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Metal-touching tools from ancient graves: The case of a Roman period royal burial



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ABSTRACT

As is the case in countless prehistoric and early medieval burials in Europe and the Near East, the richly furnished burial of Germanic rulers from the second century AD, uncovered near the Roman army camp at Mušov (Czech Republic), also contained typical stone artefacts. Following the results of a chemical microanalysis of traces of precious and other non-ferrous metals on their surface, the authors discuss the original function of the artefacts. The observed streaks bring forward the issue of ancient metallurgy (an alloy of arsenic and silver), speisses (nickel), and document the testing of minerals (cinnabar). As this royal burial contained also representative forging tongs, it provides an occasion to illustrate the weakness of the still-popular social, or even "professional", interpretation of burials based on the tools they are furnished with, which reflects the dependence of today's archaeology on ideas from the first half of the nineteenth century, when the discipline was being established.

1. Introduction

Compared to distant reality, only a small number of the stone objects man used when working with non-ferrous metal have been identified among archaeological sources. However, the cause is not the low number of such finds but rather stereotypes of archaeological interpretation. Hundreds of thousands of these artefacts have been classified without closer examination as "whetstones", "hones", "hone stones", "stone pendants", etc. Disregarding the literally countless number of finds from settlements, trade centres, metallurgical workshops, etc., these oblong stone artefacts form a common component of grave goods from the Bronze Age up until the thirteenth century AD. Ranging in length from 3 cm up to 60 cm, they occur in children's graves and in prestigious barrows, in both male and female graves. Holes or notches in one end of many of those shorter than 30 cm suggest that they were worn hanging. They are typically found in graves in the area of the deceased's waist, which is also true for unperforated specimens, originally carried in sacks attached to the belt.

A microscopic study of the surface of typical stone artefacts from the Early Middle Ages demonstrated that their classification as whetstones is erroneous. Instead of streaks of iron, streaks of non-ferrous metals, including precious metals, were recorded on the artefacts (e.g. Ježek, 2013; Ježek, 2014; Ježek, 2016; Ježek and Zavřel, 2013; Ježek et al., 2013). A similar situation can also be assumed for identical artefacts in the previous periods beginning in the Eneolithic. The aims of the article

are to present the results of chemical microanalyses of typical stone artefacts from one of the richest European graves investigated by archaeologists, in this case from the Roman period, to place them in the context of modern research and to discuss the importance of acquired information for a future discourse on both burial archaeology and the reconstruction of the spiritual world of ancient Europeans. These efforts will naturally involve the rejection of the many illusions and stereotypes archaeology has accumulated over its two-hundred-year existence as an individual field of study.

2. The prestige burial at Mušov, south Moravia, Czech Republic

Although dozens of abundantly furnished graves are known from Magna Germania (or Germania Libera), only one has been identified as a "royal" grave (Peška and Tejral, 2002). Whether or not this designation is actually justified, the inventory of the burial chamber discovered at Mušov in south Moravia in 1988 is undoubtedly the furnishing of individuals of the highest standing in society, beyond the limes Romanorum in the second half of the second century AD. The precise chronological relationship between the Germanic grave and several Roman army camps built in the surrounding area during the 170 s and 180 s remains unknown (Fig. 1; Tejral, 2002, 78). The most recent artefacts from the burial date to the period of the Marcomannic Wars (166–180 CE) or directly afterwards.

Two males between the ages of 40 and 60 (Peška, 2002: 23, 68)

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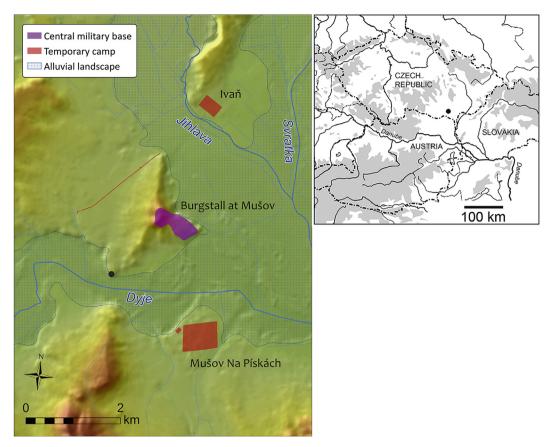


Fig. 1. Mušov region (Czech Republic), indicating Roman camps discovered thus far. Black dot: the prestigious burial discussed in the paper. Map by Marek Vlach, based on the data of the Institute of Archaeology, Czech Academy of Sciences, Brno.

were buried in the chamber with dimensions of $5.8 \times (ca.) 4 \times 3.2 \, m$. Despite having been looted in the distant past, the chamber still held an unprecedented collection of silver and bronze vessels, numerous exclusive weapons and military gear (e.g. six spear points, including one inlaid with silver, Roman *lorica laminata* armour, and the silver fittings of two shields), magnificent riding gear (16 spurs, including three pairs with silver inlay), luxurious utensils for roasting and cooking, a bronze folding table, a bronze double-flame lamp, numerous Roman pottery and glass vessels, a drinking horn, toiletries and cosmetic items, the remains of Roman furniture, or the remnants of several animals, etc. Taken as a whole, the inventory documents the lifestyle of Germanic rulers with close ties to the Roman Empire.

The gold, silver, exclusive weapons, vessels and other artefacts from the chamber burial at Mušov have already been subjected to proper evaluation in an exemplary, three-volume publication (Peška and Tejral, 2002). Our work, instead, focuses on two stone artefacts, which have been classified as 'whetstones', but also as cosmetic items or toiletries (Peška, 2002: 14). Their original placement in the chamber is not clear; a question that remains unanswered based on the varying age of the artefacts in the grave is whether the period between the individual burials spanned over a longer period of time or not. Due to the fact that, in terms of a cultural-anthropological perspective, a reason is lacking for the furnishing of burials with whetstones (Ježek, 2013; Ježek, 2015), the finds from Mušov were subjected to a chemical microanalysis. The first aim of our research was to determine whether the stones bear streaks of iron, which would confirm their function as whetstones, or whether they will reveal traces of non-ferrous metals.

3. The stone artefacts from Mušov

Both stone artefacts from the prestigious burial at Mušov are oblong, have a square cross section and rounded edges (Fig. 2A). All the sides

are perfectly smoothed. Artefact No. I2 is 12.7 cm long, while artefact No. I3 is 10.7 cm long and flares at one end in both lengthwise sections; one side of the opposite end is sharply bevelled almost to the edge. The colour of the stone material is cream to yellow. In the initial publication, the raw material of both artefacts is listed as rare berlinite (AlPO₄), which would hold significance in this extraordinary social context (Droberjar and Peška, 2002a: 454-455). The arithmetic average of the amount of main and secondary elements, or their oxides, based on repeated point measurements of both artefacts in a scanning electron microscope (SEM) reveals that the chemical composition of the two stones is approximately the same: 79% SiO₂, 7% Al₂O₃, 2% K₂O, 1% MgO. As the chemical microanalysis of the two stones revealed no phosphorus, the material is not berlinite. On the basis of observations under a binocular microscope, SEM surface images and chemical microanalyses, the rock can be identified as detrital sediment with a particle size corresponding to siltstone. In addition to the prevailing quartz grains, the sediment also shows a low proportion of kaolinite, clasts of partly weathered feldspar, minute flakes of light mica and an ancillary presence of heavy mineral grains. Based on its composition, the rock can be classified as quartzose siltstone. The origin of the raw material cannot be determined on the basis of analyses that could be conducted without causing damage to these artefacts - probably with uncertain results. In any case, the raw material is entirely common.

Both 'whetstones' also served as indirect evidence of the fact that three knives found in this same grave were used as utility tools (Droberjar and Peška, 2002a: 454). The finds are a bronze knife 7.3 cm in length, an open-work iron knife with a preserved length of 14.2 cm, and a fragment of an iron knife with a preserved length of 12.6 cm (Droberjar and Peška, 2002b: 613–614). Whether the knives were used for common or other purposes before being placed in the chamber burial is not essential at this point, although the material from one knife and the opening in the blade of the second do not indicate an usual

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