

CHAPTER VII

AFTERWORD

by Jiří Svoboda

1. Introduction

The excavations by Bohuslav Klíma at Pavlov I were held in a systematic and complex way. Therefore, it widely enriched our knowledge of the Gravettian (Pavlovian) adaptations. Full exhaustion of the material and data collected by B.Klíma is a long-term task, and it should be realized in collaboration with specialists from various research fields and disciplines.

This afterword aims to recall few ideas arising from evaluation of the first two excavation seasons. They concern especially the Gravettian chronology and adaptations. Given the total number of material from Pavlov I, however, the scope of this summary is limited and it should be understood as preliminary.

Presentation of the Pavlov I site, 1952-1953 area, and the ongoing analysis of the 1957 area, are sponsored by grants from the Grant Agency of the Academy of Sciences of the Czech Republic (project No 090104) and the Grant Agency of the Czech Republic (project No 404/93/2359). Simultaneous fieldwork at Dolní Věstonice and Předmostí is supported by a grant from the L.S.B.Leakey Foundation. I am especially indebted to W.G.Mook and J. van der Plicht for new series of C 14 datings.

2. Location

Several previous archaeological studies stressed the geomorphological character of the Moravian territory (Czudek 1994, Skutil 1955, Svoboda et al. in press). It is considered as a system of narrow passages connecting the plains: in the North, the Moravian Gate with important Aurignacian and Gravettian settlements; in the center, the Vyškov Gate and the Napajedla Gate. In the southern plains opened towards Austria, the isolated chain of the Pavlovské Hills emerges as a marked orientation point. As a whole, the territory forms a natural corridor between the Bohemian Massive and the Carpathians, allowing migrations from the Danube valley in the SW to the North European Plain in the NE. This function is reflected both in the paleontological and archaeological records.

The site Pavlov I makes a member of the chain of sites extending about 2,5 km along the northern foot of the Pavlovské Hills, from Dolní Věstonice II in the west, through Dolní Věstonice I and Pavlov I (located close to each other in the center), to Pavlov II in the east.

3. Stratigraphy, sedimentology and pedology

Stratigraphically, the period concerned here is principally correlated with a soil formation representing the upper member of the soil complex PK I (including Middle Aurignacian and Early Gravettian, with C 14 datings between 32 500 - 29 000 B.P.; Haesaerts 1990, Svoboda 1991a,b), and the deposition of the overlying loess (Upper Aurignacian and Gravettian), until the Last Glacial Maximum (20 000 - 18 000 B.P., Soffer and Gamble, eds., 1990).

At Stránská skála, micromorphological investigation shows that the basal soil ranges typologically between the pararendzines and chernozems. The soil developed within a short time-span, under repeated eolian sedimentation, redeposition and

solifluction. In the subsoil, we observed horizontal movements of stones (formation of sorted circles), both prior to the soil formation (Czudek et al. 1991).

At Dolní Věstonice II, a stratigraphically identical soil has been classified as a weakly developed pararendzine, mixed with relics of earlier chernozem soils. Again it evolved during a short time-span, under cold and relatively dry climate. Following moister oscillations were responsible for its pseudogleyfication. At the nearby site of Milovice, on a different substrate, this soil corresponds to a weakly developed pseudogley (Smolíková 1991).

At Willendorf II, a comparable horizon (layer 5) is represented by lenses of humous sediments (Haesaerts 1990).

The overlying loess cover was studied in detail by Klíma (1958, 1969, Klíma et al. 1962) at Dolní Věstonice and by P. Haesaerts (1990) at Willendorf. The both authors observed several pseudogley horizons, eolian sand and solifluction layers within the loess. Further excavations at Dolní Věstonice II repeatedly reveal further pseudogley horizons (Smolíková 1991), obviously representing periods of increased humidity rather than increased temperature.

The Gravettian cultural layer (or complex of layers) at Moravian sites developed during a long period of limited loess deposition, between 29 000 - 20 000 B.P. The matter originates from anthropogenic activities, and, as show by Smolíková, the matrix also includes soil particles. Horizontal movements (solifluction) and other deformations of the layer are visible, but archaeological features such as hearths, pits or human skeletons are little or not affected by these deformations. No vertical differentiation within this layer, that would have a chronological meaning, is observed.

At Willendorf II, on the other hand, excavators were able to separate five stratigraphic levels (5-9) within the same time-period. Thus, all efforts in Gravettian chronology should combine the vertical stratigraphy at Willendorf with the spatial analysis at the Moravian sites (Otte 1991, Svoboda 1994).

4. The Gravettian chronology

Chronological subdivisions of the Gravettian in our region (Pavlovian) were suggested by Klíma (1961), Valoch (1961) and Otte (1981, 1991). Bárta (1987) separated an earlier and later Gravettian stages in Slovakia, while Kozłowski and Sobczyk (1987) named the earlier stage Pavlovian and the later Kostenkian. Soffer (1993) and Grigoriev (1993), on the other hand, talk about a Willendorf-Pavlov-Kostenki-Avdeevo unity. Svoboda et al. (1994, 149) repeat the Pavlovian-Kostenkian succession.

The Gravettian culture in the Middle Danube area covers the time span between 30 000 and 20 000 B.P. (Otte 1981, Kozłowski 1986), and it is supposed that the archaeological content of large Moravian sites like Pavlov, Dolní Věstonice, or Předmostí accumulated during parts of this period. Chronological relationships between the various settlement units (Klíma 1963b,c, Svoboda 1991a) were hitherto studied on the basis of stratigraphic observations such as overlapping of slope-slipped loessic blocks (DV I), overlapping of settlement units (unit 1 and 2 at DV II), thickness of the underlying loess separating the cultural layer from the 30 000 years-old soil below (DV I and II), and radiocarbon dating.

The samples for C 14 were measured in the laboratories at Groningen, Prague, Illinois and Lyon. A table of the C 14 datings so far available (Tab. 1) shows that the data from Groningen present usually higher values, a more meaningful developmental pattern, and smaller deviations than data from the other laboratories. Therefore, we based our effort in chronological comparisons on the Groningen data only.

We tried to correlate the C 14 data with the typological evidence emerging from spatial analysis of some sites, and with the environmental data. As a result, it is suggested to separate the Gravettian in two major stages which we may call the Pavlovian and the Willendorfan-Kostenkian. Eventually, the Pavlovian may be subdivided in two substages.

4.1. The Early Pavlovian (30 000 - 27 000 B.P.)

Earliest Gravettian in the Middle Danube territory is documented at Willendorf II (layer 5), Dolní Věstonice I (lower part of the site) and II (lower part of the site and certain locations at the upper part such as units 2 and 3 of the western slope). The industries are dominated by burins, backed implements and endscrapers. Burins are about twice as numerous as endscrapers, number of geometric microliths is usually lower. Rarely, some of the endscrapers may possess high, Aurignacian-like shapes.

Environmental context of this stage, dating to the end of the basal soil formation (e.g. humous lenses in layer 5 at Willendorf II, Heasaerts 1990) and to the beginning of the loess deposition, is little known. Pollen analyses from the basal soils at Stránská skála and Dolní Věstonice II suggest a temperate climate with steppe-like vegetation (Svobodová 1987, 1991a).

4.2. The Evolved Pavlovian (27 000 - 24 000 B.P.)

This chronological stage was observed in layers 6 - 8 at Willendorf II, at Dolní Věstonice I (middle and upper parts of the site), Dolní Věstonice II (certain settlement units), Pavlov I (all hitherto analyzed materials) and Předmostí (larger part of the industry). The rich bone industry documents unity of this stage (Klíma, chapter III). Judging by lithic typology, one may observe separation into two facies each with a particular style. The first one, represented by Willendorf II, Předmostí and Dolní Věstonice II - unit LP/ 1-4, is characterized by elaborate marginal retouch on blades and flakes, by retouched pointed blades, and by some typical sidescrapers. The second facies found at Dolní Věstonice I, II (with the exception of unit LP/ 1-4), and most characteristically at Pavlov I (1952-53), can be differentiated by a rarity or absence of marginal retouch, and by an abundance of microliths such as crescents, trapezoids and triangles, while Dolní Věstonice is rich in denticulated microsaws.

Stylistic differences between the Předmostí style on the one hand, and Dolní Věstonice - Pavlov style on the other, are observed in art as well (Svoboda in press). The Dolní Věstonice - Pavlov style is characterized by slightly curved linear decoration, figural representations of animals and humans in ceramics, and sophisticated but simple abstractions carved in ivory. The Předmostí style includes geometric decorations and a female drawing in the same style.

The landscape was partly covered by wooded areas with conifers and accompanying deciduous trees including few more pretentious species (Rybníčková-Rybníček 1991, Svobodová 1991a,b, Opravil, chapter V). After R. Musil (chapter VI),

the animal composition (mammoth, reindeer, foxes, wolves and hares) fits well into such landscape reconstructions.

4.3. The Willendorfan-Kostenkian (24 000 - 20 000 B.P.)

This Upper Gravettian stage is represented by the sites of Willendorf I, II (layer 9), Předmostí (a hypothetical recent stage) and Petřkovice. Outside the Austrian-Moravian-Silesian territory, the sites of West Slovakia (Moravany, Nitra-Čermáň, Trenčianské Bohuslavice) should be added, as well as Spadzista in Poland, and Molodova, layer 7, in Ukraine. The most important typological feature uniting all these assemblages is the appearance of shouldered points of the Kostenki-type, showing linkage to Eastern Europe typical for the period. Therefore, J.K. Kozłowski and K. Sobczyk (1987) call this stage Kostenkian. Some sites also have leaf-points (Trenčianské Bohuslavice, Předmostí). During a time period which saw development of the Solutrean in West Europe, these implements should no more be considered a Szeletian reminiscence, but rather an expression of a new wave of leaf-point production. Marginal, sometimes steep retouches on the artifacts and the decrease in number of microliths recall the former Předmostí style rather than Dolní Věstonice. In the decoration, G.P. Grigoriev (1993, 55) underlined the presence of small crosses linearly distributed along the ribs of implements, uniting Willendorf II (layer 9), Kostenki (layer I) and Avdeevo.

Finally, some of the sites yielded female figurines (Willendorf, Moravany, Petřkovice). The first two mentioned figurines also have striking analogies in East Europe (Kostenki 1-I, Avdeevo).

In the faunal evidence of this period (Musil, chapter VI), we observed an increase in the number of deer, elks, reindeer and bovids. It appears that such a fauna requires a slightly different landscape. Even if the paleobotanical evidence for this period is still scarce, the situation at Předmostí (samples 6-7, Svobodová in Svoboda et al., in press) suggests a decrease in arboreal pollen (31% - 16%) and an increase in heliophilous plants.

4.4. Late Aurignacian (Epiaurignacian)

Stratigraphic evidence from Moravian sites (Stránská skála, Svoboda 1991b), certain C 14 datings from Lower Austria (Tab.2) and typological chronologies based on surface assemblages (Oliva 1987) suggest that the Aurignacian survived until 20.000 B.P. According to current scenarios, the two populations lived side-by-side, but their behavior was of different manner.

5. The Gravettian adaptations

5.1. Settlement pattern and geography

Since the Early Upper Paleolithic (EUP), the settlement pattern demonstrates an intensive land-use throughout the territory, and creating of network of sites in open landscape. Marginal highlands at 300 - 400 m a.s.l. were preferred, enabling exploitation of a variety of altitudinal zones and environments. At favourable sites we observe superimposed reoccupations (Stránská skála). The loess deposition, however, was limited in such exposed areas and, in consequence, much of the evidence is found on surface.

In the Gravettian, the strategy in selectioning a microregion or a site differs. The Gravettian is usually found in extended sites under loess deposits near river valleys, at 200-300 m a.s.l. These sites are less numerous, and are arranged axially, along the main route connecting the Danube valley and the North European Plain (Willendorf, Pavlov, Dolní Věstonice, Předmostí). The Gravettian/Aurignacian superpositions (Willendorf, Milovice) are rather exceptions.

By the end of Gravettian, a horizon of several sites with artifactual elements reminiscent of East Europe, here called the Willendorfian or Kostenkian, emerges on strategic places along the same passage. The relationships in the cultural inventories, dispersed quickly over a large part of the continent, suggest an increased mobility, probably as an adaptive response to the climatic change.

5.2. Lithic raw material exploitation and use

Decrease in importance of Moravian lithic materials and increase of foreign rocks is a regular trend observed during the interval between Late Middle Paleolithic and the Gravettian (Svoboda 1983, Přichystal 1989, Kozłowski 1987). The Aurignacians still occupied and exploited important local chert sources such as Stránská skála and Krumlovský Les while imports played a role in areas deprived of local supply.

In the Gravettian, this pattern becomes even more systematic. About 60-90% of raw materials originate from the flint outcrops in the Silesian glacial sediments, or in the Krakow-Czestochowa Jurassic of South Poland, and 10-30 % from the radiolarite outcrops, either in the Slovakian/Moravian boundary or in the Austrian Danube valley. It is suggested that this pattern is due to a higher mobility and regularity of the movements along the SW-NE route. Later in the Epigravettian, imports continued to be used, but selection of the sources is less systematic.

We believe that the message reflected in these changing behavioural patterns is important. Geochemical analyses are in course (Přichystal, chapter II) in order to locate the network of lithic imports as precisely as possible. A combined geological-archaeological project is in preparation.

5.3. Subsistence

Unfavourable conditions of bone preservation at most of the EUP (Bohunician, Szeletian, Aurignacian) sites in Moravia caused the actual lack of evidence on hunting during this period. Most of the bones determined belong to horse and mammoth.

On the contrary, a huge amount of faunal material is being excavated at the Gravettian sites. Musil (chapter VI) observed the dominance of reindeer, fox, wolf and hare inside the settlements. The surprising decrease in the importance of horse is, after R. Musil, due to the change of hunting techniques. The variability in mammoth presentation at the various sites seems to be related to changing behavioral strategies. At Předmostí, evaluation of the early reports suggests that mammoth bones were either concentrated or scattered throughout the cultural layer in quantities. At the south Moravian sites, huge deposits of mammoth bones were sorted apart from the settlements (Dolní Věstonice I - Klíma 1969, Dolní Věstonice II - Svoboda 1991a, Milovice - Oliva 1989). A discussion exists whether these bones accumulated through human hunting activities (Musil, chapter VI), or whether they represent natural mammoth cemeteries, exploited by man for organic materials (Soffer 1993). A

direct relationship between man and mammoth, in any case, is demonstrated by the terrain situations and by the contemporaneity of the settlements with the adjacent bone deposits. It is equally clear that the mammoth bone deposits disappear by the end of Gravettian. For the Epigravettian, the site of Stránská skála IV brought evidence of horse hunting, more specialized than we may assume for the EUP (Svoboda 1991b).

The question of plant exploitation receives attention as well (Klíma 1955, Kozłowski 1986, 187), especially with the new evidence from recent excavations and with the newly applied methods (Mason and Hather 1993).

Compared to the other Upper Paleolithic cultures in Moravia, the Gravettian model of long-distance raw material transport and of systematic mammoth exploitation, seems the most labour-expensive and the most systematic one. Functioning of this system could have been influenced by activities of other, Aurignacian population, making Moravia and Lower Austria territories characterized by intergroup-competition.

5.4. Art and rituals

Central Europe lacks evidence of parietal art and the related deep-cave rituals. The diversity of mobile art techniques and forms, however, is not less complex than in the West. We assume that ritual behavior took place in open-air sites or in caves opened to day-light, by other means than decorating the walls. Context and subjects of the excavated objects are therefore being analysed in order to approach social actions.

With respect to the context, art objects may be separated in items of short-term and long-term use (Svoboda 1976). Carving sculptures of animals and humans, or items of personal adornment, is time-consuming and the products served their purpose during a longer interval. Larger sculptures were certainly stationary, while the smaller, pierced ones contributed to personal adornment as pendants or carried in a pouch. A. Marshack (1972) confirmed this by observing wear polish on surface of some of the carvings. Such objects contribute to the concept of "self-awareness" of an individual within the society (Marshack 1992, 183). It is only surprising that we do not find such carvings with the ritually buried human skeletons, among the items of personal adornment. The only statue found in a burial, the ivory carving of Brno II (Makowsky 1892), is too large to have been carried around.

Long-term use is expected for decorated bone, antler and ivory tools and weapons as well. An image decorates the object once for ever. Beside its aesthetic meaning, it could have supplied some kind of supernatural power to the implement, strenghtening its functions. In all these categories, the aim is an object *per se* and its magical powers.

The short-term art is observed first in the Gravettian ceramics, and later in the Magdalenian engraved plaques. In both cases, not the object seems to be important, but the moment of its creation and destruction. An experienced artist may produce such objects relatively quickly. The pattern of subsequent destruction is sometimes demonstrated by breakage, deformations (ceramics), and reutilisations (stone plaques). This kind of art clearly represents only the non-perishable relict of a more complex ritual creation.

Baked clay figurines represent one of the most typical phenomena of Gravettian (Pavlovian) sites in Moravia (chapter IV). These figures, sometimes broken, deformed or incised, are found clustered together with a number of unshaped clay pellets around the hearths where they were obviously made. Large collections

were found at Dolní Věstonice I (Absolon 1938, 1945, Klíma 1979, 1981) and Pavlov I (Klíma 1989), while smaller samples originate from Pavlov II, Dolní Věstonice II and Předmostí.

K. Absolon (1938, 1945) and B. Klíma (1963b, 1981) suggested that the ceramic objects served in some kind of ritual, located in "places of mystical hunting cults" (Absolon 1945, 17). The results achieved recently by P. Vandiver et al. (1990) and O. Soffer (chapter IV) have shown how this rituals could have functioned. The raw material was local loess, generally fired to temperatures between 500 - 800°C. These temperatures correspond to the results of analyses from some of the hearths. Some deformations observed in shape of the figurines are due to a thermal shock. Effects of such a rapid temperature change appear repeatedly, showing that this approach was not accidental but intentional.

Another question is how far such presumed ritual suites to the generally accepted hunting magic scenario. Klíma (1979, 1981, Fig. 24) showed a disproportion between quantitative representation of animals depicted in art and those preserved in faunal remains of Dolní Věstonice I. In faunal remains, we have the huge accumulations of mammoth bones along the sites. Whatever disagreement there may be in interpreting them, this animal was of primary importance to human economy. Inside the settlements, the faunal composition differs (Musil, chapter VI).

Among the ceramics found at Dolní Věstonice, the species most frequently represented are bear, lion and other carnivores. Furthermore, there are figurines of females, males and hybrids in the same contexts. Mammoth is much more important in the ceramic sample from Pavlov I; this site, however, lacks the typical mammoth-bone accumulation.

A comparison with species depicted in the "long-term" art shows a similar picture. The few ivory carvings with identifiable subjects show that females (both realistic and stylized) and important or imposing animals (mammoth images from Pavlov I and Předmostí, and a lion from Pavlov I) were among the choiced subjects.

As early as the Aurignacian, J. Hahn (1986, 1992) showed that selection of species depicted in art focuses on strong and imposing animals. Since the "short-term" art appears in the Gravettian, this pattern remains true even if the particular animal may be rare in the osteological context. In the Magdalenian, the dichotomy between economical reality on the one side and subjects of the "short-term" art on the other seems even more pronounced (Svoboda 1976).

Almost all artistic evidence related to rituals, as well as a large part of human burials was discovered in the context of settled areas. The bulk comes from large sites with intensive reoccupations. This stresses the social functions of art and rituals, performed in living places and in places of aggregation.

6. Pavlov I: Analysing segment of a site

The questions arising during spatial analysis of Gravettian sites concern, at the first place, the chronology of various settlement units, hearths and features, and its reflection in artifact typology and faunal composition. The second point concerns a more detailed analysis of a particular settlement unit. In this second case, differences are interpreted rather from the point of view of behavior than of chronology.

Any spatial analysis of South Moravian sites is limited by primary data about location of the objects. It is only since 1990 that position of each piece is being

measured three-dimensionally and computerised (Dolní Věstonice I, III, Předmostí). At Dolní Věstonice I, II and Pavlov I, position of artifacts has mostly been documented by square meters only.

Analysis of spatial data from Dolní Věstonice revealed certain comparative data. At the site I, settlement unit 2, B.Klíma (1963b, fig. 51) recognized a clearly-outlined structure with a central hearth, ceramic fragments, ochre, and a medium artifact density inside. Areas of a higher artifact density, and with shells, occur 3-4 m to the SE from the structure. These areas have several small pits, but no hearths. At the western slope of the site II, three settlement units were distinguished, each with a central hearth and an artifact concentration around (Svoboda 1991a, Figs. 2 and 23) or slightly downslope (unit LP/1-4, Svoboda 1990). The unit 4 was separated from units 1-3 by a sterile zone (Svoboda, Škrdla and Jarošová in press) - here, the position of hearths in relation to the central artifact concentration is clearly peripheral. One of these hearths, instead, was surrounded by Tertiary shells and ochre. The microliths dominate in the centre; approaching to the periphery, we observed an increase of burins, of larger artifacts, and of radiolarite.

With these comparative data in hand, we approach the evidence from Pavlov I. Within the 1952-53 area we observe a similarity of the individual assemblages both in the horizontal sense (sectors) and vertical sense (the lower and upper layers). On the other hand, the 1957 area, located in the opposite (NW) part of the site and actually under study, shows important differences in raw material (increase of radiolarite) and typology.

In frame of the 1952-53 area, we may assume a contemporaneity on the level of large chronological stages (the Evolved Pavlovian). This however does not prove a contemporaneity on the level of years or seasons. The questions of duration of occupation and of seasonality become important in this context.

6.1. Duration of occupation

All sites at the foot of the Pavlovské Hills were supplied with the same raw materials, possibly in a regular, seasonal rhythm. The economy of lithic production, however, was not exactly the same. The pronounced microlithic character of a large part of the hitherto studied Pavlov I industry, together with the higher proportion of retouched tools (Svoboda, chapter II) and worn artifacts (Tomášková, chapter II), suggests a higher intensity of material use than at Dolní Věstonice II. Refittings of the radiolarite (Škrdla, chapter II) show that, in contrast to DV II, the artifacts rarely fit together; this observation suggests that the time-period of input and output of material into and from the area was long enough to interrupt relationships among artifacts as emerging from the lithic production. In other areas of the site (preliminary results from the year 1957), however, the Ic index increases. This, together with the other differences, stresses the necessity of an analytical approach to the site.

The presumed dwellings at Pavlov I and DV I are more frequently semi-subterranean (type "C") and sometimes include remains of marginal enclosures (Klíma 1963b,c), while those at DV II are rather light surface structures (type "D", Svoboda 1991a, fig. 26). Pavlov I is the only site in Moravia where a storage pit comparable to the ones known from Eastern Europe has been found (Klíma 1977; cf. Soffer 1989). Furthermore, Pavlov I and DV I have thick ashy deposits, sometimes separated in several microhorizons, with concentrations of fired clay and decorative objects around them (e.g. Klíma 1981, fig. 4); DV II lacks representational art, the

production of fired clay was limited, and the ash deposits were smaller and thinner. It seems reasonable, therefore, that differences between sites like Pavlov I or DV I on the one hand, and Pavlov II or DV II on the other, may be related to duration of the occupations.

Basing himself on the amount of hunted game at Pavlov I (1952-1953 area), R. Musil (chapter VI) estimates the length of occupation to one or two years, or one year with two winters.

6.2. Seasonality

Data on seasonality are still extremely limited and the question calls for more systematic study in the future. R. Musil (chapter VI), on the basis of quantity of animals hunted for furs (wolves, foxes), suggests a winter occupation. Tomášková (chapter II) seems to support this view by observing traces of work with frozen and dry materials near some of the hearths.

Dolní Věstonice II, a site expected to have a shorter occupation, also has a good proportion of foxes. Furthermore, we have the evidence from tree-rings by Opravil (chapter V), suggesting a winter occupation. Thus the sites of the area, in the present state of knowledge, show differences in duration of occupation but not in seasonality.

6.3. Spatial structure of the site

Comparison of the distribution maps of lithics (chapter II, figs 2-9), bone industry, art and decorative objects (chapter III, fig.1) and fauna (chapter VI, figs 1-9) reveal a pattern of irregular distribution throughout the area. Several of us (Musil, Tomášková, Svoboda) investigated the relationship of this pattern to the location of hearths and other terrain features. By using various approaches of spatial analysis, the authors arrived to a similar pattern of distribution.

Most of the approaches (Musil, Svoboda) take location of the central feature, as outlined by B.Klíma during the excavation (No. 3), as starting point. The outlines were roughly limited by larger objects (chapter I, fig. 5) and, more clearly, by a depression along the northern margin. The other structures suggested by Klíma (Nos 1 and 2) are more hypothetical, since the outlines are not really visible.

Shape of the central feature - two adjacent circles - suggests that it may have been composed of two circular features, each 4-5 m in diameter. A barrier, probably a wall, existed along the northern margin.

The artifact distribution accords with the shape of the feature, it respects its northern outline, but continues to reach maximal densities at the western vicinity. The faunal distribution does not respect the feature at all, almost all species concentrate to the west of it, and some of them to the south.

The western vicinity of the feature, therefore, is an area of special importance. It includes several hearths and regular kettle-shaped depressions, most probably boiling pits (chapter I, fig. 7). Tomášková (chapter II) analysed the various hearths separately and observed a semicircular patterns of artifact concentrations around some of them. She suggested that some of them may have been protected and some were open. This area also covers the maximal densities of endscrapers and burins, as well as maximal densities of wolf, hare and reindeer remains.

Generally, it seems that the western part of the excavation was a zone of concentrated activities. The pattern of an artifact and ash concentration outside a

feature is similarly visible in cases where the outlines are more clearly defined (Dolní Věstonice I, unit 2, Klíma 1963b, fig. 51, Mezhirich, Pidoplichko 1976, fig. 51, Gony, Pidoplichko 1969, fig. 14, Dobranichevka, Pidoplichko 1969, fig. 20, Mezin, Pidoplichko 1969, fig. 37, etc.).

If we accept the central feature recognized by B.Klíma at Pavlov I as a dwelling structure, the western zone would represent an adjacent activity area, most probably connected by an entrance.

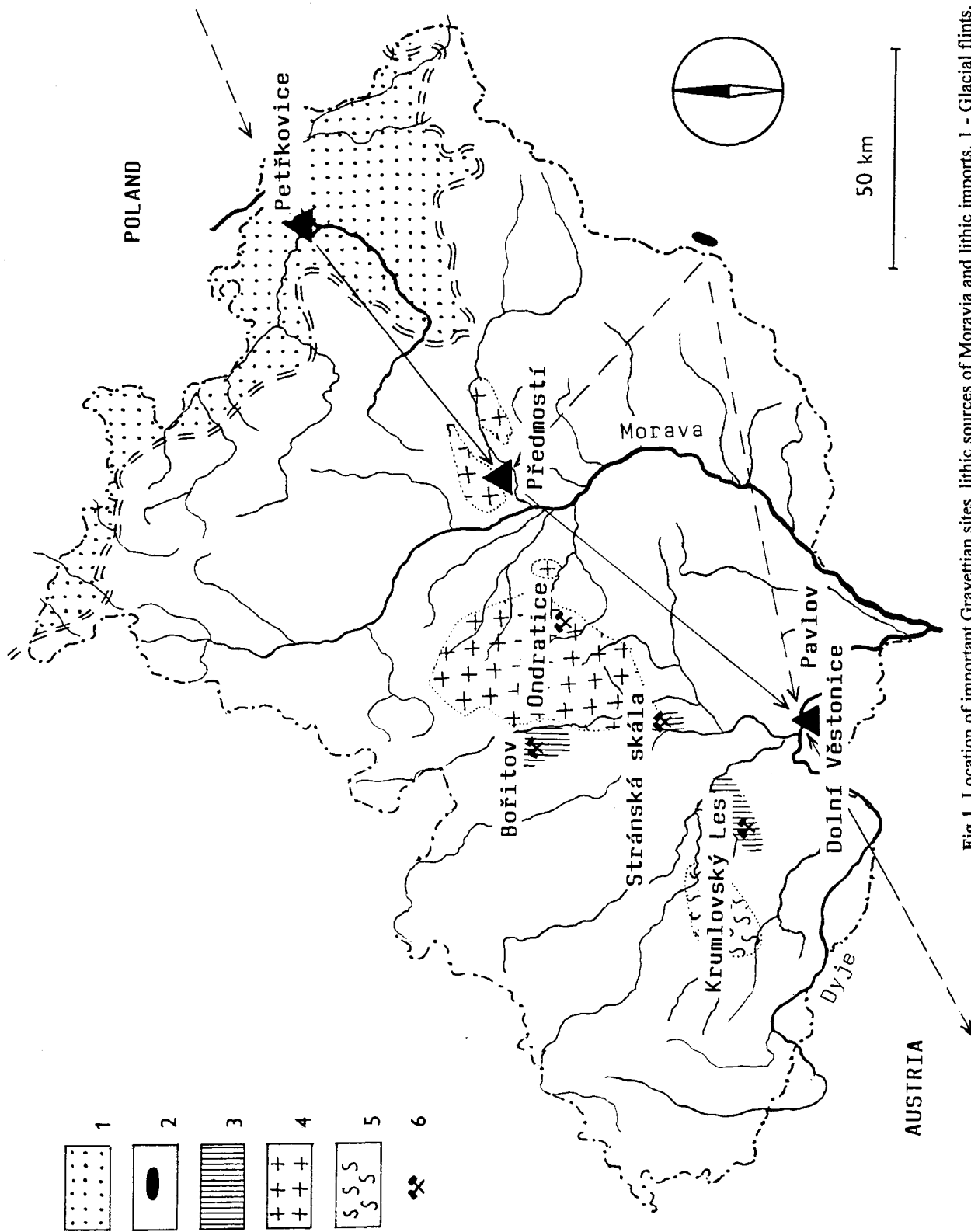


Fig.1. Location of important Gravettian sites, lithic sources of Moravia and lithic imports. 1 - Glacial flints, 2 - radiolarites, 3 - Moravian cherts, 4 - quartzites, 5 - plasma, 6 - Early Upper Paleolithic raw material exploitation

Willendorfian-
Kostenkian

Evolved Pavlovian

Early Pavlovian

B.P.	Willendorf II	D. Věstonice-I	D. Věstonice-II	Pavlov I 1956	Předmostí	Milovice	Petřkovice	Spadzista C.2	Molodova V
20,000									
21,000									
22,000	(9)					22,100	20,790		
23,000									(7) 23,000
24,000								(III) 24,040 24,380	23,700
25,000		middle/upper part	(1. unit) 25,570-25,740	25,020		25,220			
26,000	(8) 25,800	25,820 25,950		26,620 26,730	26,320 26,870				
27,000	(7)	lower part 27,250	(2.-3. units) 26,920-27,070 (A-C) 27,660					(IV)	
28,000	(6)		lower part 28,300						(9) 28,100
29,000		lower part 29,300	lower part 29,000						
30,000	(5) 30,500								(9) 29,650

Fig.2. Comparative chronological table of the Gravettian

Tab.1. Gravettian datings from Lower Austria and Moravia (after Neugebauer-Maresch 1993, Haesaerts 1990, Svoboda et al. 1994)

GrN 11193	Willendorf II, layer 5	30 500 +900 -800 B.P.
GrN 11194	Willendorf II, layer 5	23 830 ± 190 B.P.
GrN 11191	Willendorf II, layer 8	25 800 ± 800 B.P.
GrN 3011	Krems, Wachtberg	27 400 ± 300 B.P.
GrN 2513	Aggsbach	26 800 ± 200 B.P.
GrN 1354	Aggsbach	25 760 ± 170 B.P.
GrN 18187	Dolní Věstonice I, lower part	29 300 + 750 -690 B.P.
GrN 18188	Dolní Věstonice I, lower part	27 250 + 590 -550 B.P.
GrN 1286	Dolní Věstonice I, middle part	25 820 ± 170 B.P.
GrN 18189	Dolní Věstonice I, upper part	25 950 + 630 -580 B.P.
GrN 2092	Dolní Věstonice II, brickyard	28 300 ± 300 B.P.
GrN 2598	Dolní Věstonice II, brickyard	29 000 ± 200 B.P.
GrN 13962	Dolní Věstonice II, units A-C	27 660 ± 80 B.P.
GrN 14831	Dolní Věstonice II, triple burial	26 640 ± 110 B.P.
GrN 15276	Dolní Věstonice II, burial DV XVI	25 570 ± 280 B.P.
GrN 15277	Dolní Věstonice II, unit 1	25 740 ± 210 B.P.
GrN 15279	Dolní Věstonice II, unit 2	26 920 ± 250 B.P.
GrN 15278	Dolní Věstonice II, unit 3	27 070 ± 300 B.P.
GrN 14830	Dolní Věstonice II, mammoth deposit	26 100 ± 200 B.P.
GrN 1272	Pavlov I, 1956 area	26 620 ± 230 B.P.
GrN 1325	Pavlov I, 1956 area	25 020 ± 150 B.P.
GrN 4812	Pavlov I, 1956 area	26 730 ± 250 B.P.
GrN 6801	Předmostí, cemetery	26 870 ± 250 B.P.
GrN 6852	Předmostí, cemetery	26 320 ± 240 B.P.
GrN 19540	Petrkovice	20 790 ± 270 B.P.
GrN 14824	Milovice	25 220 ± 280 B.P.
GrN 14835	Milovice	22 100 ± 1100 B.P.
H 246-231	Willendorf II, layer 5	32 000 ± 3000 B.P.
H 2218-1537	Langenlois	25 480 ± 880 B.P.
KN 10c	Langenlois	26 960 ± 1200 B.P.
Ly 1303	Dolní Věstonice I, middle part	22 250 ± 570 B.P.
ISGS 1744	Dolní Věstonice II, unit 1	26 390 ± 270 B.P.
ISGS 1899	Dolní Věstonice II, unit 3	22 630 ± 420 B.P.
ISGS 1690	Milovice	22 900 ± 490 B.P.
ISGS 1691	Milovice	21 200 ± 1100 B.P.
CU 715	Dolní Věstonice II, mammoth deposit	22 368 ± 749 B.P.

Tab.2. Late Aurignacian datings from Lower Austria (after Neugebauer-Maresch 1993)

GrN 6660	Langmannersdorf	20 260 ± 200 B.P.
GrN 6659	Langmannersdorf	20 580 ± 170 B.P.
VRI 676	Horn, Raabserstr.	23 210 ± 510 B.P.
VRI 1272	Alberndorf	20 500 ± 1400 B.P.