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Michaela Polanska, Martin Novak, Laurent Klaric

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SLOVENSKEJ AKADÉMIE VIED

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**Multiple perspectives on lithic studies in Central and Eastern Europe**

**Adrián Nemergut – Ivan Cheben – Katarzyna Pyżewicz  
(editors)**

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## FOSSILES DIRECTEURS VARIABILITY IN LATE AND FINAL STAGES OF THE GRAVETTIAN OF CENTRAL EUROPE

Michaela Polanská – Martin Novák – Laurent Klaric

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**Keywords:** Gravettian, Central Europe, Moravia, Slovakia, *fossiles directeurs*, Kostenki knives, shouldered points, heterogeneity of human groups

**Abstract:** The Upper Palaeolithic cultures in Central Europe are traditionally defined on the basis of lithic artefacts, predominantly various types of retouched tools, which are usually considered to be typical of a given culture. For the Late and Final Gravettian, the shouldered points and Kostenki knives are supposed to be the main *fossiles directeurs* in this region. Based on the identification of these artefacts in Central and Eastern European lithic assemblages, terms such as “Willendorf-Kostenki/Willendorf-Kostenkian”, or “Eastern Gravettian” or even “Shouldered Point Horizon” have emerged, pointing to the analogy between sites hundreds of kilometres apart. However, new excavations, revisions of old collections, as well as modern research methods, have brought new insights into these emblematic artefacts. Although they are likely to be found in some Central European Late and Final Gravettian assemblages, their occurrence is less common than had been anticipated in the past. Our paper aims to propose a historical “Central European” view on these traditional *fossiles directeurs* considering their identification and cultural value. We also describe their influence on the historical development of terminology in Central European Palaeolithic archaeology.

### INTRODUCTION

The Gravettian is one of the pan-European cultures of the Upper Palaeolithic, which has long attracted attention for its rich material culture and symbolic aspects (i.e. Female figurines/Venus, burials, and personal ornaments). Central Europe, located at the intersection of Western and Eastern influences, plays an essential role in defining this term. It was the classical sites of former Czechoslovakia, such as Předmostí Ia and Dolní Věstonice I, which represented one of the first analogies to the sites of La Gravette or Kostenki I, sites that led to the definition of the term Gravettian itself (Fig. 1; e.g. Garrod 1938; Laccore 1960).

From the first half of the 20<sup>th</sup> century, a strong emphasis was particularly placed on the analogies between Central and Eastern European sites, based, among others, on the characteristic lithic tools (*fossiles directeurs*; Fig. 2; 3). These typological comparisons led to the separation of the “Western” and the “Eastern Gravettian” (e.g. Hawkes 1940). Shouldered points and Kostenki knives were traditionally discussed in the case of comparing Central and Eastern Europe (e.g. Kozłowski 1969; 1986; Otte 1981). Considering these comparisons, the terms such as “Willendorf-Kostenki/Willendorf-Kostenkian”, “Eastern Gravettian” or even “Shouldered Point Horizon” have emerged, pointing to the analogy between sites hundreds of kilometres apart (e.g. Grigor’ev 1968; 1993; Gvozdover 1998; Hromada 1998; Kozłowski 1969; Kozłowski/Sobczyk 1987; Lisitsyn 2019; Svoboda 1996). Today, however, it is evident that although Kostenki knives and shouldered points are likely to be found in some Late and Final Gravettian assemblages of Central Europe, their occurrence is less common than had been anticipated in the past (Klaric et al. 2015; Polanská/Hromadová 2015; Polanská/Hromadová/Sázelová 2021).

In recent years, the issue of Central European Late and Final Gravettian has received increasing attention, since new excavations, revisions of historical collections, as well as modern research methods, have brought new insights into this topic. Gradually, the occurrence and character of





Fig. 1. Main Central and Eastern European Gravettian sites (CAD M. Polanská; www.maps-for-free.com).

traditional lithic *fossiles directeurs* are critically discussed (Klaric et al. 2015; Polanská/Hromadová 2015; Polanská/Hromadová/Sázelová 2021) and other characteristic tools that illustrate the variability of lithic assemblages have come to the fore (e.g. Eigner et al. 2020; Lengyel/Mester/Szolyák 2016; Polanská/Hromadová 2015; Wilczyński et al. 2015; 2020). It turns out that the assemblages dated later than 25 ky uncal BP (29 ky cal BP), which would be suitable for a full-fledged characterisation of the traditional *fossiles directeurs*, do not appear (or only to a very small extent) in the collections of former Czechoslovakia today.<sup>1</sup>

In our work, we would like to contribute to the discussion of the occurrence of Kostenki knives and shouldered points in collections from former Czechoslovakia, considering their identification and cultural value. The aim is to propose a historical “Central European” view on these traditional *fossiles directeurs* because their initial identification and subsequent influence on the historiography of the term Gravettian in former Czechoslovakia have not received much attention in the literature so far.

#### MUTUAL INFLUENCES BETWEEN CENTRAL AND EASTERN EUROPEAN SCHOOLS OF THOUGHT IN THE DEFINITION OF THE LATE AND FINAL GRAVETTIAN IN FORMER CZECHOSLOVAKIA

To understand the evolution of the definition of Gravettian in Central Europe, it is essential to know the history of research in both Central and Eastern Europe, and also the differences between their schools of thought (e.g. K. Absolon, P. P. Efimenko, M. D. Gvozdover, B. Klíma, J. K. Kozłowski, S. M. Zamjatnin)

<sup>1</sup> For example, at Moravany-Podkovic, the reassessment of the collection confirmed the presence of shouldered points but no Kostenki knives were to be found.

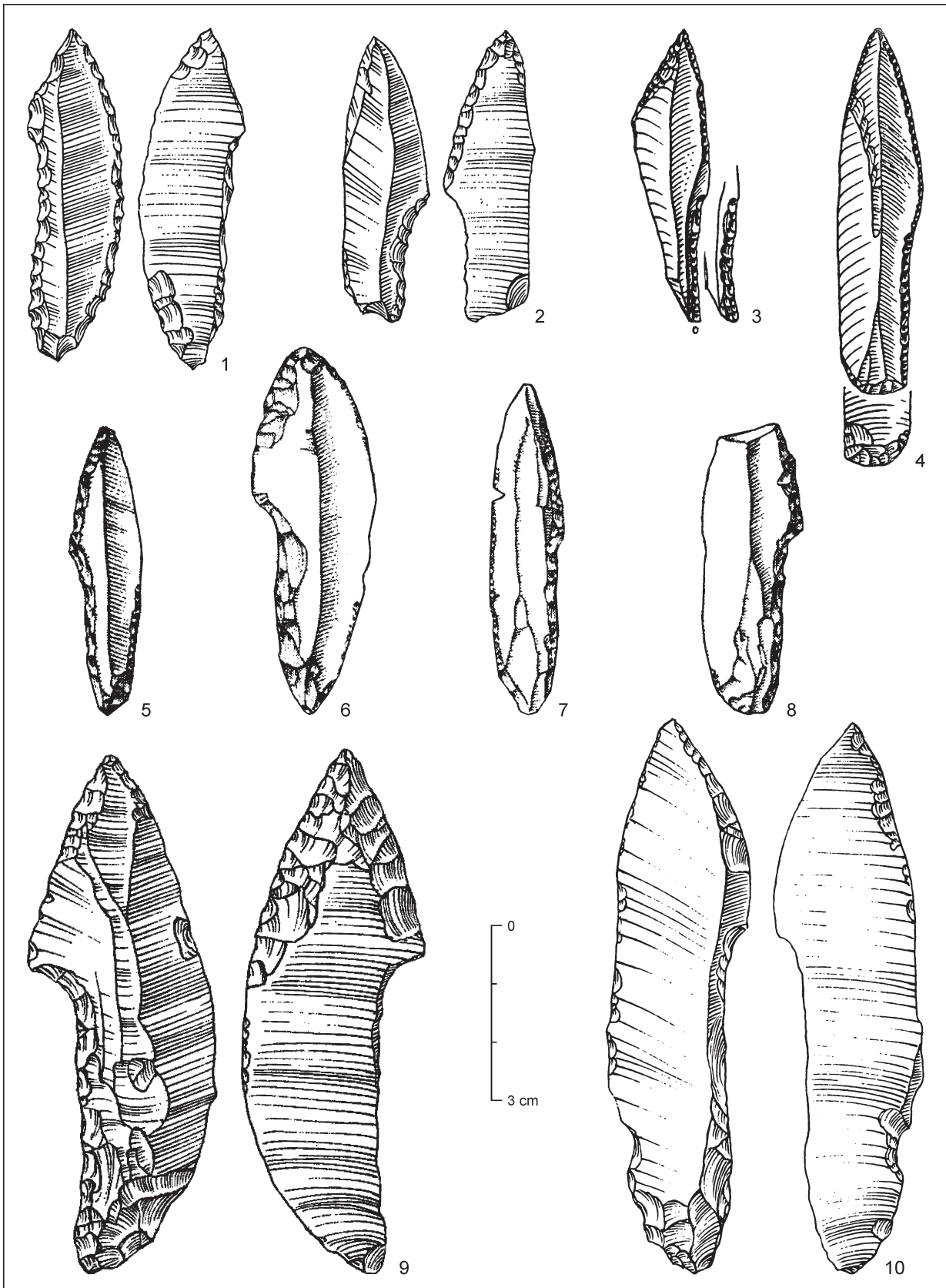


Fig. 2. Shouldered points and questionable "shouldered points" historically identified on various Central and Eastern European sites. 1, 2 – Willendorf I; 3, 4 – Předmostí Ia; 5–8 – Moravany-Podkovicva; 9, 10 – Kostenki I (1, 2 – after *Onorotini 1978*; 3, 4 – after *Valoch 1986*; 5–8 – after *Bárta 1965*; 9, 10 – after *Efimenko 1958*).



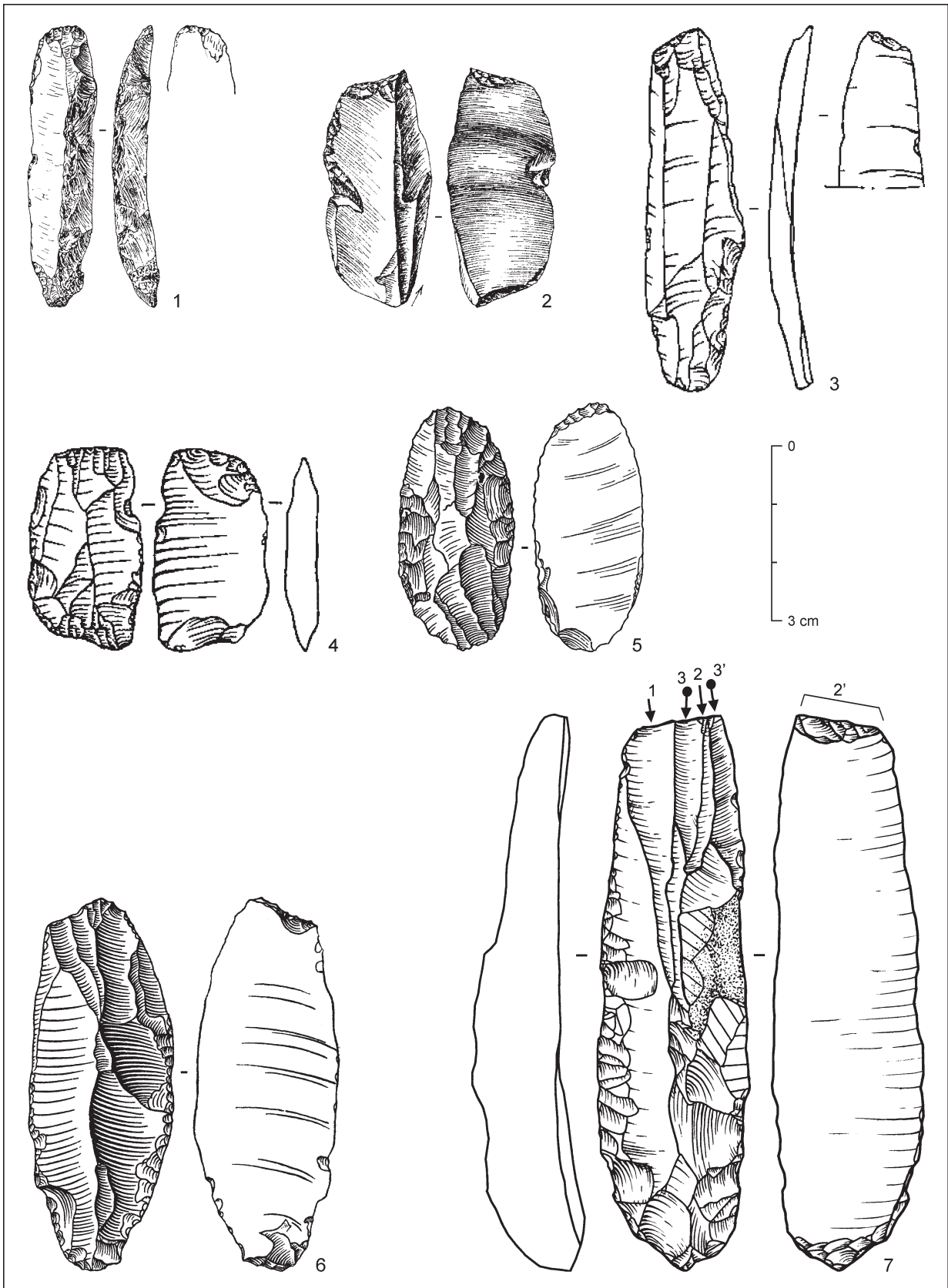


Fig. 3. Kostenki knives and questionable “Kostenki knives” historically identified on various Central and Eastern European sites. 1 – Berdyzh; 2 – Předmostí Ia; 3, 4 – Avdeevo; 5, 6 – Kostenki I; 7 – Pavlov I (1, 2 – after Absolon 1947; 3, 4 – after Gvozdover 1998; 5, 6 – after Efimenko 1958; 7 – drawings by M. Polanská).

each with its own specific methods of work. It is also necessary to consider these schools in the state of research of the given time and the then-available knowledge (known sites, realised studies, etc.).<sup>2</sup>

Each of the schools of thought is the result of the development of archaeology in a given part of Europe and responds to the specifics of its region. In this regard, the definition of archaeological cultures<sup>3</sup> in Eastern Europe, concerning the Middle and Late Gravettian (e.g. *Efimenko 1958; Grigor'ev 1970; 1979; Rogachev 1953*), is based on a set of criteria (such as typical lithic and hard animal material tools, characteristic dwelling structures, specific symbolic and aesthetic elements, etc.) in a multilateral association.<sup>4</sup> On the other hand, in Central Europe, there were only two ways regarding the definitions of the archaeological cultures of the Upper Palaeolithic. In the first one, as in Eastern Europe, archaeological cultures were defined on the basis of a set of multiple features, arising from the richness and originality of their material culture and symbolic expressions (e.g. Pavlovian with its specific stone tools, hard animal material industry and personal decorations). However, in most cases (the second way), similar to the system in Western Europe, the cultural definitions were mostly based only on the characteristic stone tools. This is the case, for example, with the Late and Final Gravettian, which, in contrast to Pavlovian, was defined mainly by the presence of shouldered points and Kostenki knives, because the find circumstances or the limited nature of the finds did not allow it otherwise (uncharacteristic, less numerous or completely missing hard animal material industry, faunal remains, etc.). Shouldered points and Kostenki knives thus became the most significant *fossiles directeurs*, which for several decades have served as the primary analogies between the East and Central European Late/Final Gravettian (for more, see *Grigor'ev 1993; Kozłowski 1969; Lisitsyn 2019*).

As mentioned above, the analogies between Central and Eastern Europe have been developed since the first half of the 20<sup>th</sup> century (e.g. *Breuil 1924; Freund 1944; Garrod 1938; Zamjatnin 1930*). There were, in particular, Russian researchers looking for stone tools similar to those that found on the sites such as Kostenki I, or later Gagarino and Avdeev (Grigor'ev 1965; 1966; 1998; *Gvozdover 1961; 1998; Tarasov 1979; Zamjatnin 1930*). The Central European approaches have gone in an independent direction (e.g. *Kozłowski 1969; 1986*). One of the examples is Kostenki knives. In Central Europe, the attention has been focused on the modification and morphology of the striking surface, leading to their interpretation as “chisels” (for a complete history, see *Klaric et al. 2015*). Shouldered points are another similar example, where morphology and placement of the shoulder retouched part were the main attributes considered (*Kozłowski 1976*).

#### HISTORIOGRAPHY OF THE TERM “GRAVETTIAN” IN FORMER CZECHOSLOVAKIA AND THE ROLE OF TRADITIONAL LITHIC *FOSSILES DIRECTEURS*

During the Second World War, when Germans militarily occupied Moravia and Slovakia, the research activities focused on confirming the origin of the Aryan race (e.g. *Eickoff 2009*). A German professor L. Zotz from the German University of Prague was one of the leaders of Palaeolithic research in Central Europe. He notably excavated the complex of the Upper Palaeolithic sites around Moravany nad Váhom in Western Slovakia (district of Piešťany). It resulted in the notice that although dated to the “Late Aurignacian” period, the sites around Moravany nad Váhom are chronologically later than Dolní Věstonice (*Zotz/Vlk 1939*). Moreover, Zotz's first comprehensive paper about the finds from the sites of Moravany-Lopata I, Noviny, and Žakovská (*Zotz/Vlk 1939*) is structured according to the modern tendencies in favour of the term “Gravettian” (Fig. 4) proposed by *D. Garrod (1938)*. She also proposed a term “industry of the Willendorf type” based on the presence of shouldered points within the assemblages from the sites of Dolní Věstonice I, Předmostí Ia, and Kostenki I (*Garrod 1938, 23*). L. Zotz partially agreed with her

<sup>2</sup> Today several obstacles hinder the process of understanding such as the availability of publications, the language used in old publications, and more globally an insufficient knowledge of the archaeological contexts.

<sup>3</sup> The problem of the archaeological culture definition of the Upper Palaeolithic in Eastern Europe is more complex. Our simplified explanation does not include a discussion of the cultural definition problem in the Upper Palaeolithic in the Soviet and post-Soviet school of archaeology (for more information, see *Boriskovsky red. 1984; Efimenko 1953; Rogachev 1951; 1957; Vasil'ev 2008*).

<sup>4</sup> On the contrary, in Western Europe, the lithic industry was one of the main (and sometimes the only) criteria for the definition of cultures and cultural groups within for the Middle Upper Palaeolithic. But the situation has been changing since the beginning of the 21<sup>st</sup> century and now more features (art, adornments, bone industry, etc.) are considered. For a definition of prehistoric culture in Western Europe, see *Leclerc/Tarrête (2005, 295)* and *Klaric et al., in press*.

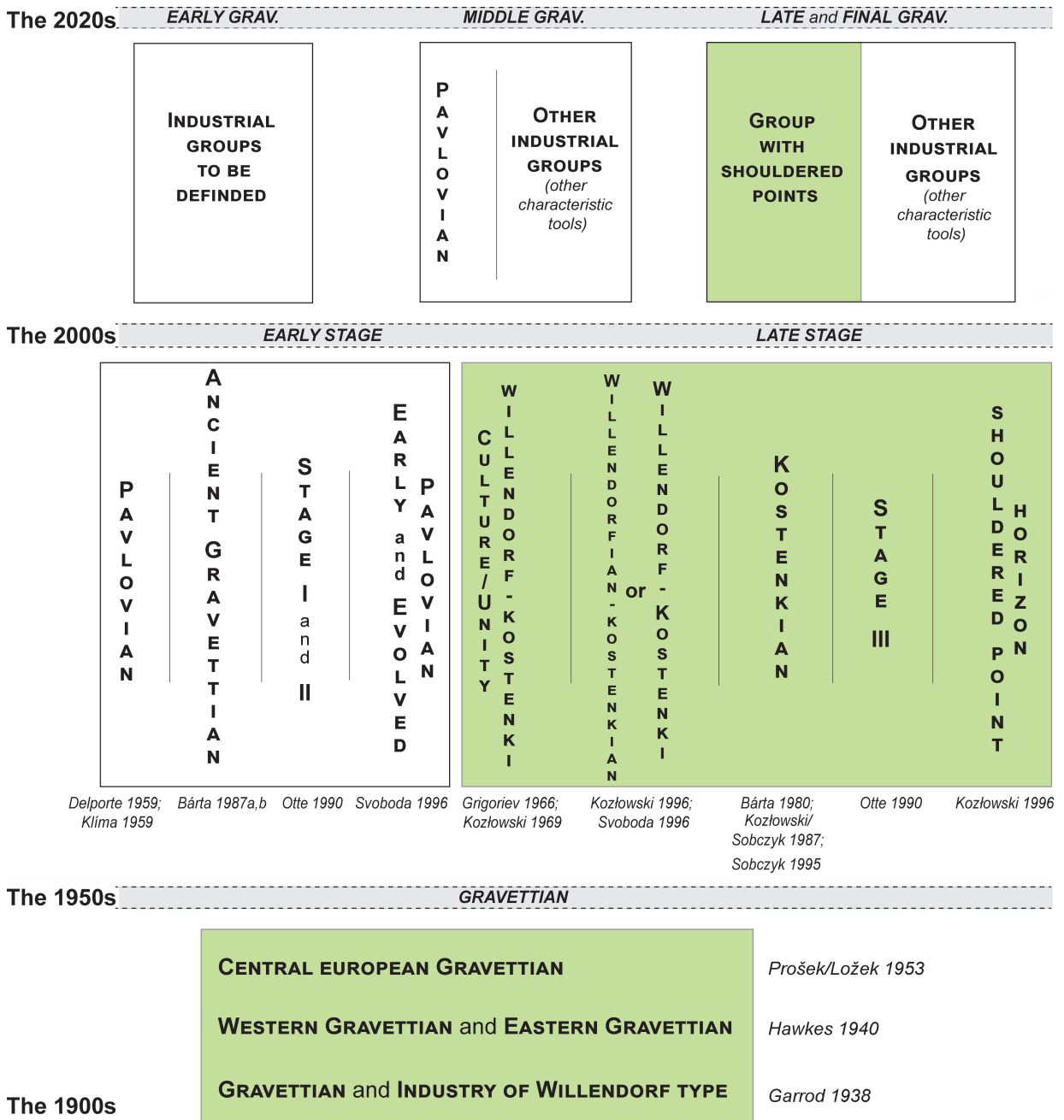


Fig. 4. Historical evolution of the terms used in Central Europe (CAD by M. Polanská).

concept of Gravettian, and under the influence of *B. Richthofen (1933)*, he underlined the typological resemblance between “Late Aurignacian” finds (shouldered points) from the sites of Moravany nad Váhom and those found at the sites in Eastern Europe (mainly Kostenki I/1, Berdyzh, Gagarino). However, he did not exclude a possible connection between the Moravany sites and those from Austria and Germany (*Zotz/Vlk 1939*). It should be noted that *K. Absolon (1947)* also pointed out the similar analogies. He was looking for links between the lithic artefacts from the site of Předmostí Ia and the artefacts (e.g. those looking like Kostenki knives) from the Easter European sites with the presence of specific typological elements (Berdyj and Kostenki I). These artefacts had previously been published in the works of *S. M. Zamiatnin (1930)* and *B. Richthofen (1933)*.

In the 1950s, the Czechoslovak archaeologist *F. Prošek* considered that the common presence of the shouldered points and the white-patinated flint from the Bugu region in the collection from the site of

Moravany-Podkovicova might indicate the relationship between Gravettian industries from Central and Eastern Europe (Ambrož/Ložek/Prošek 1952; Prošek/Ložek 1953). He suggested the term “Central European Gravettian” (Fig. 4; Prošek/Ložek 1953, 58) as an answer to C. F. C. Hawkes’s proposal to divide the Gravettian of Europe into two geographical groups – the “Western Gravettian” and the “Eastern Gravettian” (Hawkes 1940). In the mid-20<sup>th</sup> century, the researches increasingly referred to the analogies based on the presence of shouldered points in the collections of Central and Eastern Europe. These points were identified in the collections of Kostenki I (Efimenko 1915; 1958), Willendorf I and II (Felgenhauer 1959) and at the complex of sites around Moravany nad Váhom (e.g. Bohmers 1960, 31). According to this, they have been called Kostenki points/Kostenki type points or Willendorf points (Bohmers 1960; Zamiatnin 1934). This process led to the proposal of the term “Willendorf-Kostenki culture/unity or Willendorf-Pavlov-Kostenki-Avdeevovo cultural unity” (Grigor’ev 1966), which was later accepted by J. K. Kozłowski (1969), although the sense was different in his conception. Since then, G. P. Grigor’ev and J. K. Kozłowski started to distinguish the Gravettian of Central Europe into two chronological stages – the Pavlovian<sup>5</sup> (a chronologically earlier) and the Willendorf-Kostenki (a chronologically later) cultural phase (Fig. 4). Simultaneously, J. K. Kozłowski (1969) argued that the atypical lithic assemblage of Petřkovice I could not be classified as the Willendorf-Kostenkian because it showed no analogies with other sites of this culture (such as Willendorf II, layer 9 for example). The same idea was already mentioned by K. Valoch (1959) and B. Klíma (1961), who attributed the site to the Early Gravettian on the grounds of the typological character of the assemblage (especially the presence of leaf points).

During the 1970s and 80s, the Palaeolithic research in Slovakia mainly focused on the identification of shouldered points in the Váh valley region, where they could be later than those from the Moravian sites (Bárta 1987a; 1987b). During this period, the most intensive research activity took place in Poland, where the site of Kraków-Spadzista was systematically excavated (e.g. Kozłowski/Sobczyk 1987). A new term “Kostenkian” was also introduced here as a synonym to the Willendorf-Kostenki/Willendorf-Kostenkian (Bárta 1980; Kozłowski/Sobczyk 1987; Sobczyk 1995).

Regarding the chronological division of the Gravettian in Central Europe, more important syntheses were published during the 1990s. Among others, M. Otte (1990) proposed three stages for the Gravettian period based on typological description – the first with microlithic *fléchettes*, the second with large points, and the last one with shouldered points. In another synthesis, J. Svoboda (1996) proposed to divide the Gravettian into three time-defined stages – the Early Pavlovian stage (30,000–27,000 uncal BP), the Evolved Pavlovian stage (27,000–25,000 uncal BP) and the Willendorf-Kostenkian stage (24,000–20,000 uncal BP). J. K. Kozłowski (1996) confirmed the two stages of Pavlovian; however, he suggested the term “Shouldered Point Horizon” for the late phase of the Gravettian (Fig. 4). Another valuable asset for the study of Late and Final Gravettian lithic industries represented the systematic field research of J. Hromada at the Moravany nad Váhom settlement area (Hromada 1998; Hromada/Kozłowski eds. 1995; Kozłowski ed. 1998) and a bit later the excavation of L. Kaminská and J. K. Kozłowski at the site of Banka-Horné farské role (Kozłowski ed. 2000). In the mid-1990s, some terminological stabilisation occurred in the matter of naming the Late Gravettian, although still differing by individual authors using either the term Willendorf-Kostenki/Willendorf-Kostenkian (e.g. Hromada 1998; Oliva 2007; Svoboda 1996; 2007), or the term Shouldered Point Horizon (Kaminská zost. 2014; Kaminská/Kozłowski 2002; Kozłowski ed. 2000).

Over the last decade, several ongoing projects and studies have reopened the question of the chronology of the Central European Gravettian. They drew attention to the diversity of lithic assemblages and subsistence strategies in the Gravettian of Central Europe (e.g. Lengyel/Mester/Szolyák 2016; Moreau 2012; Polanská/Hromadová 2015; Šída 2016; Wilczyński et al. 2015; 2020; Wojtal et al. 2019). Thus, Kostenki knives and shouldered points are still considered to be the characteristic tools of the late phase of the Gravettian, although some critical studies, as well as first interpretations of traditional lithic *fossiles directeurs*, have reassessed the question (e.g. Klaric/Hromadová 2016; Klaric et al. 2015; Polanská/Hromadová/Sázelová 2021; Polanská/Novák/Klaric 2019). Currently, terms such as Willendorf-Kostenki or Kostenkian are gradually being replaced by the general term Late and Final Gravettian. The focus remains on the issue of industrial variability and the simultaneous existence of several groups (Fig. 4), which inhabited the territory of former Czechoslovakia as well as the question of analogies with Eastern Europe.

<sup>5</sup> The term Pavlovian has been formerly proposed as a general synonym for the Central European Gravettian and later as a designation for a specific geographic group with a higher occurrence of its sites around the Pavlov Hills (Delporte 1959; Klíma 1959; 1961). For more detailed historiography of the term Pavlovian, see Polanská 2020.



## TRADITIONAL LITHIC *FOSSILES DIRECTEURS* A SUMMARY ON THE STATE OF RESEARCH IN FORMER CZECHOSLOVAKIA

### Shouldered points

The issue of shouldered points in the Late and Final Gravettian of Central Europe has recently been commented on in several articles and conference presentations (Klaric/Hromadová 2016; Kufel-Diakowska *et al.* 2016; Polanská/Hromadová 2015; Polanská/Hromadová/Sázelová 2021; Polanská/Novák/Klaric 2019; Wojtal *et al.* 2019). From a historical point of view, it is possible to divide the research into three stages.

#### First stage

In Central Europe, the shouldered points were identified according to the Eastern European finds (from the site of Kostenki I and Avdeevo), which Zamiatnin described under the name “Kostenki points/Kostenki shouldered points” as “... shoulder on massive blades with invasive inverse retouch...” (Zamiatnin 1934, 51). However, here in Central Europe, these artefacts differ mainly in size and often just in the absence of invasive retouch on the ventral side (Fig. 2; e.g. some pieces from the Willendorf I or Předmostí Ia site). Also, for this reason, they started to be called “atypical”, or “Périgordian” shouldered points, according to the original definition of Peyrony (Brézillon 1971, 295) or Sonnevile-Bordes (Sonneville-Bordes/Perrot 1956),<sup>6</sup> who thus referred to similar smaller Western European points without ventral retouch.

#### Second stage

According to morphological criteria and realised modifications of a blank, J. K. Kozłowski defined several groups of shouldered points (Kozłowski 1969; 1976). However, this approach was focused mainly on describing statistical parameters in collections. Later, the same author, with the collaboration of A. Montet-White (Kozłowski/Montet-White 2001), supposed that the morphology of these pieces was related to function and resulting from different activities (cutting implements, hunting points) and the inverse retouch was facultative and non-stylistic.

#### Third stage

In the last decade, research studies resulting from new excavations of sites and revisions of lithic collections increased the state of knowledge regarding the traditional *fossiles directeurs* (e.g. Kufel-Diakowska *et al.* 2016; Wojtal *et al.* 2019). In former<sup>7</sup> Czechoslovakia, there are 20 post-Pavlovian sites where shouldered points were mentioned (Polanská/Hromadová/Sázelová 2021, table 1). Nevertheless, there are not enough of these points in any assemblages to allow their full characterisation as well as a description of their production system. Besides, there is an issue of correct interpretation of the “shoulder” part on the artefact, which can also be the result of various artefact modifications and operations. It is therefore necessary to evaluate these artefacts in the broader context of the whole lithic assemblage and their conservation and technical state – whether they are finished or not, complete or broken, pieces discarded during retouching, pieces representing by-products or a waste of backed blade/bladelet production, and also taking into account their further transformation or reutilisation.<sup>8</sup>

Considering the above mentioned, it is evident that shouldered points are not present either in the Middle Gravettian or in the transitional industries towards the Late and Final Gravettian (the sites of Milovice I<sup>9</sup>, Dolní Věstonice III, and Jarošov-Podyrřša; Polanská 2020). Also, their presence is questionable in the assemblages from the sites of Nitra-Čermáň and Petřkovice I (Fig. 5; Polanská/Hromadová/Sázelová 2021), and in the others, as Banka-Horné farské role<sup>10</sup> (Alexandrowicz *et al.* 2000; Polanská 2009)

<sup>6</sup> “N 56. Pointe à cran périgordienne, dite atypique” (Sonneville-Bordes/Perrot 1956, 547).

<sup>7</sup> The 18 sites summarized by M. Polanská (Polanská/Hromadová/Sázelová 2021) are supplemented by two more sites of Cejkov I (Bánesz 1961) and Marhaň (Valde-Nowak 2008).

<sup>8</sup> For more, see Pelegrin/O’Farrell 2005.

<sup>9</sup> For a different point of view, see Wilczyński *et al.* 2019.

<sup>10</sup> The small sized collection of the Banka – Horné farské role site (Kopanica part, trench n. IV) includes a shouldered point

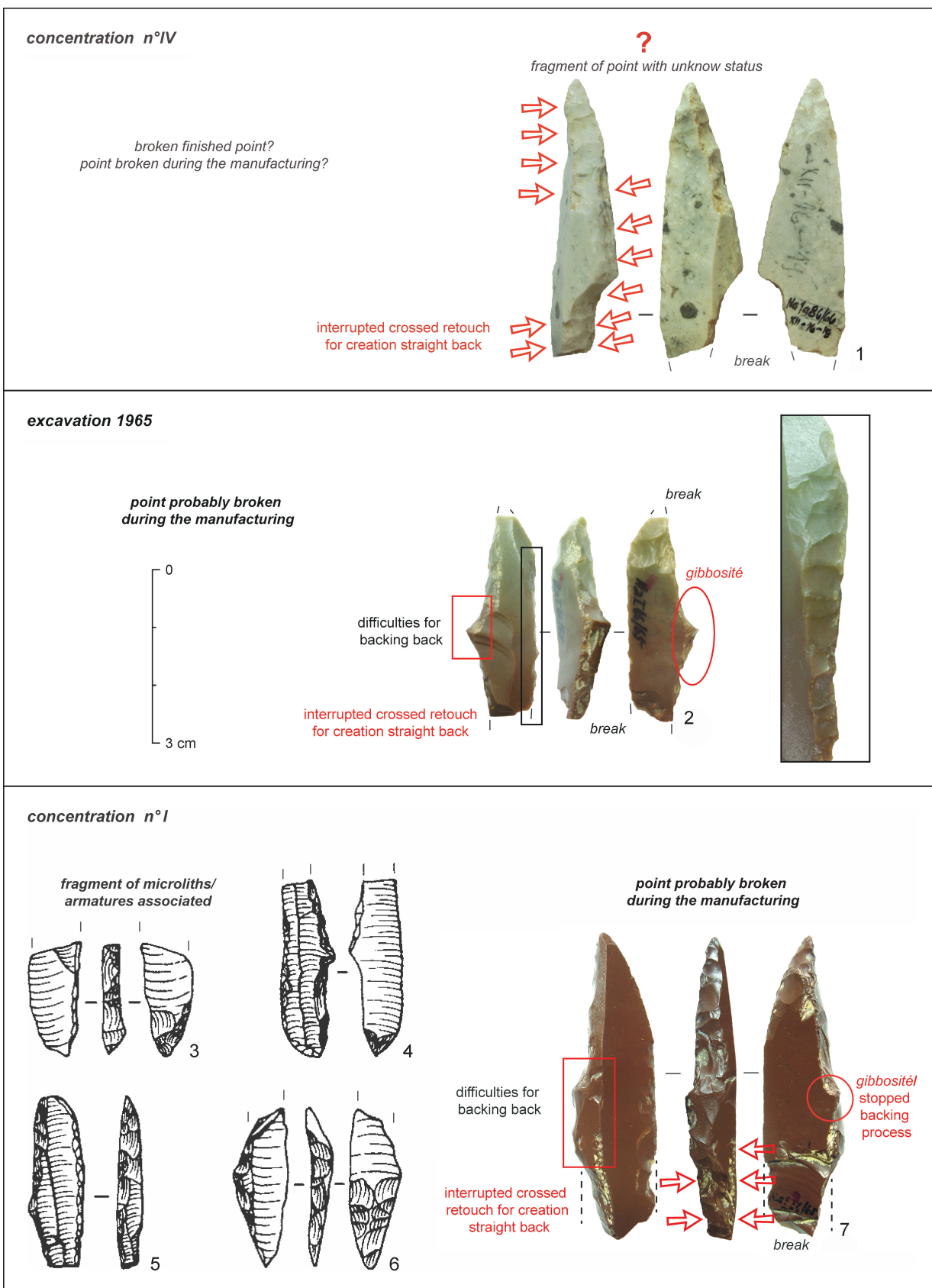


Fig. 5. Broken points of Nitra-Čermáň (no points are complete; 1 – unknown status; 1, 2, 7 – photos by M. Polanská; 3–6 – after Kaminská/Kozłowski 2011).



or Moravany-Noviny, there are only a few (Bárta/Kazior 2000). The reassessment of the collection from Moravany-Podkovicica has not been published yet but according to a conference presentation (Klaric/Hromádová 2016), this site appears to be one of the richest of the area for shouldered points.

To summarise the evolution of influences between Eastern and Central Europe: The original idea of shouldered points comes from S. M. Zamjatnin (1934), defining them as tools made on massive blanks.

In Eastern Europe, regarding the typological research in the second half of the 20<sup>th</sup> century, several studies of this issue followed, devoted to the more precise definition and typology and drawing attention to the diversity of blanks' modifications and morpho-metric variability (e.g. Belyaeva 1979; 2007; Bulochnikova 1988; Gvozdover 1998; Gvozdover/Belyaeva 1988; Lev 2005; 2009).

In Central Europe, the researchers were influenced by Zamjatnin's original definition for a long time. That is also why we still lack a new, more precise definition of shouldered points, considering their variability in size and modifications of the ventral side or shoulder, as seen on the pieces from the sites of Banka-Horné farské role or Kraków Spadzista (Wojtal et al. 2019).

### Kostenki knives

In Central Europe, Kostenki knives represent tools that result from the re-sharpening of an unretouched artefact, where part of the edge was used as a knife (Polanská 2020). The removals on the blank's dorsal face and retouch of the edge serve for edge re-sharpening. These observations match with the technological definition of analogous tools from the Kostenki-Avdeev culture (e.g. Girya/Resino-Léon 2002; Lev/Klaric/Girya 2009; 2011). However, despite many apparent similarities, artefacts from Central and Eastern Europe show differences in the choice of blank, its size and also in some modifications for edge rejuvenation. These differences will be explained in a forthcoming paper. So far, as an example, we mention that an edge modification can be applied to not only large blades, as seen in Russian sites, but also to flakes, bladelets, and other blades of smaller dimensions.

In former Czechoslovakia, Kostenki knives have been massively identified in the Moravian Middle Gravettian, based on the assemblages from the sites of Předmostí I and Pavlov I within one of the newly defined groups (a group with geometric microliths, after Polanská 2013; 2020). Although since the beginning of the 20<sup>th</sup> century, they have been indicated in the Late Central European Gravettian (e.g. Absolon 1947; Zamjatnin 1930), the first revision rather points to their rare occurrence in this chronological stage (Klaric et al. 2015). The artefacts previously published as Kostenki knives (e.g. Klíma 1961; Kozłowski 1969; Otte 1981; Otte/Noiret 2004) correspond to today's definition only partially, because of probable specimens, various chisels, splintered pieces or burins (Klaric et al. 2015).

## PERSPECTIVES AND CONCLUSION

Kostenki knives and shouldered points are still considered to be the main traditional and emblematic lithic *fossiles directeurs* of the Central European Gravettian, although their consideration has been gradually changing over the last decade. Undoubtedly, they occur within the Gravettian assemblages from Central Europe, however, their occurrence, as well as their role as a chronological marker, has been overestimated in the last century. They are certainly one of the *fossiles directeurs* for some of the Middle and Late/Final Gravettian groups in this region, but under the conditions of their correct identification. Indeed, one *fossile directeur* can be characteristic for several groups, thus its identification should not be based only on a morphological comparison, but also on an evaluation of its technical state and the artefact status in the context of the whole assemblage in a given site.

The task of further studies is to give a full characterisation of the industries in which these *fossiles directeurs* have been found. It seems that there are also several other tool types within these industries specific to them (Fig. 6), such as various bitruncated elements (Petřkovice I, Trenčianske Bohuslavice-Pod Tureckom), small points modified with marginal retouch (Petřkovice I, Dolní Věstonice III) or

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with a damaged tip and another broken-burnt fragment of relatively small size (length ca. 5 cm) with a not very invasive ventral retouch (Polanská 2009).

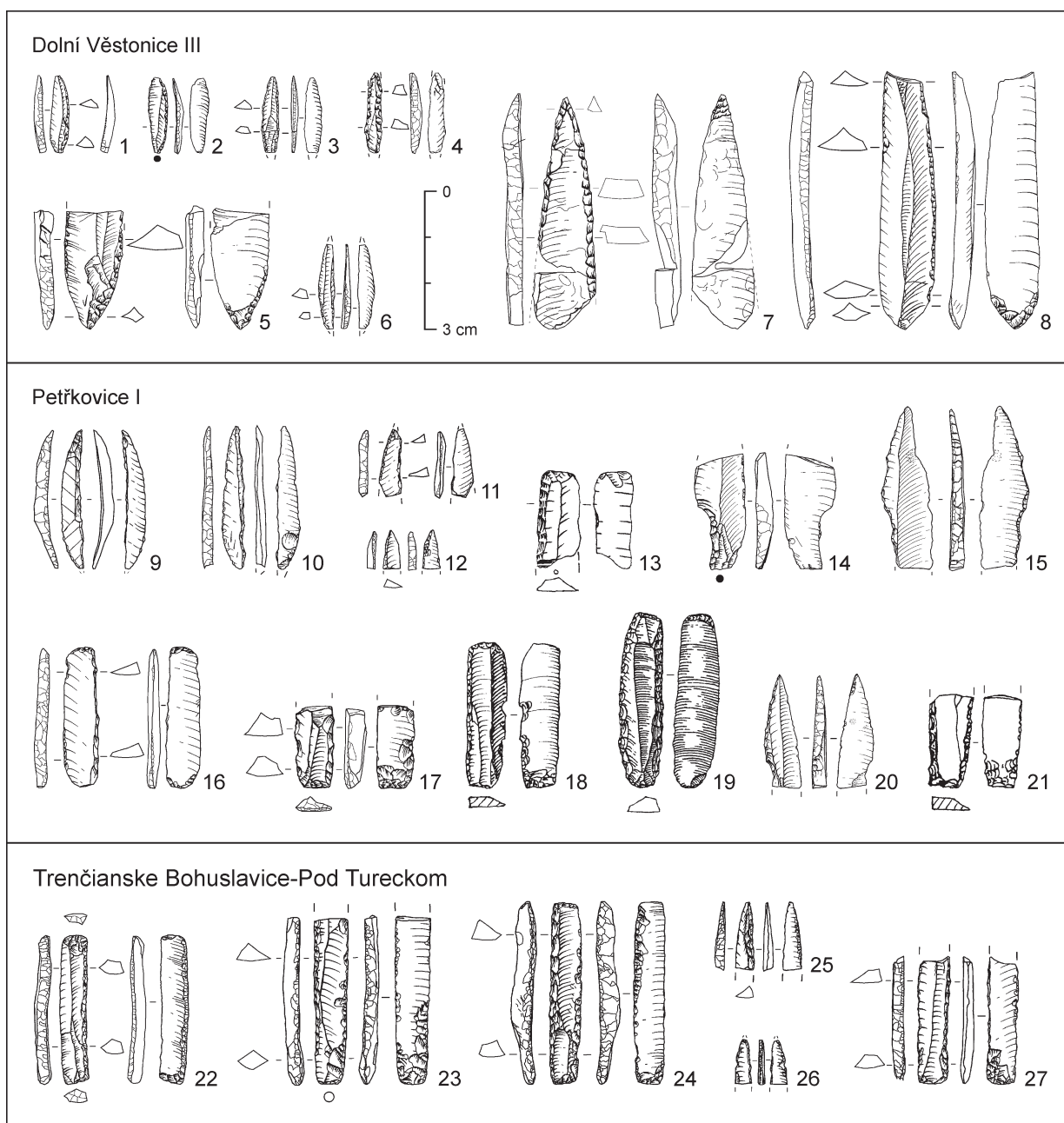


Fig. 6. Some Late and Final Gravettian Central European assemblages with characteristic microliths and armatures. 1–8 – Dolní Věstonice III; 9–21 – Petřkovice I; 22–27 – Trenčianske Bohuslavice-Pod Tureckom (1–12, 14–17, 20 – drawings by M. Polanská; 13 – after *Oliva/Neruda* 1999; 18, 19, 21 – after *Novák* 2008; 22–27 – drawings by M. Polanská).

larger, symmetrical axial backed points with inverse retouch (Dolní Věstonice III). It is evident that during the Middle and Late/Final Gravettian the region of Central Europe was occupied by several groups with their distinctive tool types and industries (Fig. 4). However, in the current state of research, these industries are still not defined in detail, and so we cannot discuss their relationships or chronological significance yet.

In each region of Central Europe, whether in Slovakia, Czech Republic, Poland or Austria, there are several collections suitable for the characterisation of lithic components and the definition of *fossiles directeurs* (e.g. several sites of Lubná and Kraków-Spadzista, Grub-Kranawetberg, Moravany-Žakovská, Petřkovice I). However, they still remain isolated and have been analysed separately. A unified

methodological approach would help a better characterisation and open a meaningful discussion about the Late and Final Gravettian and the beginning of Epigravettian in this area. This first step is the condition to discuss again the analogies between Central and Eastern European sites and the justification of the terms mentioned in the introduction that connect sites hundreds of kilometres distant from one another.

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## Variabilita *fossiles directeurs* v mladom a finálnom gravettiene strednej Európy

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### Súhrn

Mladopaleolitické kultúry v strednej Európe sú tradične definované na základe kamenných artefaktov, predovšetkým rôznych typov retušovaných nástrojov, ktoré sa zvyčajne považujú za typické pre danú kultúru. Nie je to inak ani v rámci gravettien, ktorý je jednou z paneurópskych kultúr mladého paleolitu a od nepamäti prirahuje pozornosť svojou bohatou materiálnou kultúrou aj symbolickými aspektmi. V rámci bývalého Československa sú pre mladú a finálnu fázu gravettien považované za tradičné *fossiles directeurs* (charakteristické nástroje) hroty s vrubom a kostienkovské nože (typ Kostienki). Na základe identifikácie týchto artefaktov v stredo európskych a východo európskych kamenných nálezových súboroch boli navrhnuté termíny ako „Willendorf-Kostienki/Willendorf-Kostenkien“, „kostenkien“, „východný gravettien“, čo poukazuje na analógie medzi náleziskami vzdialenými stovky kilometrov od seba (napr. Grigor'ev 1968; 1993; Gvozdover 1998; Hromada 1998; Kozłowski 1969; Kozłowski/Sobczyk 1987; Lisitsyn 2019; Svoboda 1996). Nové výskumy, revízie historických zbierok, ako aj moderné metódy bádania však prinášajú nový pohľad na tieto „typické“ artefakty. Aj keď je pravdepodobné, že sa vyskytujú vo viacerých stredo európskych súboroch mladého a finálneho gravettien, ich výskyt je menej častý, ako sa v minulosti predpokladalo (napr. Klaric et al. 2015; Polanská/Hromadová 2015).

Prvé analógie medzi strednou a východnou Európou sa začali objavovať v prvej polovici 20. storočia (napr. Breuil 1924; Freund 1944; Garrod 1938; Zamjatnin 1930). Boli to predovšetkým ruskí bádatelia, ktorí hľadali analógie ku kamenným nástrojom podobným tým z Kostienok I, Gagarina alebo Avdeeva (obr. 1; Grigor'ev 1965; 1966; Gvozdover 1961; Zamjatnin 1930). Stredo európske prístupy (definície charakteristických typov nástrojov) sa však vydali iným nezávislým smerom, čo je priamo viditeľné od druhej polovice 20. storočia na opisoch kostienkovských nožov a hrotov s vrubom (napr. Kozłowski 1969; 1986).

Problematike hrotov s vrubom v mladom a finálnom gravettiene strednej Európy bolo v poslednom období venovaných viacero článkov a konferenčných príspevkov (Klaric/Hromadová 2016; Kufel-Diakowska et al. 2016; Polanská/Hromadová 2015; Polanská/Hromadová/Sázelová 2021; Polanská/Novák/Klaric 2019; Wojtal et al. 2019). V strednej Európe boli pôvodne tieto charakteristické nástroje identifikované podľa východo európskych nálezov z Kostienok I a Avdeeva. Podľa definície S. M. Zamjatina (1934, 51) vo východnej Európe išlo o nástroje s retušovaným vrubom na masívnych čepeliach, ktorých spodná strana bola upravená rozpínavou retušou. Artefakty zo strednej Európy boli upravené na menších polotovaroch s častou absenciou spodnej retuše (napr. niektoré artefakty z Willendorfu I, Předmostí Ia; obr. 2). J. K. Kozłowski (1969; 1976) následne definoval niekoľko skupín hrotov s vrubom vychádzajúcich z tvaru úpravy polotovaru.

V bývalom Československu bolo doteraz identifikovaných 20 postpavlovienských lokalít s hrotmi s vrubom (Polanská/Hromadová/Sázelová 2021, tabeľa 1). Napriek tomu sa v žiadnej zbierke nenachádza dostatok týchto nástrojov, ktoré by umožnili ich úplnú charakterizáciu a popis výrobného procesu (systému produkcie). Okrem toho existuje problém so správnou interpretáciou „vrubu“ na artefakte, ktorý môže byť tiež výsledkom rôznych modifikácií polotovaru. Preto je potrebné tieto artefakty hodnotiť v širšom kontexte kamenného nálezového súboru, ich technického stavu a stavu zachovania.

V strednej Európe sú kostienkovské nože (definované ako) výsledkom obnovy hrany neretušovaného polotovaru (čepielka, čepeľ alebo úštep), kde bola ako nôž používaná hrana nástroja (Polanská 2020) a kde odbitia na vrchnej strane spolu s retušovaním okraja slúžili na opätovné doostrenie hrany. Tieto znaky sa zhodujú s technologickou definíciou analogických nástrojov kultúry Kostienki-Avdeeva (napr. Lev/Klaric/Girya 2009; 2011), avšak artefakty zo strednej a východnej Európy sa líšia výberom polotovaru, jeho veľkosťou a tiež v niektorých modifikáciách obnovy hrany.

V bývalom Československu boli kostienkovské nože početne identifikované v moravskom strednom gravettiene na lokalitách Předmostí I a Pavlov I (skupina s geometrickými mikrolitmi; Polanská 2013; 2020). Aj keď od začiatku 20. storočia boli signalizované v mladom stredo európskom gravettiene (napr. Absolon 1947; Zamjatnin 1930), ich prvá revízia skôr poukazuje na sporadický výskyt v tomto chronologickom úseku období (Klaric et al. 2015). Artefakty, v minulosti publikované ako kostienkovské nože (napr. Klíma 1961; Kozłowski 1969; Otte 1981; Otte/Noiret 2004), zodpovedajú dnešnej definícii iba čiastočne a zahŕňajú pravdepodobné exempláre, odštepovače a rydlá (Klaric et al. 2015).

Kostienkovské nože a hroty s vrubom sú dnes naďalej považované za tradičné kamenné charakteristické nástroje, hoci pohľad na nich (ich typo-technologickú definíciu a význam) sa postupne mení (obr. 3). Nepochybne sa vyskytujú v gravettien súboroch zo strednej Európy, avšak ich výskyt, ako aj ich štatút chronologického ukazovateľa boli v minulosti precenené. Stále sú bezpochyby jedným z *fossiles directeurs* niektorej/niektorých skupín stredného a mladého gravettien, ktoré osídľovali územie strednej Európy (obr. 4). Jeden nástroj však môže byť typický aj pre niekoľko skupín, a tak ich správna identifikácia je úlohou ďalších štúdií. Nemala by byť založená na porovnaní tvaru

artefaktu, ale na vyhodnotení ich technického stavu v kontexte celej industrie danej lokality. Ich „technický stav“ odráža, či ide o kompletný nástroj bez poškodenia, nedokončený artefakt (nahrubo opracovaný alebo preformu) zlomený počas retušovania, prípadne tvarovania alebo už dokončený finálny produkt zlomený/poškodený vplyvom vykonávanej aktivity (obr. 5).

Úlohou ďalších štúdií je charakterizovať nálezové celky, v ktorých sa tieto tradičné *fossiles directeurs* vyskytujú. Ukazuje sa totiž, že v rámci týchto celkov (industriálnych skupín) existujú aj iné typy nástrojov, ktoré sú pre nich špecifické (obr. 6). Ide napríklad o rôzne obojstranne priečne retušované elementy (Petřkovice I, Trenčianske Bohuslavice-Pod Tureckom), malé hroty upravené marginálnym (okrajovým) otupením (Petřkovice I, Dolní Věstonice III) alebo väčšie, symetrické axiálne hroty upravené spodnou retušou (Dolní Věstonice III). Je zrejme, že počas stredného, mladého a finálneho gravettienu bolo územie strednej Európy osídľované viacerými skupinami s charakteristickými nástrojmi (obr. 4). Za súčasného stavu výskumu však tieto industriálne celky stále čakajú na definovanie, preto zatiaľ nemôžeme podrobne diskutovať o ich vzťahoch alebo chronologickom význame.

Na území strednej Európy existuje v súčasnosti len niekoľko zbierok vhodných na kompletnú charakterizáciu kamenných industrií a definíciu charakteristických nástrojov. Tie však stále ostávajú izolované. Jednotný metodický prístup a spoločná analýza by pomohli ich lepšiemu poznaniu a obohatili diskusiu o mladom/finálnom gravettiene a počiatku postgravettienu v tejto oblasti. Až po takomto komplexnom prístupe bude možné znova otvoriť diskusiu o analógiách medzi stredo a východoeurópskymi lokalitami a o opodstatnení pojmov ako Willendorf-Kostienki, prípadne kostienkien, ktoré spájajú lokality vzdialené stovky kilometrov od seba.

Obr. 1. Najznámejšie stredoeurópske a východoeurópske gravettienske lokality (grafická úprava M. Polanská; [www.maps-for-free.com](http://www.maps-for-free.com)).

Obr. 2. Hroty s vrubom a otázne „hroty s vrubom“ tradične identifikované v stredoeurópskych a východoeurópskych lokalitách. 1, 2 – Willendorf I; 3, 4 – Předmostí Ia; 5–8 – Moravany-Podkovic; 9, 10 – Kostienki I (1, 2 – podľa *Onoratiini 1978*; 3, 4 – podľa *Valoch 1986*; 5–8 – podľa *Bárta 1965*; 9, 10 – podľa *Efimenko 1958*).

Obr. 3. Kostienkovské nože a otázne „kostienkovské nože“ tradične identifikované v stredoeurópskych a východoeurópskych lokalitách. 1 – Berdyzh; 2 – Předmostí Ia; 3, 4 – Avdeev; 5, 6 – Kostienki I; 7 – Pavlov I (1, 2 – podľa *Absolon 1947*; 3, 4 – podľa *Gvozdover 1998*; 5, 6 – podľa *Efimenko 1958*; 7 – kresby M. Polanská).

Obr. 4. Historický vývoj termínov v strednej Európe (grafická úprava M. Polanská).

Obr. 5. Fragменты hrotov a preforiem z Nitry-Čermáňa (nekompletné hroty; 1 – neznámy štatút; 1, 2, 7 – fotky M. Polanská; 3–6 – podľa *Kamínská/Kozłowski 2011*).

Obr. 6. Niektoré mlado a finálne gravettienske súbory s charakteristickými mikrolitmi a *armatures*. 1–8 – Dolní Věstonice III; 9–21 – Petřkovice I; 22–27 – Trenčianske Bohuslavice-Pod Tureckom (1–12, 14–17, 20 – kresby M. Polanská; 13 – podľa *Oliva/Neruda 1999*; 18, 19, 21 – podľa *Novák 2008*; 22–27 – kresby M. Polanská).

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