the Roman period, as well as possible raw materials, from five archaeological sites of the Austrian and Croatian Danube region. The most famous site is Hallstat, represented by late Bronze and early Iron Age culture. It is the type site of the Hallstatt culture, the predominant Central European culture from the 8th to 6th centuries

BC (European Early Iron Age), developing out of the Urnfield culture of the 12th century BC (Late Bronze Age) and followed in much of Central Europe by the La Tène culture. Two other important sites are tell Damića gradina in Stari Mikanovci and tell Tržnica in the centre of Vinkovci. A tell is a hill created by many generations of people living and rebuilding on the same spot. Over time, the level rises, forming a mound. This multi-layered tell sites represent a very good examples of continuity of settling from the Early Neolithic period. Tell Damića gradina was inhabited continuously during 6000 years and Vinkovci, as they are settled even today, represents one of the oldest continuously inhabited places in Europe with about 8500 years of continuous settlement. The last two sites, situated in northwestern Croatia (Kurilovec-Belinščica in Turopolje and Selnica Podvratnec, Podgorica and Močvar in Podravina), belong to the broader cultural horizon of the Urnfield culture.

In order to achieve the appointed objectives, interdisciplinary approach and the cooperation of scientists from two completely different areas, natural sciences (geology) and the humanities (archaeology) is necessary. Archaeological part of the team has been responsible for collecting ceramic material, describing the context, making experimental ceramics and resolving archaeological problems, based on the results of the geological team. Part of the team whose specialty is geology has been responsible for reconnaissance of the availability of raw materials in the vicinity of investigated sites, as well as interpretation of chemical and mineralogical data order to determine the provenance of raw material and the technology. Archaeometric analysis of pottery fragments was essential step in the reconstruction of the technological process and their results indicate provenance of raw materials, a recipe for the clay mixture and the firing regime.