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## Missing elements in the cultural understanding of the hydrothermal landscape of the Carpathians in the Middle Paleolithic



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### ABSTRACT

As soon as in 1950', when the excavations at Middle Paleolithic sites in Slovakia such as Ganovce, Horka-Ondrej, Beharovce or Bešenova had begun, the correlation between archeological inventories connected with microlithic Taubachian and presence of travertine (sedimentary rock, formation of which in many cases is related to hydrothermal activity) was observed. Connection between two phenomena, cultural and geological, has never played a major role in the discussion of Neanderthal presence in Central Europe, as many sites outside of the Carpathians have not displayed any connection with travertine or thermal waters. Nevertheless, new analysis of data leads to the conclusion, that in light of some new evidence, this problem should be discussed again, especially in context of layer XIX of Oblázowa Cave in Polish Carpathians and layer 11 of the Kůlna Cave in Moravia.

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### 1. Introduction

In the 1950s, when the excavations at the Middle Paleolithic sites in Slovakia (such as Gánovce, Horka-Ondrej, Beharovce or Bešenova) began, the correlation between archeological inventories, connected with small dimension industry called Taubachian, known also from sites in eastern Germany and northern Moravia, and presence of travertine (sedimentary rock, formation of which in many cases is related to hydrothermal activity) was observed (e.g. Valoch, 1984).

European Middle Paleolithic units can be presented as follows: for western Europe, the system elaborated by Bordes (1979) is considered classic. Interpretation of the rest of Europe in this period is more complicated. In the history of research, several approaches towards this problem have been elaborated. Taubachian, one of the Central European complexes, needs further study and is still not satisfactorily defined.

In Collins (1969), the Taubach Type (or Taubachian; Fig. 2) is presented for the first time in the wide Paleolithic context. It is suggested that it is linked with late Acheulean industries. In his proposition, the author emphasizes the role of Levallois points, backed blades and denticulates in contrast with the presence of hand-axes as indicators for connection with the Acheulean family.

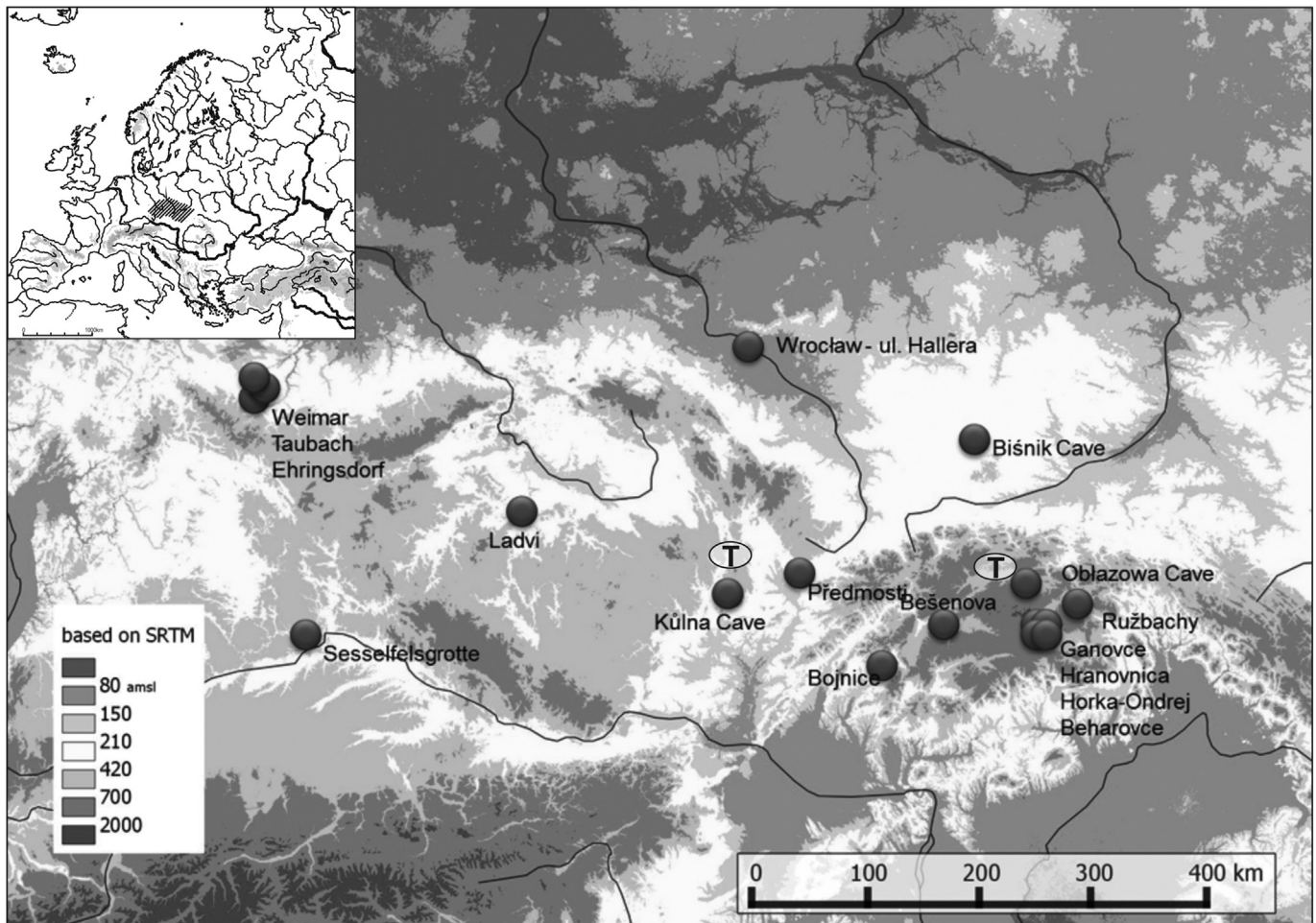
The proposed understanding seems to be the first attempt towards a definition of the discussed industries. However, it is considered in terms of classic examples of the western European Palaeolithic and is mostly unclear, especially while applied to Central European inventories.

A relatively precise definition was given by Valoch (1984, 1988, 1995), who investigated rich inventories of layer 11 in the Kůlna Cave (Fig. 3), and used the term coined by Collins for description of the studied industry, together with the assemblages already discovered at the sites in Slovakia (Barta, 1980; Barta and Banesz, 1981) and eastern Germany (Valoch, 1984, 1988). K. Valoch also noted such industries developed in the Eemian interglacial (Valoch, 1984, 1988, 1995). Later he also concluded, that according to the U/Th measurements, they might also be placed in the beginning of Vistulian glaciation (interstadial Brörup; Valoch, 2003: 6, 14–15, Tab. 1). J. Svoboda, using the term of “les industries de petites dimensions” for some central European sites, including the Taubachian ones, placed them in a similar chronological frame (Svoboda, 1984: 169–172).

The criteria of small dimensions of artifacts, noticeable among cores as among blanks and prepared tools, is underlined by most authors (Svoboda, 1984; Valoch, 1984; Weismuller, 1995), together with the statement, that microlithisation of artifacts was a result of a conscientious choice, and not of, for example, lack of appropriate raw material (Valoch, 1984; Weismuller, 1995; Moncel, 2001). This trait can be explained in many ways. A convincing hypothesis was proposed by Moncel (2001), who suggested that this might be a

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**Fig. 1.** Map of sites of Taubachian *sensu lato*. T – travertine outcrops formerly not considered as connected with Taubachian (Oblazowa Cave – Halicki, 1930, Kůlna Cave – J. Otava, pers. comm.).

result of economy based on scavenging – easier in areas of hot springs rich in large fauna such as bovines, horses, and in many cases elephants. These herbivores could have been dismembered by very small flakes, which explains the need for that kind of specialization in stone tool inventories.

The lack of hand-axes, and high index of denticulate and notched forms, use of Mousterian (discoïd) cores, and the absence of Levallois technique should be considered as very useful criterion for detection of the Taubachian industries *sensu stricto*. If we imply such a rule, the group of assemblages traditionally connected with the Taubachian *sensu lato* will become smaller. In this presentation, this strict definition will be used. This way, the territorial dispersion of the Taubachian will become more convincing and confined.

Most researchers notice the existence of a relationship between mineral water springs (thermal waters?) and the occurrence of Taubachian. A good example of such a relation is the site of Ganovce in northern Slovakia (Banesz, 1990). A fossil Neanderthal brain was found at the locality in 1926 together with a small series of Taubachian artifacts. The criterion of connection of the site with a thermal water spring will lead to further reduction of the number of Taubachian sites.

However, two of the classic Taubachian sites: Kůlna Cave (Valoch, 1984) and Oblazowa Cave (Valde-Nowak et al., 2003) have never been regarded as confirmation of such a tendency. There are arguments to include those “missing elements” into the range of typical hydrothermal Taubachian localities. It can also be observed

that a concentration of the Taubachian sites comes from mountainous landscapes: the Western Carpathians as well as out from the northern edge of the Thuringian Forest (Fig. 1).

Similar suggestions have been made already by other authors. However, the relation of terrain type (flat basins surrounded by valleys in mountainous areas) and presence of thermal water springs, even if meaningful (Moncel, 2001) has not been treated as a defining feature of Taubachian sites. A possible connection with the mountains or highlands and subsequently the technological criteria with an emphasis on the lack of Levallois technique should be investigated. Finally, the mineral waters' context should be taken into consideration.

## 2. The archaeological evidence

Situated in the large mountainous valley, Oblazowa Cave documents the multicultural Paleolithic sequence. One of the richest assemblages comes from layer XIX, placed in the early Vistulian. The U/Th date, lately obtained from a horse bone from that level:  $76^{+14}_{-13}$  ka confirms this chronology.

The inventory of layer XIX consists of over 2000 artifacts made mostly of local (outcrops known in the area of less than 5 km from the site) radiolarite and, in few cases, of obsidian (which could not have been collected from a distance of less than 50 km). Characteristic traits of the inventory are small dimensions of the whole set, including all technological groups: cores, tools and others

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