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MAGDALENIAN IN EASTERN EUROPE: IS IT REALLY THERE?

"Defined archaeologically by a rich record of tools, faunal remains, personal adornments, and portable and rock art, the Magdalenian phase (ca. 17-12,000 BP) of the Upper Paleolithic (ca. 40-10,000 BP) stretched from at least Portugal to southern Poland, and from the western Mediterranean to the still-dry North Sea" (Schwendler 2012: 333)

The article is dedicated to the memory of Dmytro ("Dima") Yu. Nuzhnyi (1959-2016) – an outstanding Ukrainian Stone Age archaeologist and extraordinary man.

ABSTRACT: After occupying terminologically about the whole Late Upper Paleolithic period in Eastern Europe in the 1930s-1960s, Magdalenian virtually disappeared in the East European Late Upper Paleolithic record in the 1990s. It has been replaced by terms "Epigravettian" / "Eastern Epigravettian". The present article discusses the presence of variable Magdalenian-like features in some assemblages, although the conducted study has shown still the absence of true Magdalenian assemblages in Eastern Europe. The appearance of Magdalenian-like elements could be explained through various environmental and human depending factors.

KEY WORDS: Late Upper Paleolithic – Magdalenian – Epigravettian – Eastern Europe

INTRODUCTION

East European Upper Paleolithic (UP) has always been different from the rest of Europe. Names of various Pan-European UP techno-complexes and industry types used for East European UP did not mean at all

the presence of such the European artifact complexes in our territories. That's why it was always difficult to match the Eastern UP record data for European colleagues with their "European standards". Understanding the problem, the present author intensively worked on the Aurignacian *sensu lato*

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subject in this regard, demonstrating the assemblage availability of both Aurignacian *sensu stricto* of Last Interpleniglacial time period and Aurignacian *sensu lato* ("Epi-Aurignacian") of LGM time period in Eastern Europe following the known Western and Central European Aurignacian industrial and chronological criteria (Demidenko 2003). The idea was realized and a number of such concrete and industrially variable Aurignacian and Epi-Aurignacian assemblages has been identified then (e.g. Demidenko 2004, 2008–2009, 2012).

Now it is suggested to carry out to some extend a similar study but for Late UP and bearing in mind particularly Magdalenian. The study method is again based upon a use of Western and Central European Magdalenian "artifact type standards" to look at the East European assemblages post-dating ca. 17 500 uncal BP / 21 000 cal BP. The appearing results, however, are rather different from the East European Aurignacian study due to the real difficulties in true Magdalenian assemblage recognition for our territories. As a result, the proposing article will represent a sort of short overview on the mystery of more than a century long Magdalenian journey in Eastern Europe with changing of scientific paradigms and the proposed industrial attributions for some particular assemblages and industry types.

Magdalenian site identification in Eastern Europe since the beginning of XXth century: a historiographical essay

With the discovery and first excavations of Mezin site in Northern Ukraine in 1908 realized by F.K. Volkov (Vovk) when the site's artifacts were said to be of European character with the later affinities to the "Magdalenian UP epoch / development stage" (Efimenko 1953: 312, 318, 461–471), the term "Magdalenian" started to be widely used for Late UP studies in Eastern Europe since the beginning of systematic East European UP studies in the 1930s. But it was the time when Aurignacian, Solutrean, Magdalenian terms were used just for the indication of different UP epochs or evolutionary developmental stages for East European materials with no actual application of their industrial features, except of a few «*guide fossils*» at best. Accordingly, being the basic techno-complex for Late UP studies, the East European Magdalenian was in fact very different from the original West European Magdalenian by its real artifact pieces. Here it is also worth noting that since the very beginning of the East European UP research and the very limited UP database yet then it has always been

underlying the very special character of UP in Eastern Europe being different from all European UP techno-complexes and industry types (Spitsyn 1915, Gorodtsov 1923). Real correlation of East European UP materials with UP data from the rest of Europe became even more difficult to realize when in the 1960s "cultural paradigm" (Rogachev 1955, 1957) with its about complete denial of dating / periodical / industrial meaning of lithic assemblage data within the UP epoch started to be predominant in Soviet UP studies. Aside of the loss of such Pan-European techno-complexes as Aurignacian and Gravettian in Eastern Europe, Magdalenian also got problems. The latter techno-complex, however, had "some objective rights" for it because our archaeologists realized about the absence of true Magdalenian in the East European Late UP.

Instead, it was proposed the presence of numerous "Gravettoid-like cultures" for Late UP in Eastern Europe and these "cultures" seemed to be continuing preceding Gravettian *sensu stricto* artifact traditions in this part of the Continent. That's why the term Magdalenian also started to be replaced by terms like Late Gravettian, Final Gravettian, Micro Gravettian, Eastern Epigravettian, Epigravettian. Finally, the terms Epigravettian and Eastern Epigravettian won the "battle term" for the Late UP in Eastern Europe in the 1990s (see historiography in Olenkovsky 2000, 2008). The resulting study approach change even brought some of the East European UP specialists (e.g. Anikovich 1992, Nuzhnyi 2000) to the idea that Magdalenian does represent a genuine part of Epigravettian in Europe where "*European Epigravettian sensu lato includes ... also complexes of West European Magdalenian*" (Nuzhnyi 200: 54).

The newly proposed approach for Epigravettian and Magdalenian situation understanding in Eastern Europe

Having the above-described 1990s–2000s Magdalenian into Epigravettian paradigm change with only very few exceptions (see Magdalenian suggestions for Yudinovo site – Abramova 1995, Abramova et al. 1997, Abramova, Grigorieva 1997, Grigorieva 1999), there is the situation when Magdalenian really disappeared from the East European Late UP record. The same is true for understanding of the East European Late UP among our European colleagues with the presence of just Epigravettian in our part of Europe where Magdalenian site distribution declines from west to east throughout the Continent and "becoming extinct" right before the western border of the former Soviet Union in South-Eastern Poland

(Langlais 2008: fig. 1). But there was no a Cold War "iron curtain" for human dispersal events during Late UP time period in Europe. Thus, Magdalenian and/or something Magdalenian had to be occurring in Eastern Europe.

In favor of the latter Magdalenian possible presence suggestion the following observations can be used and some of them were already recently proposed by the present author (Demidenko 2018; see also Demidenko 2008) seriously questioning the present Epigravettian dominant paradigm for our territories. First, by the theoretical background, it is admitted the particular Magdalenian human adaptation to central and northern territories in Western and Central Europe with rather harsh paleoenvironments, while Epigravettian is much more restricted, not completely, however (see Wiśniewski *et al.* 2017), to southern Mediterranean-related and influenced territories characterized by much more temperate paleoenvironments during Late Glacial time period (e.g. Langlais 2007, Połtowicz-Bobak 2013). Probably, that's why Magdalenian is unknown in the territories to the south of modern Poland, in Slovakia, Hungary, Romania and Bulgaria. Taking all these data into consideration, Late UP humans living in rather unfavorable and even much more than in Central and especially Western Europe continental paleoenvironments in Eastern Europe and especially in its East European periglacial plain situated to the north from the North Black Sea region had to be more likely bearing Magdalenian artifact making traditions than any Epigravettian ones. Indeed, the paleoenvironment – cultural tradition cluster more favors Magdalenian attribution here. Second, the 1930s Magdalenian into the 1990s Epigravettian paradigm change was mainly postulated because of the "generic evolutionary" suggestion when about all East European Late UP industry types ("cultures") had to have their "industrial roots" within local and geochronologically preceding Late Gravettian why Late UP industries should be called Epigravettian (e.g. Anikovich 1998). Such the Gravettian into Epigravettian local transitions had to be well explored for East European UP record before the paradigm change. It is, however, not the case and there is actually no one really done concrete study on the subject. In other words, almost all our colleagues only simply accept and use the Gravettian – Epigravettian "evolutionary idea" with no its substantiation by any particular Gravettian and Epigravettian material studies. Therefore, it is possible that not all Late UP assemblages in Eastern Europe are generically associated with Gravettian and some of

them could be Magdalenian and not Epigravettian. Third is that the whole south-western part of Eastern Europe (Moldova, Western Ukraine) belongs by about all its UP record data to Central Europe, having almost nothing in common to the rest of Eastern Europe. It started with Initial UP and continued up to Epigravettian where, for example, Kulychivka site (Western Ukraine) is absolute twin site to Stránská skála site complex (Southern Moravia). Fourth, the south of Eastern Europe with the only Siuren I Late Gravettian exception in Crimea lacks Gravettian sites why the region was almost depopulated from ca. 28 to 20 000 uncalibrated BP. Fifth, there are no data on any local Gravettian origin in Eastern Europe. Sixth, Gravettian humans dispersed into Eastern Europe from Central Europe and not into all eastern regions but only into mammoth forest-steppe sub-zone of the periglacial belt with permafrost in central part of Eastern Europe. Accordingly, having no such the particular periglacial environment with mammoth in the south of Eastern Europe, now it is understandable the Gravettian site absence there. Seventh, coming to the Early Epigravettian in Eastern Europe (from ca. 19 to 16 000 uncalibrated BP), it is seen its site occurrence only in south-western (e.g. Molodova V, Cosăuți 1) and southern (e.g. Anetovka II) parts but not in central part in the so-called genuine Eastern Europe, well occupied before by Late Gravettian humans. Only since ca. 15–14 000 uncalibrated BP Late (!) Epigravettian humans dispersed throughout about the whole Eastern Europe including its central areas. As a result of all these data, the East European Late UP period, when both humans and environment were much influenced by the LGM harsh climate conditions, should be understood through various human group moves in the line north to south during the LGM and south to north after the LGM. Accepting it, local "generic" connections between Late Gravettian and Early Epigravettian in Eastern Europe are hardly imaginable. It also puts into the question naming all Late UP industries as Epigravettian in Eastern Europe. The present author is still for Epigravettian term use but it has to be more elaborated and understood for Eastern Europe in a dynamic way involving both paleoclimate and paleoenvironment data, and the respective archaeological record in Central Europe.

Understanding the definite problems with Epigravettian in Eastern Europe, although I still agree it is the prevailing Late UP techno-complex here, it is indeed needed to think about some other techno-complexes presence there, remembering also about

Magdalenian. Moreover, vast unpopulated areas of the East European "Permafrost Plain" during Early Epigravettian time period were open for possible penetrations of Lower Magdalenian humans. Later on, when the "Permafrost Plain" was re-settled by Late Epigravettian humans, some contacts between Central European Middle and Late Magdalenians and East European Late Epigravettians cannot be excluded either.

"Something Magdalenian-like" in Eastern Europe

From my current opinion, there is still "something Magdalenian-like" in our part of Europe. It is proposed to see that "something" on the sample of three Late UP

industry types. By their artifacts, the three types are much variable, possibly representing a Lower Magdalenian-like type, as well as a Late Epigravettian and a unique Late UP industry type with some Magdalenian-like elements (*Figure 1*). In brief, the related site artifact data can be summarized as follows.

Lower Magdalenian-like site of Obolonnya

The site, situated in southernmost area of Middle Desna River basin, Northern Ukraine, is the new site for the East European Late UP. It was so far systematically excavated for a 12 sq. m area in 2011–2013 by Dmytro V. Stupak (Kyiv, Ukraine) and Gennadiy A. Khlopachev (St.-Petersburg, Russia) (Stupak *et al.*

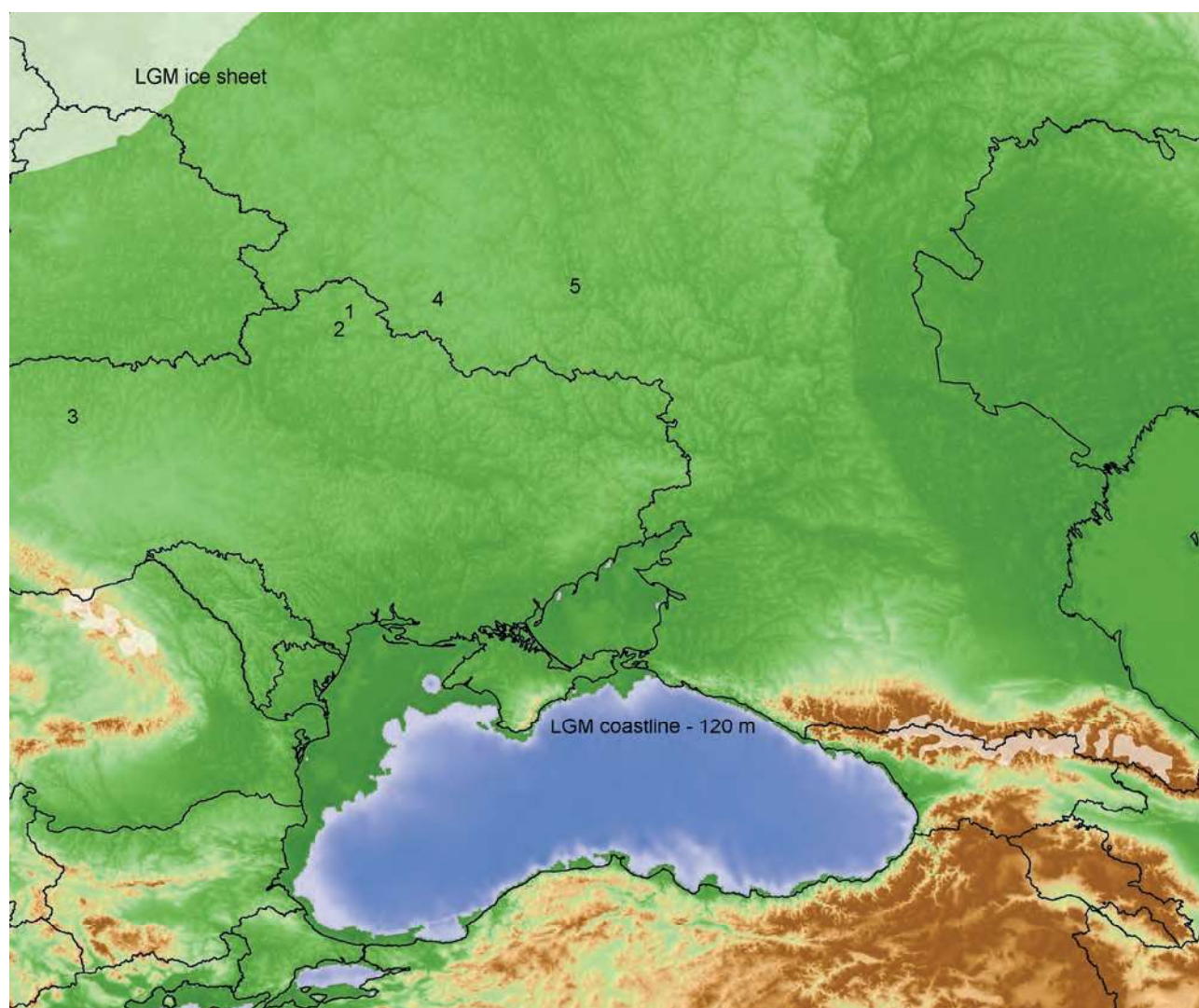


FIGURE 1: Site Map: 1, Obolonnya; 2, Mezin; 3, Rivne-Barmaki; 4, Byki; 5, Borshchevo I.

2014, Stupak, Khlopachev 2014). Two uncalibrated C14 dates on mammoth tubular bones were received, first, in St.-Petersburg (SPb-442: 15 200 ± 200 BP) and, second, in Oxford (Ox-28035: 20730 ± 120 BP). The site's excavators preferred the date around 21 000 uncalibrated BP and attributed of the recovered finds to an Epi-Aurignacian.

Instead, the present author does see some definite Lower Magdalenian-like features for Obolonnya artifacts. First, from the technological point of view, European Epi-Aurignacian industry types and particularly the ones known in Eastern Europe (Demidenko 2003, 2008, Demidenko *et al.* 2018) are of flakey character. Obolonnya assemblage is, however, a bladey one for all on-site core reduction processes with a majority of blade cores among core-like pieces and a dominance of blades over flakes among all unretouched and retouched debitage pieces. It is clearly seen on "regular core" blade reduction (*Figure 2: 1-11*) when blades were then blanks for a few truncated pieces (*Figure 3: 9*), numerous non-multifaceted burins of various types (*Figure 3: 1-4*) and elongated retouched pieces (*Figure 3: 5-8*), while simple endscrapers are about absent in the toolkit. In addition, many endscraper-cores with a great dominance of nosed items (*Figure 4: 1-8*) over wide-fronted carinated pieces (*Figure 4: 9-10*) among them did serve for primary production of tiny microblades, no elongated chips like in Epi-Aurignacian, then used for making some microliths with marginal retouch (*Figure 4: 11-13*). The tools also contain a few borers (*Figure 3: 13*) and raclette-like flakes with marginal dorsal retouch (*Figure 3: 10-12*). The lithic assemblage is also added by three secondary treated utilitarian and non-utilitarian ivory pieces. The two utilitarian items are different sized basal fragments of Isturitz-like ivory points, the shorter item being 2.2 cm long (*Figure 5*) and the longer item being 5.3 cm long (*Figure 6*). The only non-utilitarian piece is an engraved mammoth tusk (ca. 55.5 cm long) (*Figure 7*). It is worth mentioning here that such secondary treated ivory pieces have never been observed for European Epi-Aurignacian or Badegoulian (like Crubgraben in Central Europe) assemblages, whereas they are known for some Late Glacial UP materials (Magdalenian and Epigravettian) in both Western and Eastern Europe (e.g. A. Arrizabalaga, pers. com., December 2018 – Isturitz points in Basque Country Magdalenian; Stupak 2012 – engraved mammoth tusks in East European Late Epigravettian).

Literally, all the above-described artifact characteristics and, first of all, the basic blade core

reduction in getting blanks for so-called "domestic UP tool types" added by still significant carinated and especially nosed endscraper-core flaking technology for a hunting equipment production in a view of small-sized microblades then marginally retouched are well-known artifact sets for Lower Magdalenian in south-western France that were in details recently described and published (Langlais 2007, 2008, Langlais, Ducasse 2013, Langlais *et al.* 2015). The West European Lower Magdalenian carinated / nosed endscraper-core reduction technologies were not known among East European archaeologists before the present author's "Late UP / Magdalenian exercises" started why it is fully understandable Stupak's and Khlopachev's Epi-Aurignacian industrial attribution for Obolonnya artifacts. However, now it should not be mixed Epi-Aurignacian carinated atypical endscraper-core reductions (e.g. Demidenko *et al.* 2018) and Lower Magdalenian carinated and mainly nosed endscraper-core reductions. At the same time, Central European Badegoulian materials (e.g. Grubgraben site, Lower Austria) do not fit the described Obolonnya data either. All in all, now there are some data for the suggestion that Obolonnya Late UP site with uncalibrated dates in between ca. 20–15 000 BP might indicate the presence in Eastern Europe of the assemblage looking similar by some features to French-Spanish-like Lower Magdalenian dated in the westernmost corner of Europe to ca. 20–18 calibrated BP / ca. 17–15 uncalibrated BP of GS-2b cold time interval. Now, before both more absolute dates on not only mammoth bones are done and more lithic data are known, it would be indeed too risky stating, not suggesting (!), the real yet presence of the French-Spanish Lower Magdalenian in Eastern Europe with no known sites in between these two parts of Europe. Although the situation is similar, to some extent, to the case of French Middle Magdalenian and Maszycka Cave in Polish Jura with *navettes* separated by no less than 1 300km in straight direction when no similar sites in between these European areas have been long known until S. J. Pfeifer reported on bone and antler pieces from Kniegrotte in Eastern Germany definitely of Magdalenian with *navettes* character during Rzeszów 2018 Magdalenian conference (Pfeifer, this volume). Anyway, it would be still better to stay on the safe side only pointing out the occurrence of Lower Magdalenian-like features in the East European Late UP Obolonnya assemblage.

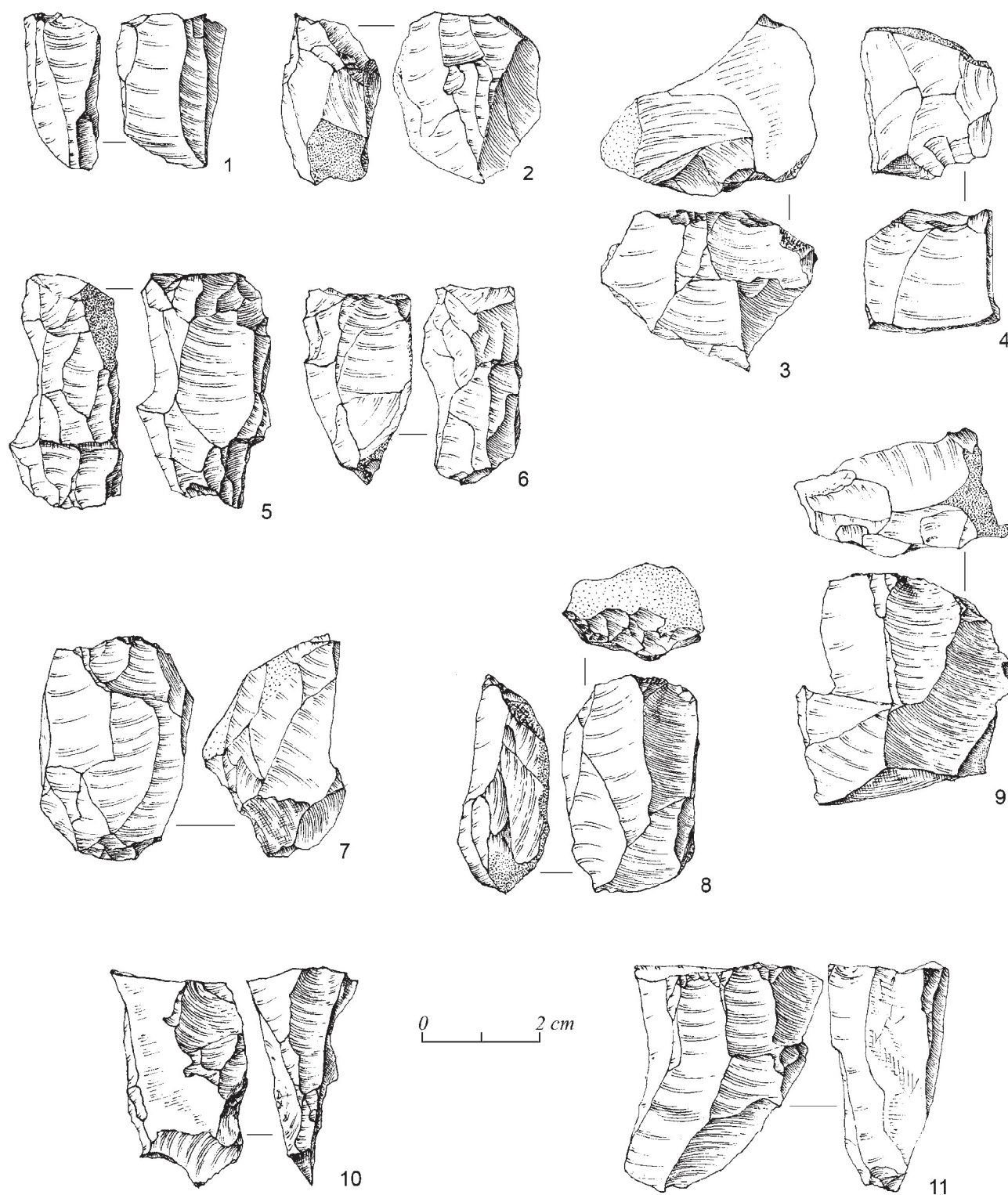


FIGURE 2: Obolonnya site. 1-11, blade cores (modified after Stupak *et al.* 2014).

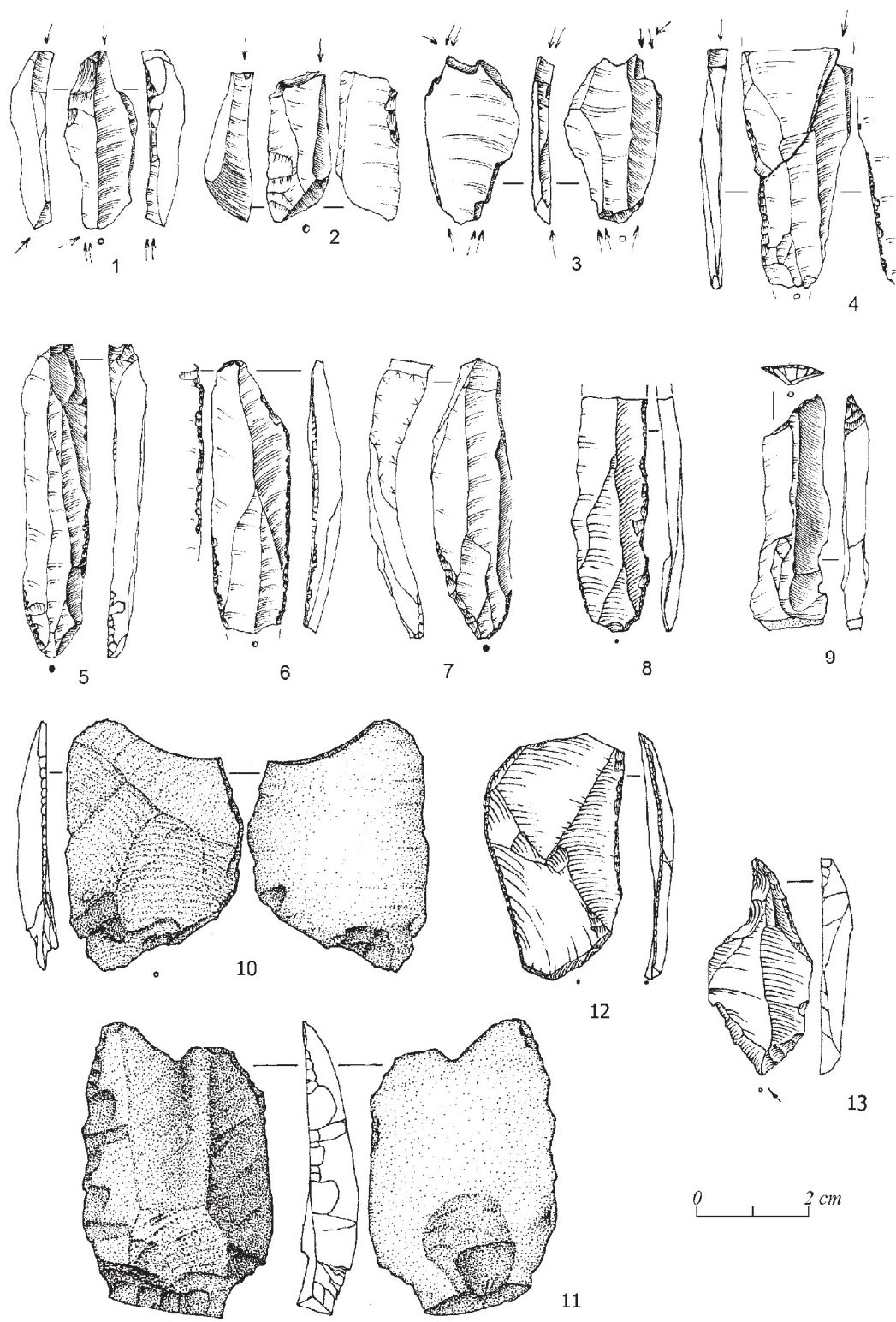


FIGURE 3: Obolonnya site. 1–4, burins; 5–8, elongated retouched pieces; 9, truncated blade; 10–12, raclette-like flakes with marginal dorsal retouch; 13, a combined tool: borer and burin on truncation (modified after Stupak *et al.* 2014).

Late Epigravettian Mezin industry type with some Magdalenian-like elements

As was noted in the beginning of the article, "Magdalenian story" in Eastern Europe started with Mezin site discovery more than 100 years ago and interpretations of its artifacts then. In spite of the happened transformation of Mezin industrial attribution into Epigravettian in the 1990s, the present author still catches sight of some Magdalenian-like elements there. Although since 1960s (e.g. Shovkoplyas 1965) Mezin site was always industrially grouped together with many other Late UP sites for Middle Dnieper River and Desna River region in Eastern Europe, it was still certain that Mezin artifacts occupy a rather unique position there. Then, studies of M. V. Anikovich and D. Yu. Nuzhnyi in the 1990s and 2000s showed not an industrial singleness of Mezin assemblage in Eastern Europe. First, it was pointed out (Anikovich 1998: 58–60) the belonging to so-called "Mezin culture" of Borshchevo 1 site assemblage (central part of European Russia). Second, Rivne-Barmaki site (Western Ukraine) was also related to Mezin find complex by Nuzhnyi (Nuzhnyi, Pjasetzky 2003, Nuzhnyi 2015: 158–210) and he also agreed with Anikovich, but with some reservations, on probable relation of Borshchevo 1 to Mezin and Rivne-Barmaki. The present author did not publish his late 1980s opinion on about identical character of Mezin and Rivne-Barmaki lithic artifacts but it has been known among colleagues. Thus, nowadays three sites' artifacts can be grouped under an "industrial umbrella" Mezin industry type in Eastern Europe. The most detailed analysis of the related materials has been done by Nuzhnyi and namely his published data and illustrations will be basically used below for Magdalenian-like feature recognition for the industry type. Also, short summaries on each site are done below.

Mezin site. The site was under several excavation campaigns in between 1908 and 1961. First excavations were realized by the site's discoverer F. K. Vovk (Volkov) and his pupils from St.-Petersburg and Kyiv (first of all, S. I. Rudenko, P. P. Efimenko and L. E. Chikalenko) in between 1908 and 1916 (Volkov 1913) before Russian 1917 revolution. In 1930 and 1932 M. Ya. Rudynski (Kyiv) conducted some small additional digs at the site aiming mainly some geological observations done by V. V. Reznichenko. According to modern standards, the site's finds were very briefly and preliminary published as belonging to "Magdalenian epoch" but at that time such the impressive ivory objects as female figurines, as well as

some other non-utilitarian and utilitarian objects including the ones with geometric ornaments were republished and interpreted by many archaeologists in both the former Soviet Union and in Europe (e.g. Gorodtsov 1923: 271, 280–285, Hančar 1942: 135, 138–139, 158–164, Taf. XVIII). It would not be an exaggeration to say that from its discovery Mezin together with Kostenki I Gravettian finds became the most known abroad Soviet Paleolithic sites. However, only later, 1954–1957, 1959–1961 excavations under direction of I. G. Shovkoplyas (Kyiv) carried out together with paleontologist I. G. Pidoplichko (Kyiv) did lead to a real complex investigation for the site when then ca. 1 200 sq. m were in total dug there. In sum, there were excavated 5 "household-domestic" complexes containing mammoth bone dwellings, hearths and storage pits, thousands of lithic artifacts, fauna remains, various bone, antler and ivory tools and objects, as well as "paleoart" items, ca. 800 fossil mollusk shells with many of them drilled and some rather local Dnieper origin amber pieces. After the 1950s–1960s excavations, Mezin is considered completely excavated site. The main result of the site's last excavations was the published monograph with lots of concrete data on both the site and its finds (Shovkoplyas 1965; see also Iakovleva 2009, 2016).

There were, however, still some problems with the site. First, geochronology was poorly understood. That was due to a complex geological and geomorphological position of the site's cultural bearing sediments (there are still some discussions on the presence of one more archaeological layer there) within diluvial deposits of a ravine's terrace. Moreover, the obtained uncalibrated C14 dates varied in a too long interval from ca. 29 000 to 15 000 BP. At the same time, Moscow geologists working around the site in the 1960s and then later came to the conclusion that "*both the common stratigraphical situation of the site's surrounding area and correlation of the site's surface with Desna River terraces indicate age of the site older 20 000 uncal BP being hardly probable*" (Velichko *et al.* 1999: 37), although precise chronology was not clear yet. Second, lithic artifacts (ca. 113 000 preserved pieces were counted by Shovkoplyas for all excavated site's areas) were still published through the 1950s artifact classification standards. Accordingly, the chronology and lithic artifact subjects had to be more elaborated.

The two subjects were made clearer by Nuzhnyi in the 2000s–2010s. Taking Mezin C14 dates, he recognized that the two oldest dating results in ca. 29 000 uncal BP (Kyiv C14 lab) were based on dating

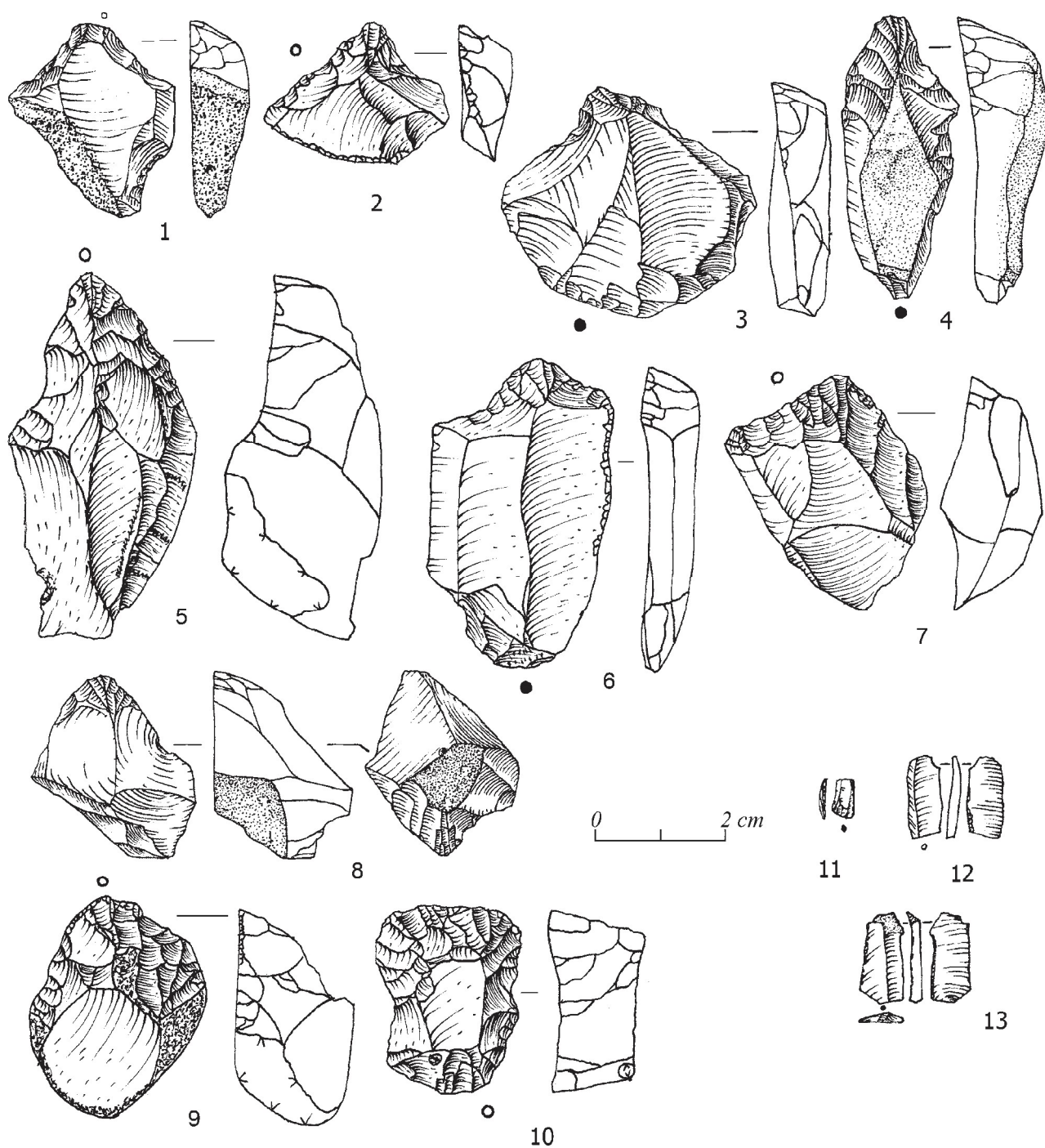


FIGURE 4: Obolonnya site. 1-8, various nosed endscraper-cores; 9-10, wide-fronted carinated endscraper-cores; 11-13, microliths with marginal retouch (modified after Stupak *et al.* 2014).



FIGURE 5: Obolonnya site. A shorter (2.2 cm long) basal fragment of Isturitz-like ivory point (modified after Stupak *et al.* 2014).



FIGURE 6: Obolonnya site. A longer (5.3 cm long) basal fragment of Isturitz-like ivory point (modified after Stupak *et al.* 2014).

of tertiary (Miocene) mollusk shells. Three other C14 dates in ca. 27 000 uncal BP (Ki / Kyiv, Ukraine), ca. 21 000 uncal BP (GIN, Moscow) and ca. 15 000 uncal BP (OxA, United Kingdom) obtained on samples of mammoth teeth in the 1970s and 1980s were still within too long chronological interval. Understanding it, there were attempted new dates for Mezin by Nuzhnyi and P. Haesaerts on 1954 and 1956 excavation wolf bones in the 2000s – $14\,560 \pm 90$ uncal BP (GrA-22499) and $15\,600 \pm 250$ uncal BP (Ki-11087), respectively. Two new dates are similar to the previous OxA-719 date in $15\,100 \pm 200$ uncal BP. As a result, Nuzhnyi reasonably suggested true absolute age for Mezin site in 15 – 14 000 uncal BP (Nuzhnyi 2015: 161). Also, Nuzhnyi re-classified a part of huge lithic artifact collection coming from the 1900s and 1930s site excavations done by Vovk and Rudynski. He particularly paid attention to microliths and even defined a specific microlith type, a sort of micro-Gravette point with one lateral edge backed and a diagonal truncation of its basal part (Nuzhnyi, Pjasetzky 2003: 62, Fig. 6: 2, 11, 13, 15, 17–18, 21–22, 24–25, 27, 31, Nuzhnyi 2015: 167, Fig. 113: 2, 11, 15, 18, 21–22, 25, 27, 39, 44, 53; 113-A: 14, 19–23, 26–27, 30–33, 38–39, 61–62), as well as some atypical shouldered points (*pointes à cran atypiques*) (Nuzhnyi, Pjasetzky 2003: 68, Fig. 6: 76–77, Nuzhnyi 2015: 205–206, Fig. 113: 76–77; 116-A: 1). The same two microlith types were also identified by Nuzhnyi for Rivne-Barmaki and Borshchevo 1 lithic assemblages (see below). Again, since Mezin site discovery its finds had

Magdalenian attribution. Starting only from the early 1990s they became Epigravettian after a work of Nuzhnyi, too. He, however, underlined that "Epigravettian of Mezin type" is industrially and chronologically different from "Epigravettian of Mezhirichi type" with sites of Mezhirichi, Dobranichevka, Gontsy, Fastiv, Semenivka 1–3 often having similar to Mezin site mammoth dwellings but dated a little later, ca. 14–12 000 uncalibrated BP (Nuzhnyi 2015).

All in all, being still newly considered as an Epigravettian, Mezin site find complex occupied a special place within the East European Epigravettian.

Rivne-Barmaki site. The site was discovered at south-western outskirts of Rivne city (Western Ukraine) by a local geologist and amateur archaeologist V. K. Pjasetzky and then first excavated in 1982 by him and in 1990 again with a collaboration of an archaeologist from local museum E. L. Lupenko (Pjasetzky 1997). The excavated area comprised more than 100 sq. m. There were recovered lithic assemblage in almost 17 000 items, including among them ca. 800 tools; some bone, antler and ivory objects, including a reindeer antler's hammer; ca. 200 fossil mollusk shells with some of them drilled and some local Volynian origin amber pieces. Pjasetzky and Lupenko suggested the Middle Dniestr and namely Molodova V, Epigravettian connections for Rivne-Barmaki finds. However, after a brief study of the site's 1982 recovered lithics represented at Kyiv Institute of Archaeology by Lupenko, the present author indicated not Molodova V but Mezin industrial affinity for Rivne-Barmaki.

Nuzhnyi with an assistance of Pjasetsky realized new site excavations for an area of ca. 13.5 sq. m in 2002–2005. He much confirmed the 1982 and 1990 excavation data and also independently from the present author came to a conclusion on the striking similarity of Rivne-Barmaki and Mezin finds. Nuzhnyi analyzed in details all artifacts after three excavation campaigns and published his observations (Nuzhnyi, Pjasetsky 2003, Nuzhnyi 2015: 162–195).

Using the following Rivne-Barmaki data, he pointed out both Mezin and Rivne-Barmaki similarity and their differences from other Epigravettian materials:

- the same blade and bladelet core reduction methods seen in ca. dual prevalence of single-platform over double-platform cores, while Mezhirichi Epigravettian type features double-platform core dominance (Nuzhnyi 2015: 166);
- blades dominate among tool-blanks with length and width parameters larger the respective Mezhirichi Epigravettian tool-blank data (Nuzhnyi 2015: 166);
- the serial occurrence of the already noted specific microlith type, a micro-Gravette backed point with a diagonal basal truncation (Nuzhnyi 2015: 167);
- the presence of a few but clear atypical shouldered points (*pointes à cran atypiques*) (Nuzhnyi 2015: 167, 169, Fig. 90: 17–18);
- the serial presence of backed microliths with various projectile weapon armature fractures (Nuzhnyi 2015: 169, Fig. 90: 11–12, 14, 16, 18–19; 23, 27, 29; Fig. 91: 7, 10, 12 – Rivne-Barmaki; Fig. 113: 43–46, 49, 51–53, 57, 59, 65, 69–71, 73–75 – Mezin) and the occurrence of unfinished such backed microliths evidencing their on-site production at Rivne-Barmaki (Nuzhnyi 2015: 169, Fig. 90: 26; Fig. 91: 19–24) and Mezin (Nuzhnyi 2015: 169, Fig. 113: 72, 73), but no micro-burin technique was used for their manufacture;
- burins are the most numerous tools, and oblique truncation burins with their multiple examples are indicative for Rivne-Barmaki (Nuzhnyi 2015: 174, Fig. 94: 1–16) and Mezin (Nuzhnyi 2015: 174, Fig. 114: 1–15; Fig. 114B: 1–19);
- various truncated blades seem to be connected to the above-noted burins on truncation for Rivne-Barmaki (Nuzhnyi 2015: 177, Fig. 91: 33–45) and Mezin (Shovkoplyas 1965: 161, Fig. XXV: 1–28; Fig. XXVI: 1–20);

Some Rivne-Barmaki organic items also find comparisons among Mezin finds. These are ivory slotted points (Nuzhnyi 2015: 207, Fig. 109: 3 – for Rivne-Barmaki; Fig. 116A: 3 – for Mezin), bracelets

with herringbone-like geometric ornament (Nuzhnyi 2015: 207, Fig. 110: 2 – for Rivne-Barmaki, Shovkoplyas 1965: Fig. LI–LIII – for Mezin) and drilled various fossil mollusk shells (Nuzhnyi 2015: 207, Fig. 110: 2 – for Rivne-Barmaki, Shovkoplyas 1965: Fig. LI–LIII – for Mezin).

Although not all Mezin "paleoart" objects (female ivory figurines, "painted mammoth bones") have been found at Rivne-Barmaki, it is worth remembering these are different sites with the absence, for instance, of Mezin-like mammoth bone dwellings at the Western Ukrainian site. Thus, this is the striking example where organic pieces are partially similar with much numerous such piece presences within Mezin assemblage coming from functionally different site, while lithics in ca. 95% coincide for these two functionally variable sites. Accordingly, lithics have a "full right" to be used for archaeological comparative analyses.

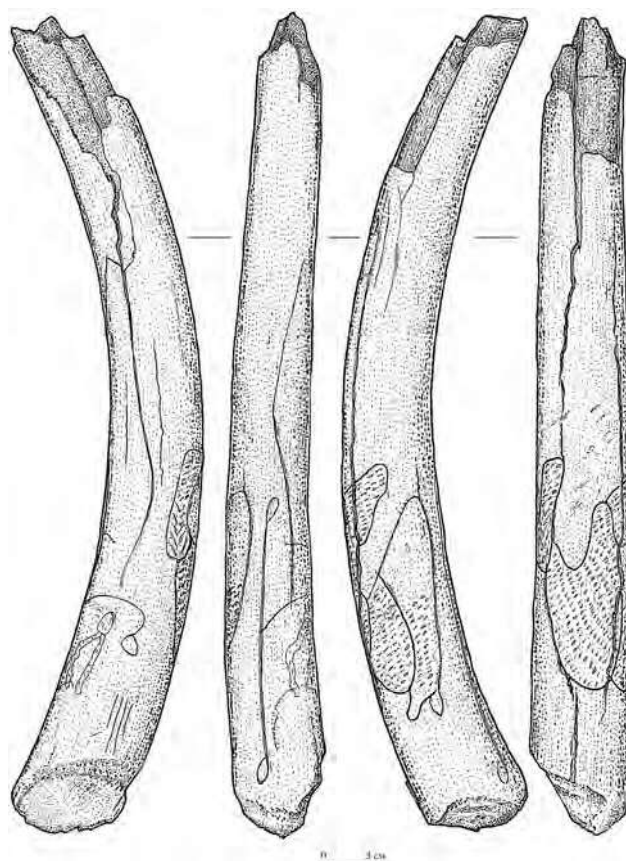


FIGURE 7: Obolonnya site. An engraved mammoth tusk (ca. 55.5 cm long) (modified after Stupak *et al.* 2014).

The only yet obtained Rivne–Barmaki C14 uncalibrated date on an ungulate bone from Nuzhnyi 2003 excavation at Kyiv lab, $14\,300 \pm 250$ BP (Ki-11087) (Nuzhnyi 2015: 161) is comparable to Mezin dates in 15–14 000 uncal BP.

Borshchevo I site. The site is located in Kostenki-Borshchevo site complex (Middle Don River area, center of European Russia). Borshchevo I has a long history of its excavations and material studies (Rogachev, Kudryashov 1982). Discovered yet in 1905 by A. A. Spitsyn, it was first excavated in 1922 and 1923 by P. P. Efimenko and S.N. Zamyatnin when they dug 21 sondages for 136 sq. m area at different site's places. Efimenko dug 11 more sondages (42 sq. m) in 1925 when he investigated the site's northern part, ca. 50 m away from the 1922–1923 area. In 1955 A. N. Rogachev excavated 119 sq. m more at the site's original 1905 discovery area. The 1905 and 1955 area

was again excavated in 1981 by Rogachev. As a result, it is often said that the site is composed of three loci (Rogachev, Kudryashov 1982: 211, Fedyunin 2018: 315).

Borshchevo I assemblage was never fully published, although it was planned as a PhD subject for V. E. Kudryashov in the early 1980s but his study was not completed. Accordingly, even a number of all lithics are unknown yet. Only some categories/types were noted with precise numbers: 24 cores, 494 blades, 53 endscrapers, 113 burins (63 on truncation, 28 dihedral, 20 angle), 51 backed microliths, 9 shouldered points, 5 "Chatelperronian points", 2 scaled tools (Rogachev, Kudryashov 1982: 214–215).

Rogachev and Kudryashov were first researchers noting for Borshchevo I "some similarities with tools of Mezin site" where "the most numerous tools in Mezin collection do compose burins on truncation, including double burins on truncation so characteristic for Borshchevo I" and "analogous to Borshchevo I backed microblades, combined tools and splintered pieces", also saying "both dating and cultural affinity problems are still not resolved" for Borshchevo I (Rogachev, Kudryashov 1982: 216). Later on, Anikovich unambiguously stated that "industry of Borshchevo I site is of the same culture with Mezin containing all typical Mezin forms: the same single and double burins on truncation; the same simple endscrapers and their combinations with burins on truncation; serial scaled tools; analogous backed blades (including pieces with obliquely truncated ends and atypical "shouldered points", Chatelperron-type knives) (fig. 16)" (Anikovich 1998: 58–60). He also acknowledged industrially homogeneous artifact features for Borshchevo I. Nuzhnyi was, however, not sure in Borshchevo I artifact homogeneous attributes. He (Nuzhnyi 2015: 210, Fig. 198–201) noted there "the presence of typical pieces for both Mezin industry and the latest Eastern Gravettian complexes". As Mezin features Nuzhnyi specifically mentioned "miniature micro-Gravette point with obliquely retouched basal part and atypical rectangles", as well as "morphologically and technologically similar endscrapers and burins" (Nuzhnyi 2015: 207). However, as it seems for the present author, Nuzhnyi exaggerate the presence in Borshchevo I of "shouldered or with a tang points and rather massive rectangles", the artifact types he was inclined to consider as elements of Eastern Gravettian industries.

In addition to the lithics, Borshchevo I collections are characterized by a few organic artifacts: fragment of an ivory pointed item, a drilled horse's canine and



FIGURE 8: Mezin site. Five stylized ivory female figurines in full face and profile (modified after Shovkoplyas 2009).

3 tiny and ovoid in shape nacre examples with a hole (Rogachev, Kudryashov 1982: 215, Fig. 74: B, 1-4) which are not specific for any UP industry. Like Rivne-Barmaki, Borshchevo I site does not have mammoth bone dwellings.

Taking the described artifact data, it is seen their industrial affinity to Mezin and Rivne-Barmaki assemblages. The discussing Russian site likely represents different from the Ukrainian sites type of site that explains some its variability within the single Late UP Mezin industry type in Eastern Europe.

All in all, the three discussed above sites' artifact data compose a distinct Late Epigravettian industry, its Mezin type having some uncharacteristic lithic features for other East European Epigravettian assemblages. The following features, both non-lithic and lithic ones, can be considered as Magdalenian-like elements. First, famous Mezin ivory female figurines (see Shovkoplyas 1965: Figs. 57-59, Tabl. XLVII-L, Iakovleva 2009: Figs. 21-27; 2011: Tabl. 1) by their overall shape, profile configuration and very convex lower butt part (Figure 8) recall Magdalenian female figurines and their images (e.g. Gaudzinski-Windheuser, Jöris 2006: 57-61, Maier 2012: Pl. 30) (Figure 9). Second, some Mezin ivory drilled pendants are already noted by L. A. Iakovleva (2009: Fig. 33, 1) as pieces imitating deer canines. For me they particularly imitate Magdalenian deer canines used for necklaces and/or cloth ornaments (e.g. Álvarez Fernández 2009: 47-49, Gaudzinski-Windheuser, Jöris 2006: 55) (Figure 10). Third, three considering sites do contain the distinct microlith type, a sort of micro-Gravette backed point with a diagonal truncation of its basal part that deserves a special Mezin-type designation (Figure 11: 1-17, 22-30, 34-36). Also, from my point of view, the diagonal basal truncation makes a general crescent shape for the Mezin-type microlith and it is also evident for some other microliths with natural crescent shape having only lateral edge retouched (Figure 11: 18-21, 31-33). At the same time, the microlith type reminds me to some extent Magdalenian *lamelles scalènes* and it can be considered as one more Magdalenian-like element. Fourth, the three sites' toolkits also have some atypical shouldered points (*pointes à cran atypiques*) (Figure 12: 1-13) that are morphologically different from Gravettian shouldered points and variable borers (Figure 12: 14-31). The borers are especially characteristic and numerically well represented at Mezin site that is probably connected to an incredible amount of on-site organic tool (first of all, eyed bone needles) and "paleoart" piece production, while there

are just singles borers and no eyed bone needles at Rivne-Barmaki and Borshchevo I sites. Anyway, these tool classes are characteristic for European Magdalenian. Particularly, the occurrence of atypical shouldered

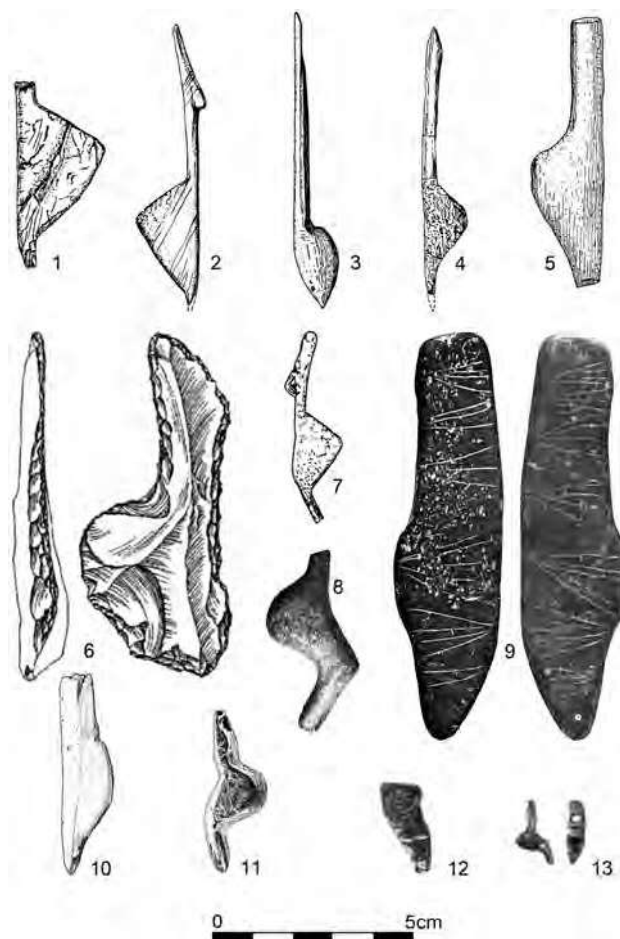


FIGURE 9: Central European various female figurines of the Gönnersdorf type (modified after Maier 2012).

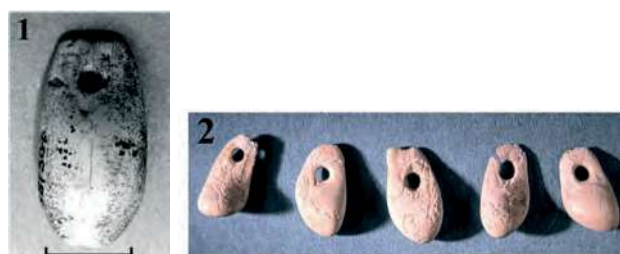


FIGURE 10: 1, Mezin site, an ivory drilled pendant (modified after Iakovleva 2009); 2, Gönnersdorf site, Magdalenian deer canine drilled pendants (modified after Gaudzinski-Windheuser, Jöris 2006).

points, being characteristic for many Magdalenian assemblages in Europe starting from the time of Lower Magdalenian in France (Langlais 2007, 2011), seems to be especially important here. Fifth, one more but dubious Magdalenian-like element might possibly occur among Borshchevo I lithics, a series of "parrot-beaked-like burins" having characteristic clearly convex truncation, with short burin spall removal negative and abrupt retouch (*Figure 11: 37–39*).

Unique Late UP Byki industry type with some Magdalenian-like elements

Since mid-1990s new Late UP Byki site complex with the striking presence of serial triangular points having rather Final Paleolithic and/or Early Mesolithic techno-morphological characteristics has been under excavations in Seim River area, center of European Russia. It was investigated by A. A. Chubur in 1996–1999 (Chubur 2001) and then since 1999 until the present time by N. B. Akhmetgaleeva (Akhmetgaleeva 2015), although first field excavations there were yet realized by G.V. Grigorieva in 1975. In 2012–2016 the present author was involved into Byki lithic artifact studies by Akhmetgaleeva (e.g. Akhmetgaleeva, Demidenko 2015, 2017) and it allows me to make a reasonable summary, also using the published site data by Akhmetgaleeva (e.g. 2009, 2010, 2015).

Byki sites are C14 consistently dated in between ca. 18–16 000 uncal BP that is ca. 21–19 000 cal BP being geochronologically related to the end of LGM, particularly to the cold and humid conditions of the GS-2b. Such geochronology is important for East European Plain being about depopulated at that time and why the appearance of Late UP humans bearing Byki artifact making tradition in the center of the Plain deserves much attention. At the same time, more C14 dates are needed for Byki remembering that some of them have been received on mixed bone samples of different animal species at C14 labs in Moscow and St.-Petersburg.

By lithic artifacts, numbering several thousand pieces for both Byki 1 and Byki 7 key sites, and, first of all, their core reduction data, Byki sites are not characterized by any systematic bladelet core reduction and it explains the absence of backed bladelet production tradition in the industry type. This is indeed one of the basic reasons for stating a rather unique status of the discussing Late UP industry type within preceding and succeeding it Gravettian and Epigravettian industries in the center of Eastern

Europe. Instead of any regular bladelet and/or blade/bladelet primary flaking processes, Byki lithic assemblages are mainly based on core reduction for receiving small and narrow (in average ca. 15 mm wide) blades (*Figure 13: 1–3*) then used for on-site triangular point manufacture (*Figure 14: 1–21*). The points, on one hand, look like Final Paleolithic and/or Early Mesolithic ones by their shape and retouched edge characteristics where the longest lateral edge is always retouched; on the other hand, the points bear real backed retouch that is the genuine secondary treatment for Magdalenian triangles. Being well chronologically separated from Final Paleolithic / Early Mesolithic, the Byki triangular points can only be associated to Magdalenian triangles meaning here not a direct tool type borrowing but it was perhaps an idea adoption of such "hunting projectile element". However, it is needed to remember that European Magdalenian triangles were dart inserts and Byki triangular points were arrowheads. While most of blades were used for triangular point production, the rest of core debitage, mainly flakes, was used then as blanks for making "domestic tools". That flakey toolblank circumstance with the blade deficit for tool production again explains first sight Final Paleolithic / Early Mesolithic looking tool morphology. Also, as in Mezin site, Byki demonstrates serial bone eyed needles (*Figure 15: 1–18*) made using numerous flint borers with long and short stings (*Figure 14: 22–25*) through technological procedures looking very much similar to Magdalenian ones (e.g. Leesch, Müller 2012: Abb. 10). The Byki on-site bone eyed needle production is also well analyzed by Akhmetgaleeva through numerous bone blank and waste pieces (*Figure 16: 1–13*). Actually, Byki sites represent first systematic eyed bone needle production for East European UP, not taking into account single bone needles in some Gravettian assemblages. Finally, there has been found a unique ivory ring with a horse's head (*Figure 17*), not having any similarities among organic non-utilitarian pieces in East European UP.

The shown Byki artifact data do represent a unique Late UP industry with no Gravettian / Epigravettian features. The site occurrence in the center of East European Plain, the region lacking Late Gravettian and/or Early Epigravettian during GS-2b cold period, additionally adds problems with its quite enigmatic artifact set. So far, the only plausible hypothesis for Byki industry type attribution is to understand it as a unique Late UP industry with some possible Magdalenian-like features.

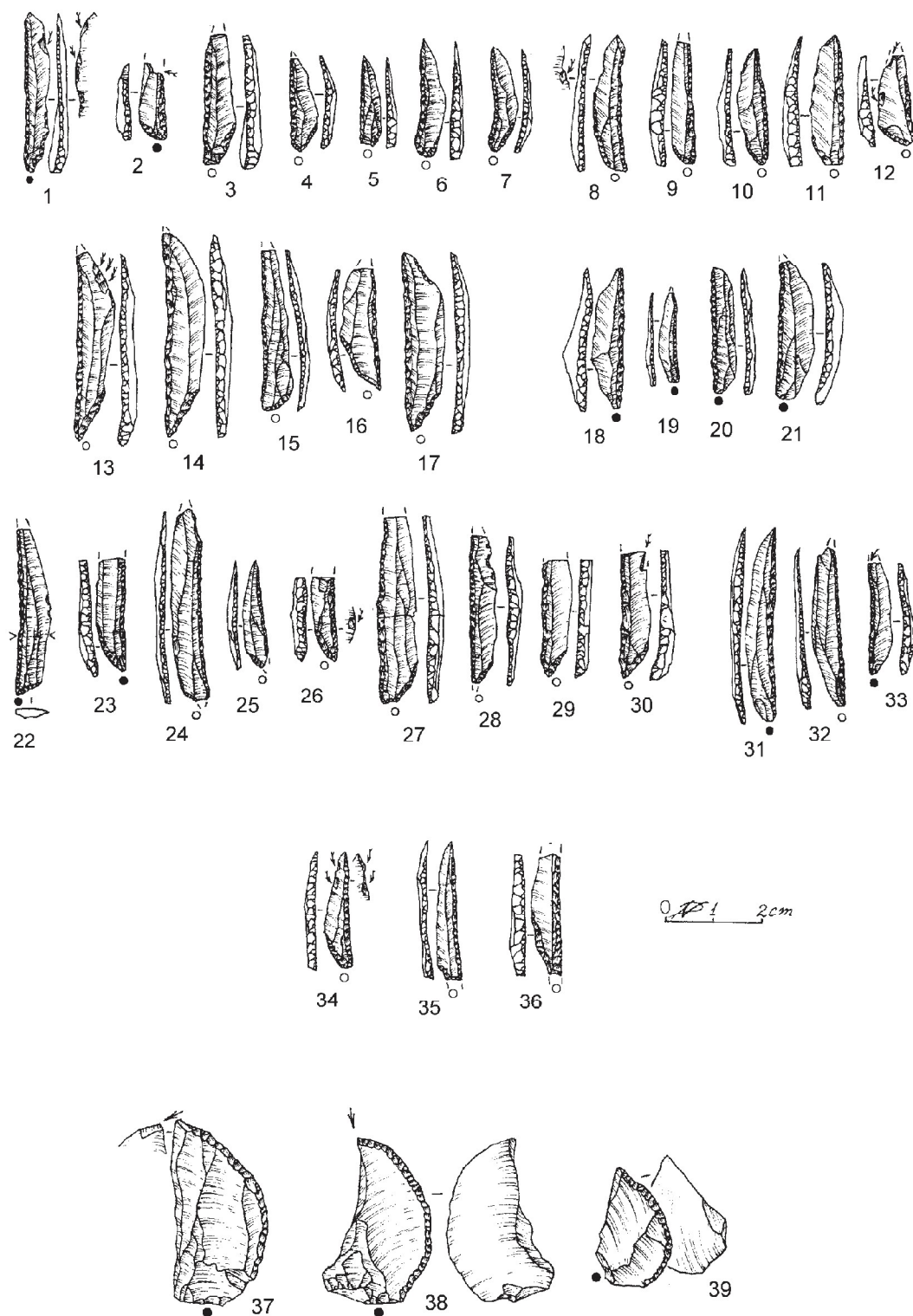


FIGURE 11: 1–36, Micro-Gravette point of Mezin-type with one lateral edge backed and a diagonal truncation of its basal part; 37–39, parrot-beaked-like burins. 1–21, Mezin site; 22–33, Rivne–Barmaki site; 34–39, Borshchevo I site (modified after Nuzhnyi 2015).



FIGURE 12: 1-13, atypical shouldered points (*pointes à cran atypiques*); 14-31, borers. 1-3, Mezin site; 4-5, Rivne-Barmaki site; 6-13, Borshchevo I site; 14-31, Mezin site (modified after Nuzhnyi 2015).

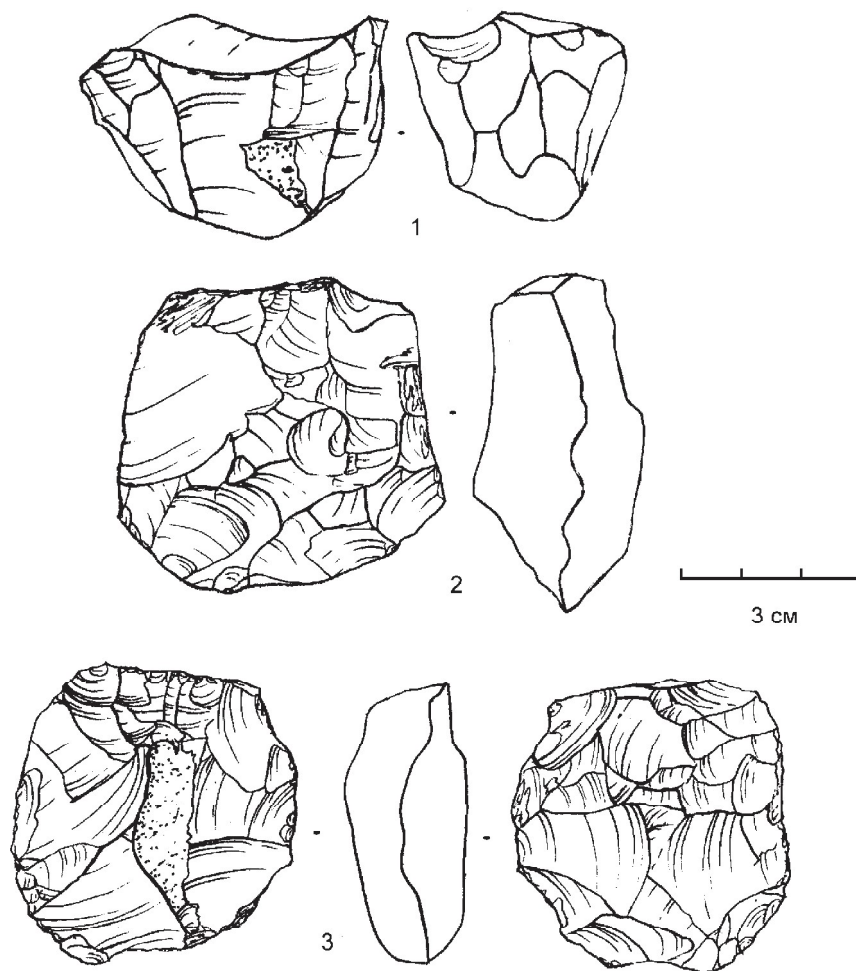


FIGURE 13: Byki 7 site, layer Ia. 1–3, cores (modified after Akhmetgaleeva 2015).

Two more sites but in different regions in Russia do, high likely, belong to Byki industry type. One of them, Samotoevka (Middle Don River area), was already discussed in archaeological literature as a "member" of "Byki culture" (see Akhmetgaleeva 2015: 183–184, Fedyunin 2018: 315–317). One more site, Shikaevka II (Western Siberia) (Petrin 1986: 23–34), is proposed here to be related to Byki industry type, although it would be tempting to consider Shikaevka II site as a possible indicator of a Siberian / Asian origin for Byki industry type. Shikaevka II is the small in situ lithic assemblage in 35 lithic artifacts. It has Byki-like triangular points and blades that are, however, again unique in Siberian UP record. Moreover, its lithic raw material, "greenish / reddish jasper is of South Ural region origin" (Petrin 1986: 30). Accordingly, adding to Byki sites two more sites in Russia do not make the

industry type attribution easier, though it is hoped that on-going research on Byki sites will shed more light on the subject.

CONCLUDING CONSIDERATIONS

The analyzed in the article past and present-day Magdalenian situation in Eastern Europe allows the present author to propose the following considerations. Despite still correct industrial attribution of the most of Late UP assemblages in Eastern Europe being Epigravettian, it is needed to underline the definite presence of some assemblages that do not fully fit into the Epigravettian "Procrustean bed". At the same time, it is not possible to state (!) that the analyzed assemblages / industry types are of real Magdalenian

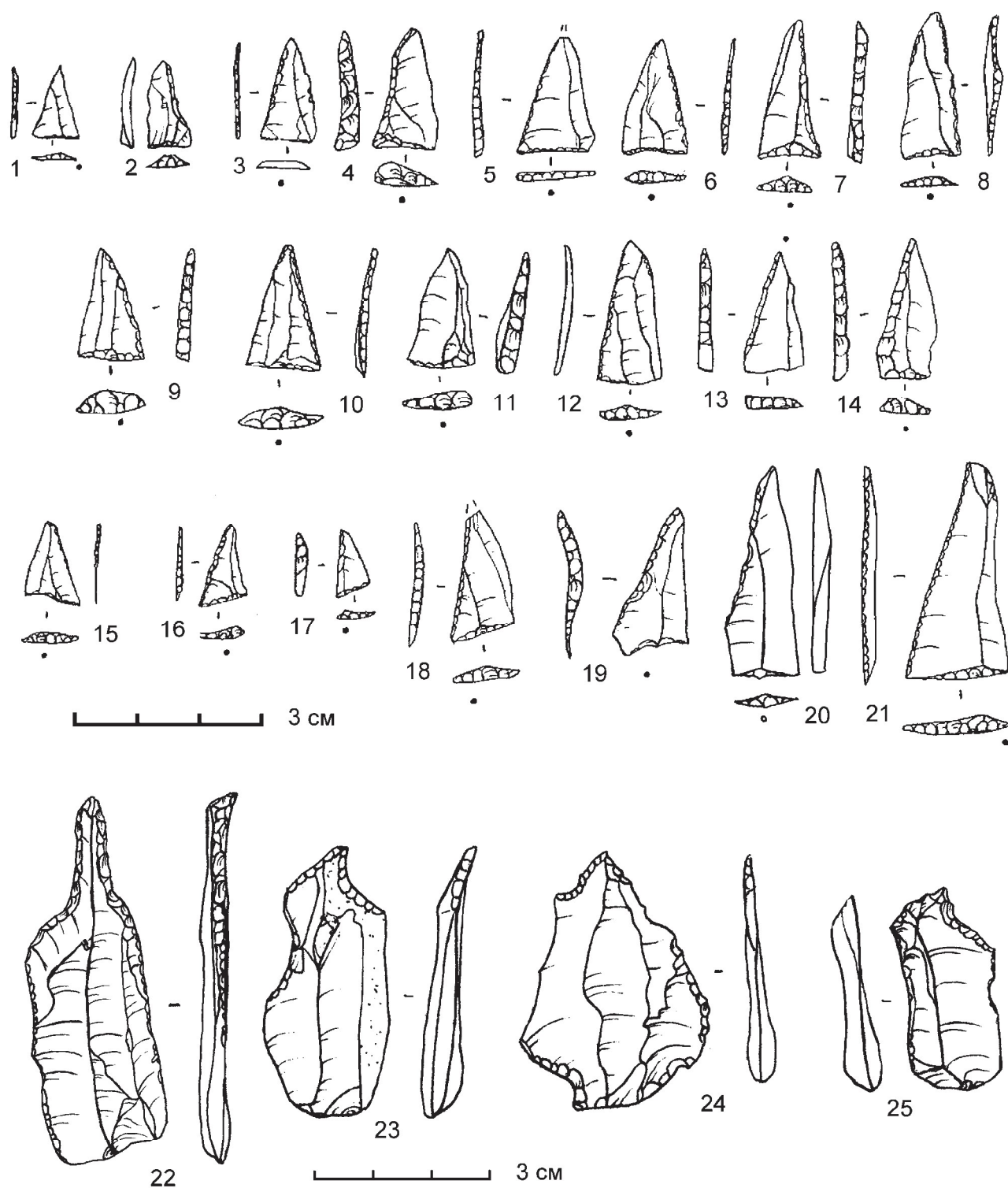


FIGURE 14: Byki 7 site, layers Ia – I. 1–21, triangular points; 22–25, borers (modified after Akhmetgaleeva 2015).

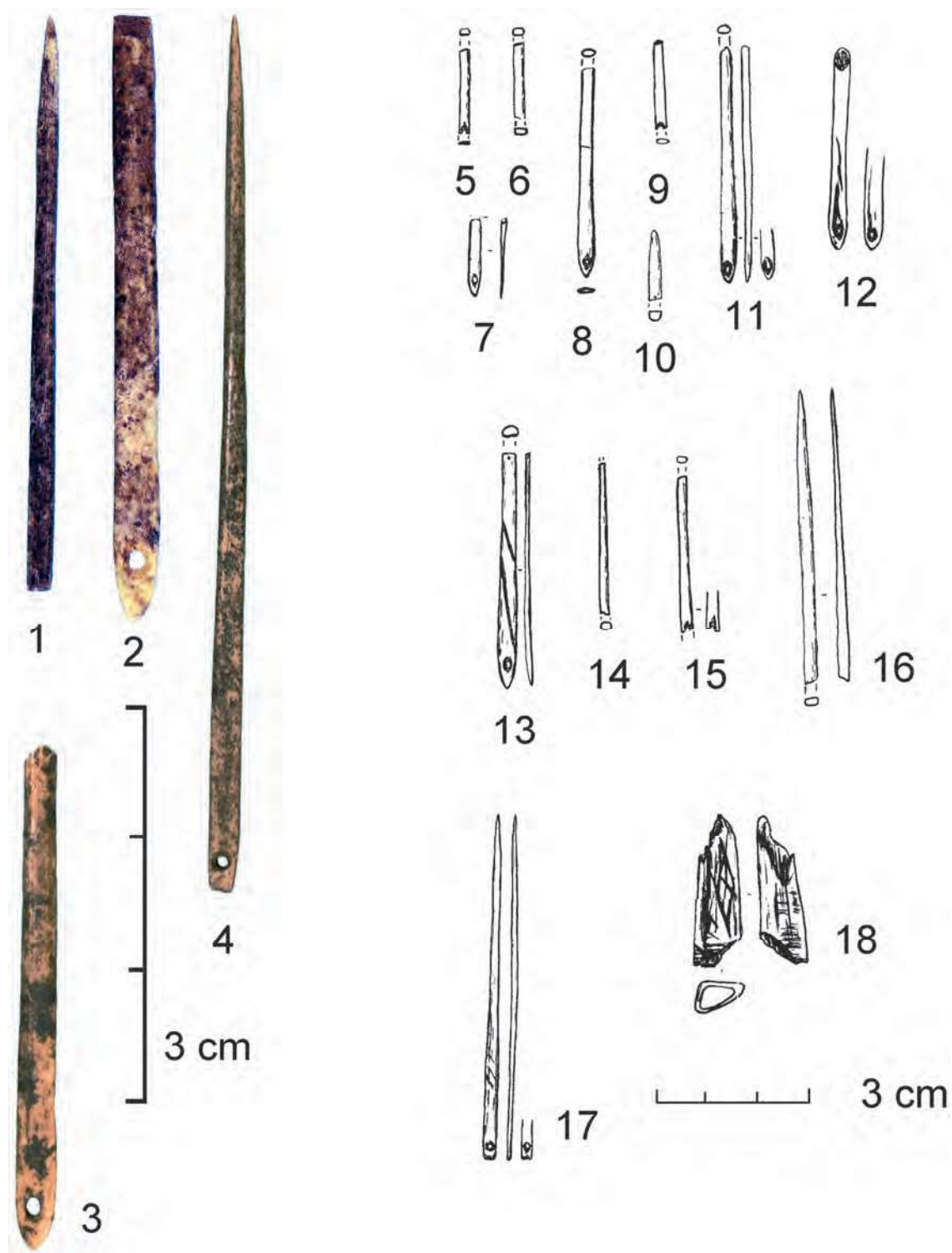


FIGURE 15: Byki 7 site, layers Ia – I. 1-17, bone eyed needles; 18, bone needle-case (modified after Akhmetgaleeva 2015).

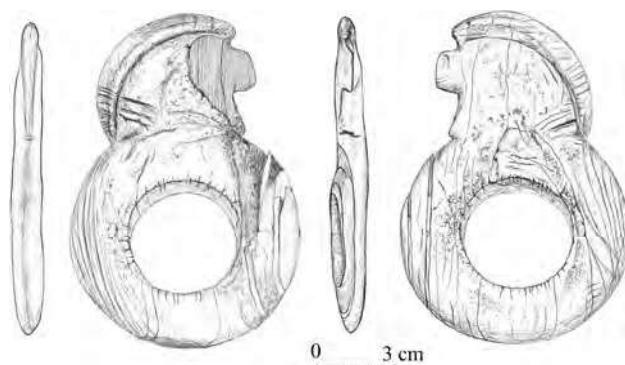
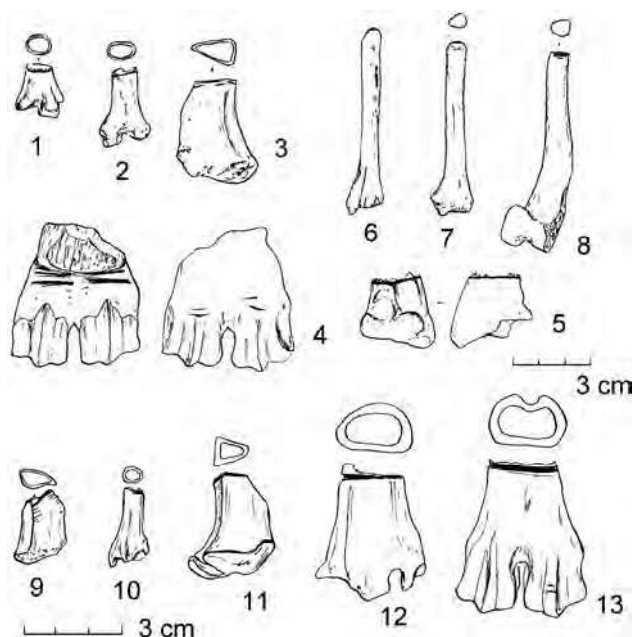


FIGURE 17: Byki 7 site, layer I. Ivory ring with a horse's head (modified after Akhmetgaleeva 2015).

FIGURE 16: Byki 7 site, layer I. 1–13, bone waste pieces indicating on-site bone tool production (modified after Akhmetgaleeva 2015).

affinity. The discussed each East European site by both chronology and specific tool types do not exactly correspond to concrete known European Magdalenian industry type, having instead some particular features of the so-called common "Magdalenian industrial-chronological package". Accordingly, it is rather "something Magdalenian-like" / a "Magdalenian smell" in this part of European Continent for Late UP.

As a result, the conducted study only allows the present author to point out the following indications for a possible complex "something Magdalenian": some mostly Lower Magdalenian-like markers for Obolonna site in Ukraine; some Magdalenian-like elements for Epigravettian industry of Mezin type with occurring in three sites in both Ukraine and Russia; also some Magdalenian-like features in a unique Byki industry type with Byki site complex and possibly two more sites in both European and Asian parts of Russia. The presence of such Late UP assemblages / industry types with Magdalenian-like features in Eastern Europe could be explained through various environmental and human depending factors. First of all, harsh climate conditions of the end of LGM and beginning of Heinrich Event 1 have led to a considerable human depopulation of the central belt of the Eastern Europe why it lacked Late Gravettian and Early Epigravettian sites for the time span in ca. 23–18 000 cal BP. Early Epigravettian sites have been only known in the south of Eastern Europe. At the same time, Magdalenian humans have been

occupying adjacent and paleoenvironmentally similar territories in Central and Western Europe. That's why there is no wonder why all the discussed in the article's sites with "something Magdalenian-like" are namely located in central regions of Eastern Europe and no one such site is registered for the south of Eastern Europe. There are no, however, real data to postulate a direct penetration of some Magdalenian humans into Eastern Europe. It could be possibly understood through "trans-cultural diffusion" / "stimulus diffusion" processes, in which Epigravettian and other artifact making tradition human groups adopted some culture elements and/or technologies from Magdalenian humans. Also, convergences in the appearance of similar core and/or tool types for various Late UP industries under the influence of about the same environmental conditions cannot be excluded either. Elaborating then these scenarios, unexpected answers to these new questions regarding the East European Late UP can be received. Here it is also should be underlined a multi-structural Magdalenian techno-typological features in Europe where there is a "room" for nosed endscraper-cores, tiny marginally retouched microliths, shouldered points, etc. in various Magdalenian industry types that have to be known by archaeologists engaged in a search of possible Magdalenian-like features / elements within the East European Late UP.

The present article is only the first initial step toward attempts for real understanding of a complex

"industrial picture" of the East European Late UP having in fact not only various Epigravettian industries but also something else, including possibly Magdalenian features.

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