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Pavlov I: A large Gravettian site in space and time

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ABSTRACT

The formation of the large site clusters of the Gravettian (Pavlovian) represents one of the final effects of modern human adaptation in central Europe, but chronology of the site formation processes at such sites are still little understood. Here we present new evidence from Pavlov I, a site now prepared for the construction of a museum and subjected to a large-scale preparatory excavation. Understanding the spatial organisation, microstratigraphies, and the effects of cryogenic processes on the site formation is the basic presumption for lithic analysis at a large and complex site. Obviously, these extensive sites have a longer prehistory than was previously thought. The detection of the Early Upper Palaeolithic/Gravettian boundary was related to a radical change in the lithic raw material composition. The early and evolved Gravettian industries complete previously recorded the techno/typological spectrum by additional microlithic assemblages. With this new evidence, the paper also discusses the question of Gravettian origin.

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1. Introduction

The formation of the extensive site clusters of the Gravettian (Pavlovian) represents one of the adaptive patterns in the culminating stages of early modern human expansion to central Europe. Their central place on the map of Upper Paleolithic Europe was recognized soon after the beginning of the excavation at Dolní Věstonice I in 1924. The discovery of important symbolic objects from this context was later followed by early modern human burials (especially at Dolní Věstonice II), the first evidence of ceramic technology (Dolní Věstonice I, Pavlov I), possible fibre and textile technologies (Pavlov I), and meat and plant consumption (Vandiver et al., 1989; Adovasio et al., 1996; Trinkaus and Svoboda, 2006; Revedin et al., 2010; Pryor et al., 2013). These sites also provide broader contextual evidence about optimal settlement strategies, long-distance lithic material transport, and specialized hunting strategies. However, the details of the site formation processes at these sites are little understood due to the complex archaeological record and excavation techniques in the past. Although the majority of the dates and evidence clearly refer to the

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http://dx.doi.org/10.1016/j.quaint.2015.09.015 1040-6182/© 2015 Elsevier Ltd and INQUA. All rights reserved. evolved Gravettian (Pavlovian) period around 30 ka cal BP (*sensu* Svoboda, 1994), the time of origin of these sites remained undated. Understanding these contextual informations is the basic presumption for lithic analysis at a large and complex site.

Pavlov I is one of the largest campsites in the area below the Pavlov Hills (Fig. 1). Extensive parts of this site were excavated by Bohuslav Klíma between 1952 and 1972, and it was separated into two sectors - South-east and North-west (Klíma, 1954, 1959; Svoboda, 1994, 1997, 2005). Currently, Pavlov I is being prepared for the construction of a modern museum building with an *in-situ* exhibition, and our preparatory excavations between 2013 and 2015 aimed to reopen the surface and revise its spatial and stratigraphic context. In 2013 we excavated four trenches in the hitherto unexplored sector South-west. In 2014 we opened an area of approximately 80×20 m, part of which was excavated by Klíma and part of which was unexplored (Figs. 2 and 3). Additional excavation along the marginal parts of the planned building also continued in 2015. Sorting, analysing, and interpreting various types of evidence recovered during such large-scale excavation will be a long-term task. In contrast to Dolní Věstonice I, excavated by several generations of archaeologists, the advantage of Pavlov I is that it was excavated by two excavators and in two campaigns only, both with predetermined methodologies relevant to their times. Therefore, chances for creating a site model as a base for lithic analysis are better at Pavlov I than elsewhere.

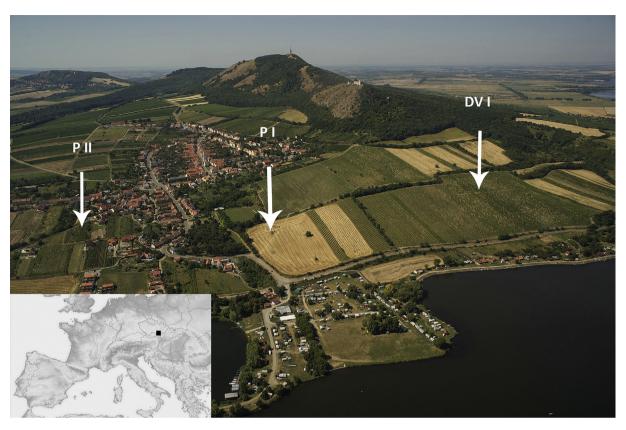


Fig. 1. Location of the sites Dolní Věstonice I, Pavlov I and II on the north-eastern slopes of the Pavlov Hills (550 m a.s.l.).

2. The evidence

2.1. Spatial organisation of a large campsite

The large sites are also centres of a variety of human activities. Their structure shows patterns of zonality, with central parts (a dense network of hearths, settlement features, and activity zones, including evidence of symbolic objects), and peripheries (with ashy areas, bone accumulations, and scarcer evidence of artefacts). Spatial analyses of these densely occupied areas were problematic in central parts of Pavlov I, where the settlement units are hard to delimit and several levels were mixed up (Verpoorte, 2000; Novák, 2005). Such situations pose questions about the very nature of the larger sites - whether it is best to deal with the addition of individual units over a given time period, or with one large settlement agglomeration, or with a combination of both. These issues are of key importance for evaluating social and demographic trends which stood behind the site formation processes, and for addressing the question of whether the size of a site directly correlates with with sedentism, human aggregation, and the level of hunter--gatherer's complexity.

While identifying his first 11 features, interpreted as dwellings, Klíma combined several viewpoints: "pits, a shallow depression, large bones along the edges, the spatial extent of the cultural layer, and artifact concentrations" (Klíma, 1959). Our approach while processing the excavation results was to analyse each of these components separately (Svoboda, 1994, 1997, 2005). Generally, the palimpsest area ranges over the South-east sector predominantly, with 11 features (K1-11), and partly in the North-west sector (K12-13).

After the removal of the LGM (Last Glacial Maximum) loess cover in 2014, it appeared that the Upper Palaeolithic surface

differed significantly from the current field surface which slopes regularly from the hilltop in the south towards the current lake in the north. Our excavation unearthed a longitudinal, east—west oriented elevation and an adjacent gully separating it from the hilltop, now filled with loess. The elevation was formed by redeposited Cenozoic flysch (Hustopeče marls and sands), and angular Jurassic limestone debris from the above rising klippes of the Pavlov Hills. The location of the central occupation palimpsest on top of this elevation shows that prehistoric inhabitants preferred this kind of subsoil, which was drier than elsewhere. Silty deposits on the slopes were occupied less intensively, or used as peripheral bone deposits.

Our approach differed methodologically in areas excavated previously and in the hitherto unexplored zones. Even in the already explored areas, we recovered remains of the basal cultural layers and additional artefacts and bones. By fixing the margins of the old trenches we could more precisely locate them in the general site plan. Although rather marginal in location, the newly excavated areas provide archaeological deposits more easily understandable in terms of spatial organisation and microstratigraphies. Here we completed one of Klíma's settlement units (K1), excavated one more settlement unit with an adjacent pit and surrounding activity areas (S1 and S2), a mammoth bone deposit (as a typical feature at sites in the area), and several other features and concentrations of faunal remains and artefacts (Figs. 2–3):

South-east (SE014) – additional settlement area with feature S1, an adjacent pit S2, and an activity zone (Figs. 4–5). Feature S1 is reconstructed as a shallow circular depression about 5-6 m in diameter, filled with anthropogenic sediments maximally 15–20 cm thick in the centre, and showing two stages of filling.

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