



## MOUSTERIAN INDUSTRIES EVOLUTION OF SOUTH EAST UKRAINE

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Regional researches organization, concerning Early Paleolithic (according to modern ex-Soviet literature, the Early Paleolithic is Acheulean and Mousterian) makes the modern Ukrainian paleolithic studies specific. For more than 10 year regional researches have been made on Mousterian of Transcarpathians (Soldatenko, 1982), Dniestr Podoliya (Sytnik, 1985), Crimea (Stepanchuk, 1991; Chabai, 1992), the Ukrainian Woodlands (Kukharchuk, 1993). Our elaboration continues the tradition and presents the summary of Mousterian sites of two South East regions of the Ukraine - Donetsk region and in less degree Lugansk region (fig. 1).

There is a special geological formation - Donetsk basin (Donbas) here. Donetsk mountain ridge has complicated geological structure and its elevation is more than 300 m above sea level. The peculiarities of Donbas geological history caused plenty Cretaceous deposits displays at the surface. These deposits contain high quality flints. Relief promoted active erosion and dislocation of quaternary deposits. This was the reason for poor safety of Mousterian remains in the region.

Success of Donbas Mousterian studies is attributed to P.P. Efimenko (1935), P.I. Boriskovskiy (1953), V.N. Gladilin (1976), D.S. Tsveibel (1971) and other specialists.

At first Donbas and Priazovie were called special regions of the Eastern Europe Early Paleolithic in the article of S.N. Zamyatnin (1953). In 1960s N.D. Praslov carried out the extensive welding of Acheulean and Mousterian sites of neighbour North East Priazovie in Russia (Praslov, 1968).

Nowadays about 40 Mousterian sites on South East of the Ukraine are

known. The most of them are represented by single pieces. Statistically important collections have been gathered while investigating 10 sites. Only 5 sites have direct or indirect geological dating. All the rest are destroyed in various degrees.

For characteristic of Donbas Mousterian period the fundamental sites are Antonovka I and II, Kurdyumovka, Belokuzminovka.

The materials of Antonovka sites are well published by V.N. Gladilin in several articles and in special monograph (Gladilin, 1976). This is Early Mousterian (Riss-Würm - Early Würm time) industry with relatively undeveloped technique of primary flaking (Antonovka I : IL-0,5 %, Ilam-5%, IF1-19%, IFst-6%; Antonovka II : IL-0,2%, Ilam-9%, IF1-31%, IFst-8%).

Among tools of both sites the various side-scrapers (63%) are in majority, points are in minority. The per cent of bifacial and partly bifacial tools is high. The index of bifacial treatment reaches 24%. Among the bifacial tools rare leaf points are very effective ones. Among the side-scrapers, the ones of segment type and of arched type are very specific (fig. 2). Now Antonovka industries are estimated as one of bright manifestation of "Eastern Micoquian" (Gladilin, 1985). Kurdyumovka and Belokuzminovka are in great contrast with these sites.

Kurdyumovka. The site was excavated by the author in 1989-1992. Main collection of flints (1870 pieces) originates from alluvial-deluvial leans, filled with Uday loess. Geological analysis is made by N.P. Gerasimenko and M.F. Veklich. According to M.F. Veklich scheme (Veklich *et al.*, 1984) Uday loess is synchronized with Kalinin loess Valday scheme and corresponds to the deposits of Brorup

phase Würm I. Leans is formed as a result of quick washing of loess material and destroying products of the site stratum. Complex is without admixtures. Many flakes are combined with cores. Flints are without patina.

Animal bones are together with flint artifacts in leans, including several anatomical groups (vertebrae, fragments of skull and extremities of bison, tooth of rhinoceros).

Uday loess leans penetrates surface of Priluki (Riss-Würm) soil and partly destroys it. In the upper soil surfaces small part of well-deserved Mousterian cultural remains stratum.

Uday loess is covered in the upper part by soil of Vitachev regional scheme (Brörup soil) (fig. 3 : 1).

Priluki soil complex contains stone treatment products of several flint nodules. There are many examples of refitted cores.

Uday loess complex demonstrates the complete cycle of primary flaking and tool manufacture.

Primary flaking is based on flat Levallois cores and next to them single platform and double platform parallel cores (fig. 3 : 2, 3) and discoid ones (fig. 3 : 4, 5) which are approximately of the same number.

Exhausted cores prevail. In spite of atypical morphological features of blade cores, there are many large and middle-sized blades in the assemblage. Blades index is 23%. Flake mass factor is 20.6. IF1 - 59,5%, IFst - 16,6%.

Collection tools set consists of points and side-scrapers. Points are thin, elongated (fig. 4 : 1, 3). One of them, may be, is projectale one (fig. 4 : 1). Side-scrapers are represented as ordinary ones, single straight and convex (fig. 4 : 6, 7) and some of specific denticulate side-scrapers with thinned ventral face (fig. 4 : 4). One of tools looks like a knife of Kostenki type. There are not any bifacial tools. Elongation of

points and many of side-scrapers, relatively high index of blades and low index of flakes mass factor demonstrate stadial progressiveness of this Early Mousterian industry.

The similar complexes are well known in the South West of the Crimea. There is much in common between Kurdyumovka and Kabazi II site, layer II.

Belokuzminovka. This site was under research by D.S. Tsveibel in 1968-1970 and by the author in 1986 (Tsveibel, Kolesnik, 1987). Geological determinations have been made by N.P. Gerasimenko (Gerasimenko, Kolesnik, 1992).

In 5 metres of deposits, flint artifacts are located at several stratigraphical levels. The most significant collection is gathered in Early bug loam, capacity more than 2 metres. It contains the remains of 2 Mousterian stratae, heavily stretched in vertical direction. Artifacts moving in vertical direction is the peculiarity of loess and soil formation in conditions of Russian Plain open periglacial landscapes. The flints are patined, sometimes damaged. Fauna is not available. Early bug deposits in general are synchronized with the beginning of Würm 2.

Deluvial deposits of Vitachev (Brörup) soil, having capacity up to it is located lower than Bug deposits. They contain assorted rolled flint artifacts. Single flints are located lower in Uday (Würm I) loess, in Priluki (Riss-Würm) and Kaydaki (Riss I-2) soils. Flint artifacts penetrated Kaydaki soil through permafrost cracks from Priluki deposits. Here one can find single Early Mousterian cores, points and flakes. One of the points has thinned base (fig. 5 : 1). In East Europe the analogues tools are well known in Early Middle Paleolithic stratae of Korolevo I site (Gladilin, Sytliviy, 1990), in Riss-Würm deposits near village Novyi Svet in the Crimea (Gvozdover, Nevesskiy, 1961).

In Vitachev deposits 430 flint artifacts are collected. The primary flaking is documented by Levallois single and double platform cores, discoid ones. Ilam - 20%, IFI - 40%, IFst - 22%. Flake mass factor is 26.4.

The tools constitute 14.8% of all finds (62 items). Typological centre is presented by various side-scrapers: simple straight, transverse straight, convergent ones. The side-scrapers with thinned back are specific (fig. 4 : 3). According to morphological signs they similar to Kostenki type knives (fig. 4 : 4). Many of backed knives, points are in subordinate position (fig. 4 : 2). There are several denticulate tools (fig. 4 : 5).

About 6 thousand artifacts have been found in Bug loam. According to all parameters artifacts from this stratigraphical level are close to Vitachev soil artifacts, but are characterized by more progressive indices. Cores are more than 100 pieces. The flat cores for blades of various modifications prevail (fig. 6 : 7). Discoid cores are rare. Some cores relate to Upper Paleolithic types. Ilam - 23,3%, IFI - 47,8%, IFst - 44,2%. There are about 250 tools. The side-scrapers with thinned back (fig. 6 : 5, 6, 8), Kostenki knives, usual types of side-scrapers are widely presented. There are many truncated flakes and blades. Backed knives gave well standartized series (fig. 6 : 1, 2). Points are not available. There is an Upper Paleolithic group - atypical end-scrapers, perforators and atypical burins (fig. 6 : 3). There are a large number of various types of denticulate pieces (fig. 6 : 4). Bug loess industry is Late Mousterian. It has not any analogues in Eastern Europe.

## CONCLUSIONS

All Mousterian complexes of South East Ukraine, dated by means of geological methods, are included in stratigraphical range between Priluki and Early Bug deposits. Kurdyumovka stratum section of late Priluki soil (second half of Riss-Würm) and finds from Priluki soil have the most early real Mousterian dating.

The finds from upper Belokuzminovka deposits bundle have the final Mousterian dating. The Early Bug correspond to the beginning of Würm 2 of Alpe scheme. Only strata of Molodova I and V are of younger date. These strata are transitional from Mousterian to Upper Paleolithic. The dating of the majority of Eastern Europe Mousterian sites, in the interval between late Riss-Würm and the beginning of Würm 2, is standard (fig. 7).

Plenty of flint raw material in Donbas caused the high primary flaking products per cent in many assemblages. The majority of region Mousterian sites is represented by workshops in open air. Mousterian remains are in loess, and in fossil soils.

Mousterian sites of various technical design are represented within the South East Ukrainian territory. Nowadays three kinds of industries are distinguished. The finds of the tools, characterized by bifacial technique are the most common in the region. The largest sites of this type industry are Antonovka I and Antonovka II. This type industry (Eastern Micoquian) is widely spread in East Europe. All of them have Riss-Würm - Early Würm dating. Kurdyumovka Early Würm loess finds complex belongs to progressive blade Mousterian variant. It is similar to some of the Crimean sites. Brörup and post-Brörup Belokuzminovka complex, having distinguished individual features, has no analogies in East Europe.

All Mousterian region complexes form typical Mousterian flaking assemblages, arising from European Acheulean. The solution of question, concerning the origination of these mousterian sites requires further knowledge accumulation.

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REFERENCES

(All but one books and articles which will be mention below are in Russian).

BORISKOVSKIY P.I., 1953,  
Paleolit Ukrainy. *Materialy i issledovaniya po peleolitu SSSR*, n° 40, Moscow-Leningrad, 463 p.

CHABAI V.P., 1992,  
*Ranniy peleokit yugo-zapadnogo Kryma*. Ph.d. thesis of dissertation, Kiev, 23 p.

EFIMENKO P.P., 1935,  
Nakohodki ostatkov musterskogo vremeni na r. Derkul. *Palaeolit SSSR. Izvestiya GAIMK*. vol. II8, Moscow-Leningrad, p. 13-25.

GERASIMENKO N.P., KOLESNIK A.V., 1992,  
Arkheologicheskoe i stratigraficheskoe izuchenie stoyanki Belokuzminovka v 1986 godu. *Rossiyskaya Arkheologiya (Moscow)* 3 : 127-135.

GLADILIN V.N., 1976,  
*Problemy rannego paleolita Vostochnoy Evropy*. Kiev, 229p.

GLADILIN V.N., 1985,  
Ranniy paleolit. *Arkheologiya Ukrainskoy SSR*. vol. I. Kiev, p. 12-54.

GLADILIN V.N., SYTLIVY V.I., 1990,  
*Ashel' Tsentralnoy Evropy*, Kiev, 268p.

GVOZDOVER M.D., NEVESSKIY E.N., 1961,  
Nakhodka musterskogo ostrokonechnika na yuzhnom beregu Kryma. *Byulleten Komossii po Izucheniyyu Chetvertichnogo Perioda (Moscow)* 26 : 149-152.

KUKHARCHUK Yu.V., 1993,  
Ranniy paleolit Ukrainskogo Polissya. Ph.d. theses of dissertation. Kiev, 22p. (in Ukrainian).

PRASLOV N.D., 1968,  
Ranniy paleolit Severo-Vostochnogo Podoniya. *Materialy i issledovaniya po paleolitu SSR*. n° 157. Leningrad, 154p.

SOLDATENKO L.V., 1982,  
*Mustie Tiso-Dunaiskogo basseina*. Ph.d. thesis of dissertation. Leningrad, 24 p.

SYTNIK A.S., 1985,  
Ranniy paleolit Pridnestrovskoy Podolii. Ph.d. Thesis of dissertation. Kiev, 15p.

STEPANCHUK V.N., 1991,  
*Kiik-Kobinskaya musterskaya kultura*. Ph.d. Thesis of dissertation. Leningrad, 17p.

TSVEIBEL D.S., 1971,  
Stoyanka s "zubchatym mustie" us. Belokuzminovka na Donechine. *Arkheologicheskie issledovaniya na Ukraine v 1968 godu*. Kiev, p. 108-113.

TSVEIBEL D.S., KOLESNIK A.V., 1987,  
Tekhnika pervichnogo rashchepleniya kremnya na stoyanke Belokuzminovka v donabasse. *Sovetskaya Arkheologiya (Moscow)* I : 5-20.

VEKLICH M.F. et al., 1984,  
*Paleogeograficheskie etapy i detalnaya stratigraficheskaya skhema Pleistocena Ukrainy*. Kiev, 40p.

ZAMYATNIN S.N., 1953,  
Zametki o paleolite Donbassa i Priazoviya. *Sbornik MAE (Moscow-Leningrad)* 14 : 231-232.

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	Kurdyumovka	Belokuzmlnovka
4 : Retouched levallois point	1	-
5 : Pseudo-levallois point	5	-
6 : Mousterian point atypical	4	2
7 : Elongated mousterian point	1	-
9 : Side-scraper, single straight atypical	3 1	9 3
10 : Side-scraper, single straight atypical	2 1	-
12 : Side-scraper, double straight	-	3
15 : Side-scraper, double biconvex atypical	2 1	-
18 : Side-scraper, convergent straight	-	2
20 : Side-scraper, convergent concave	-	1
21 : Canted scraper	1	1
27 : Side-scraper with thinned back	-	16
29a : Atypical scraper	-	3
31 : Atypical end-scraper	1	19
33 : Atypical burin	-	20
35 : Atypical perforator	-	18
36 : Backed knife	-	45
38 : Natural backed knife	3	49
40 : Truncated flake and blade	3	40
42 : Notched tool	3	8
43 : Denticulate tool	2	57
44 : Alternative burinated bec	-	8
50 : Tool with bifacial retouch	-	3
51 : Tayac point	-	2
62 : Pièce esquilée	-	16
Knife Kostenki type		8
Variant tool		11

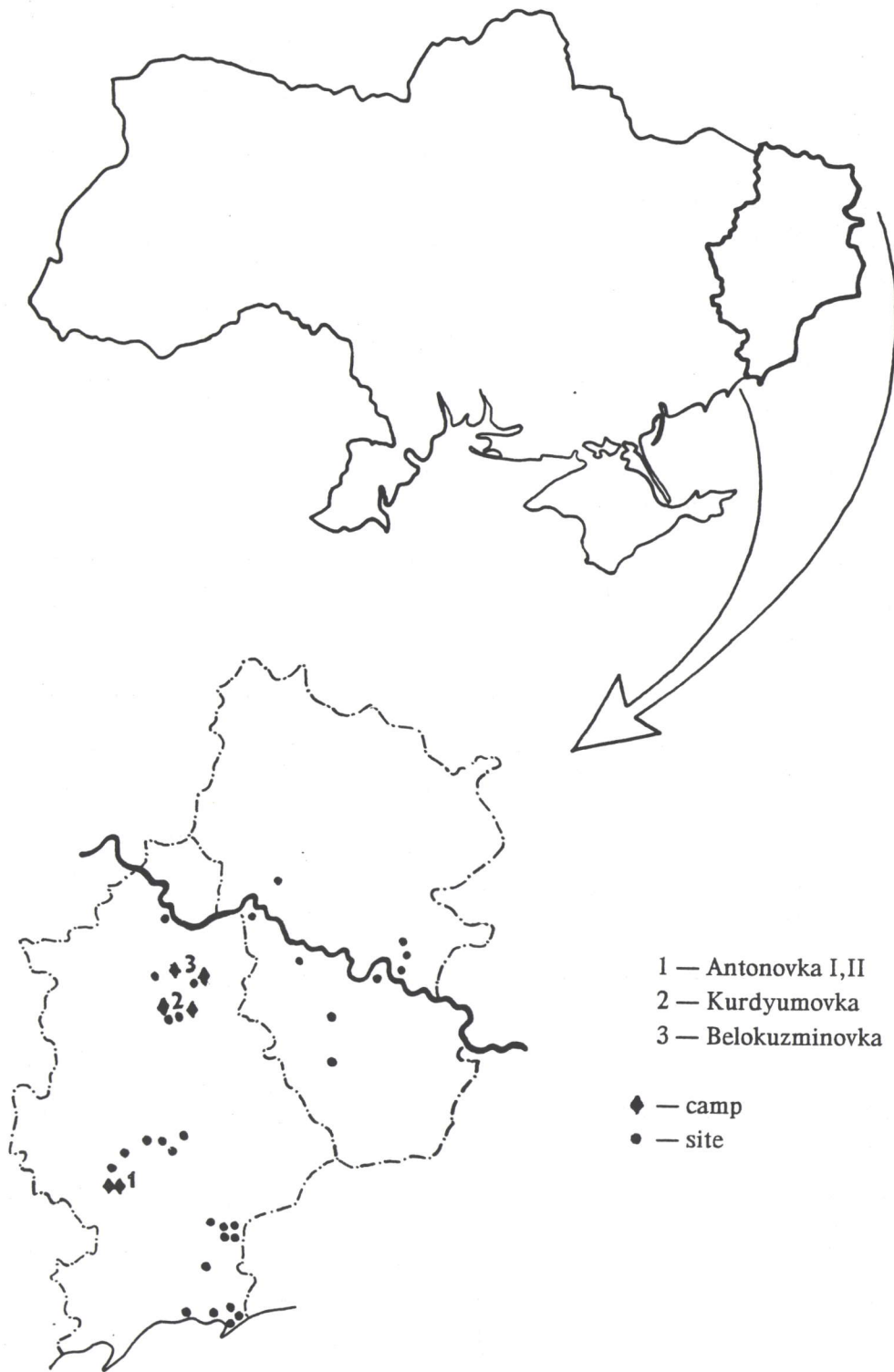


Figure 1 : Map-scheme of Mousterian sites of South eastern Ukraine.

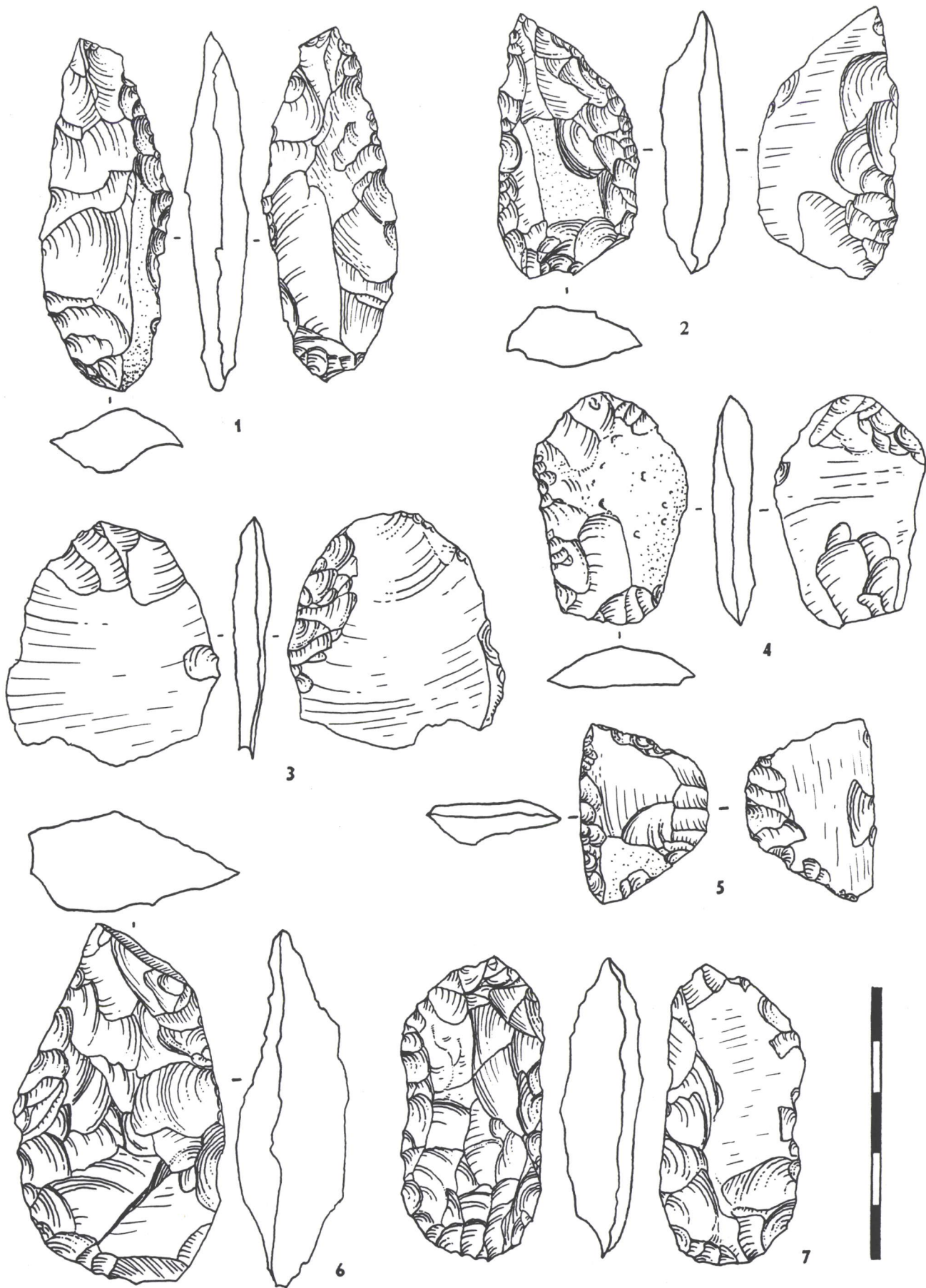
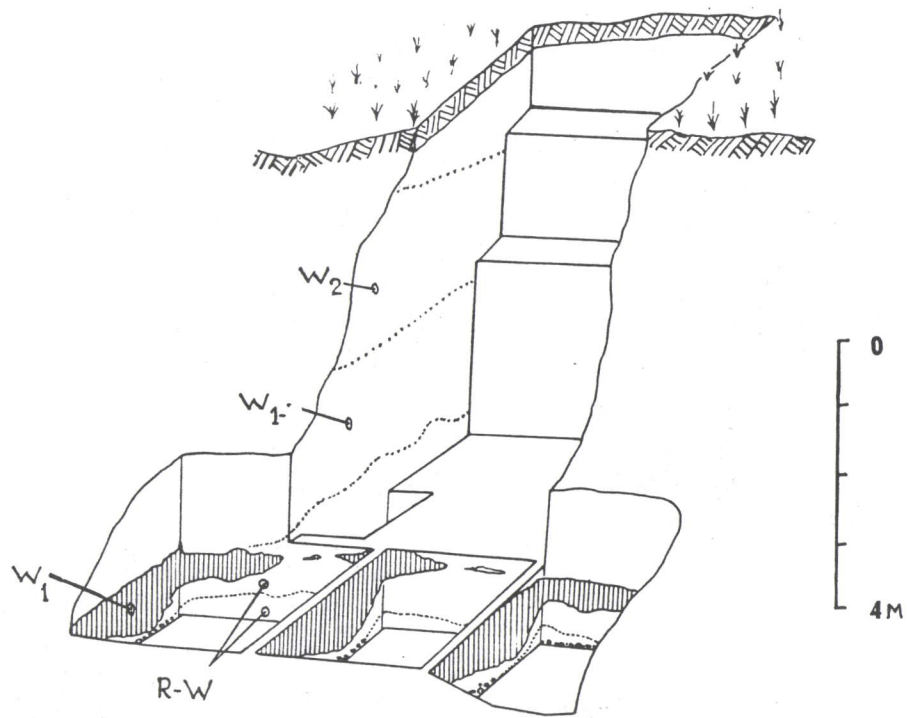
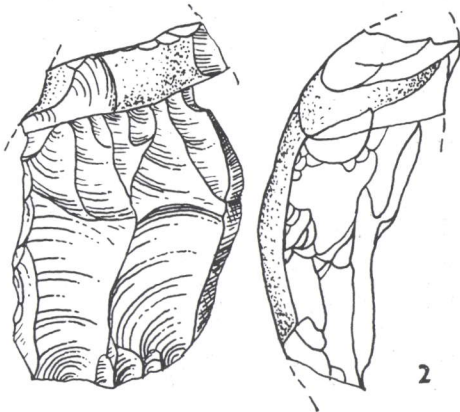


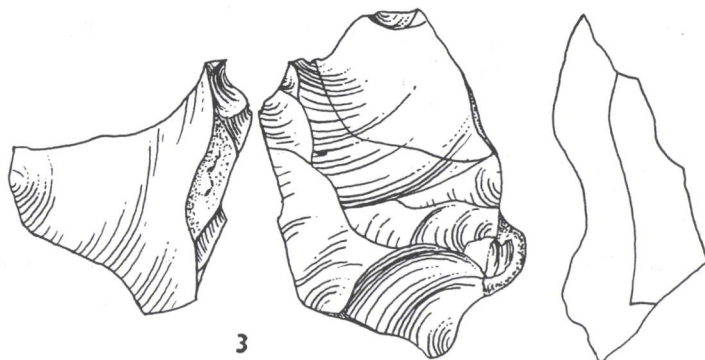
Figure 2 : Antonovka I and II sites. Tools.



1



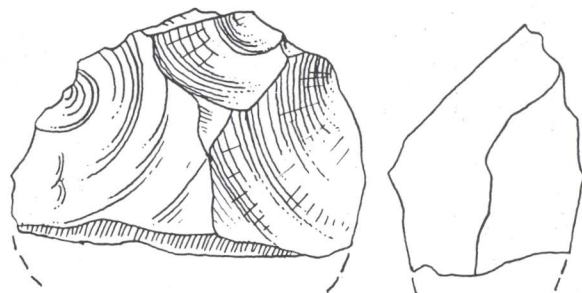
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4



5



Figure 3 : Kurdyumovka site. Excavating block-scheme. Cores.

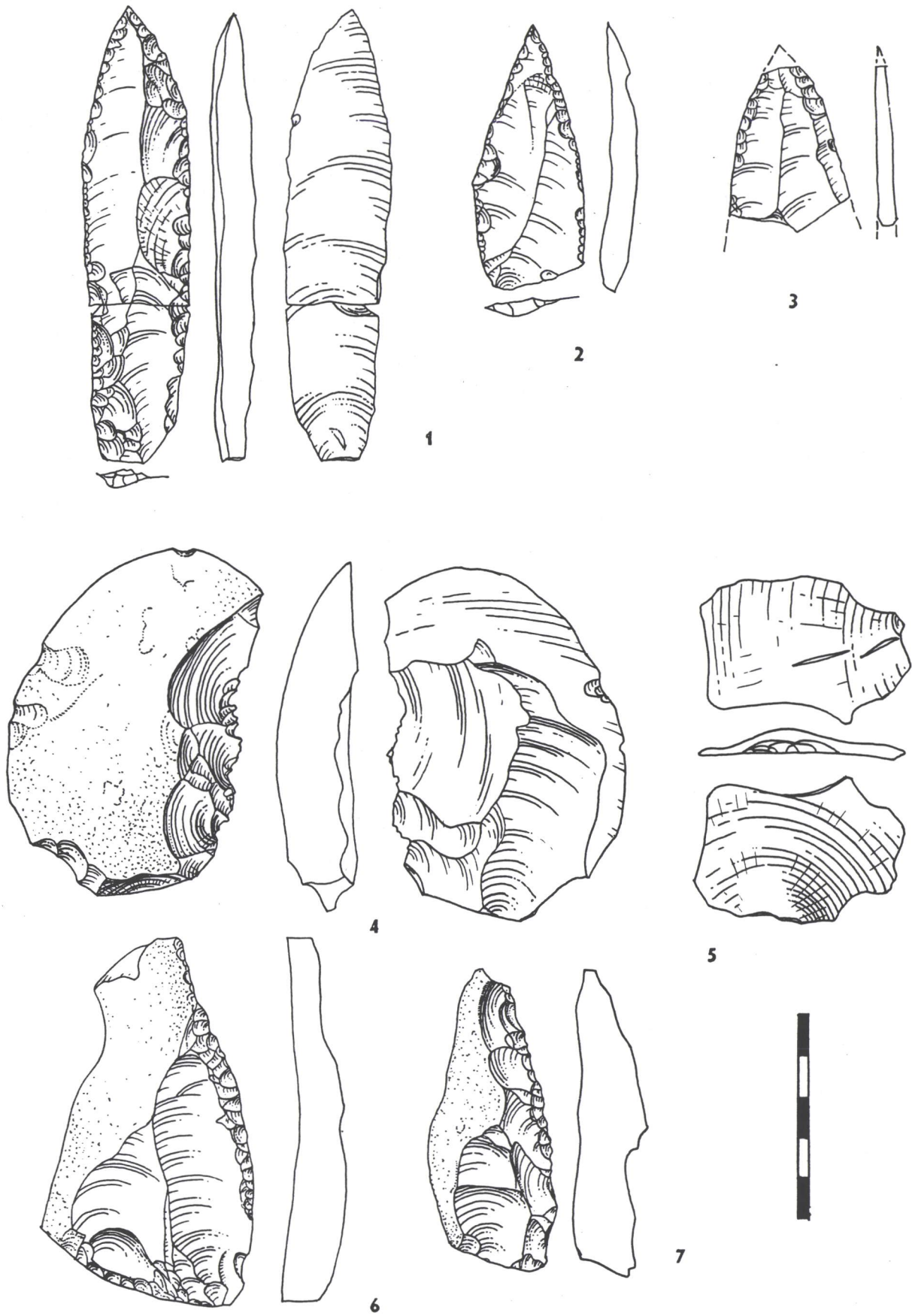
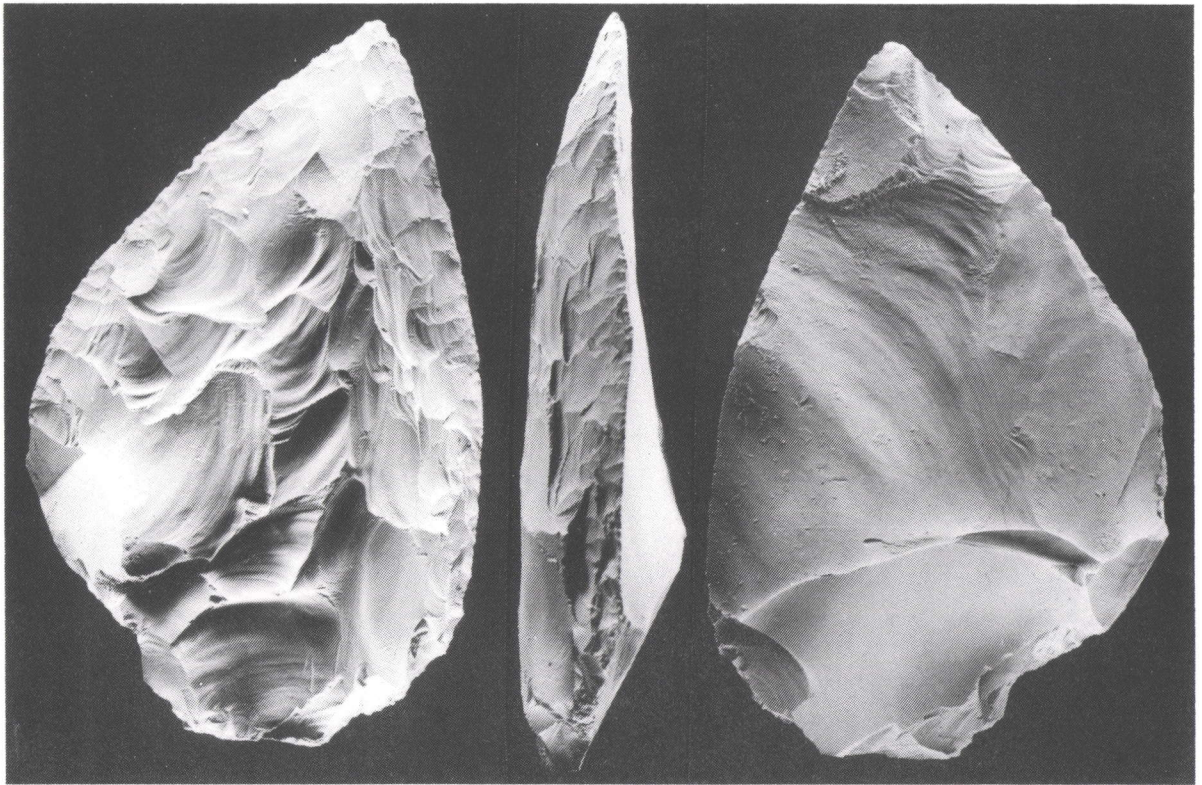


Figure 4 : Kurdyumovka site. Tools.



1

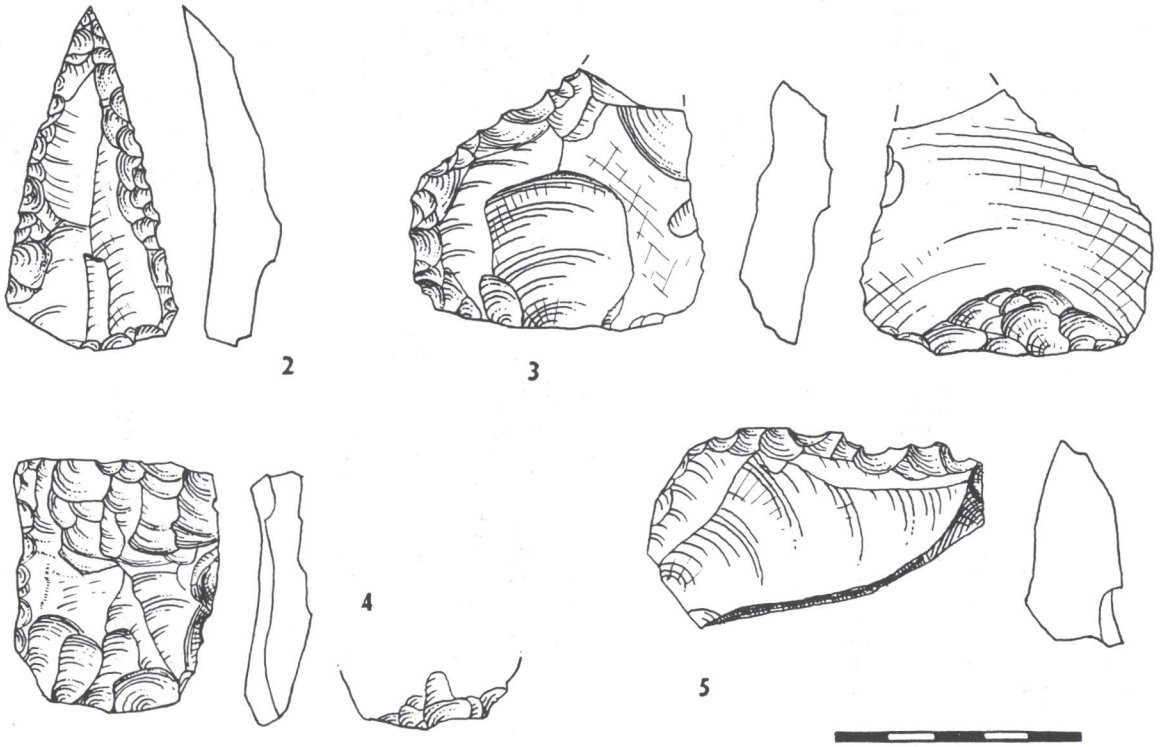


Figure 5 : Belokuzminovka site. Tools of Priluki and Vitachevo levels.

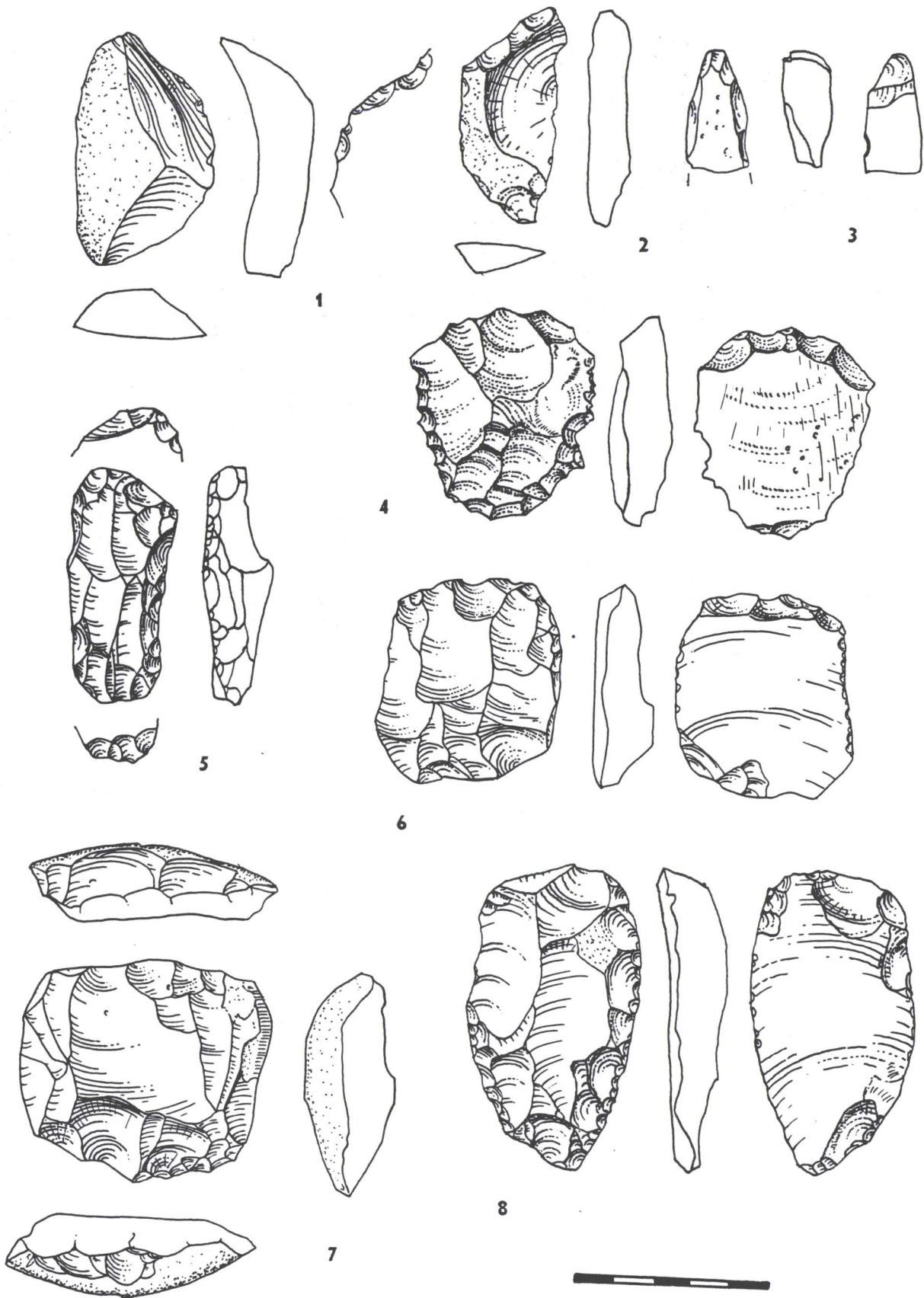


Figure 6 : Belokuzminovka site. Core and tools of Bug level.

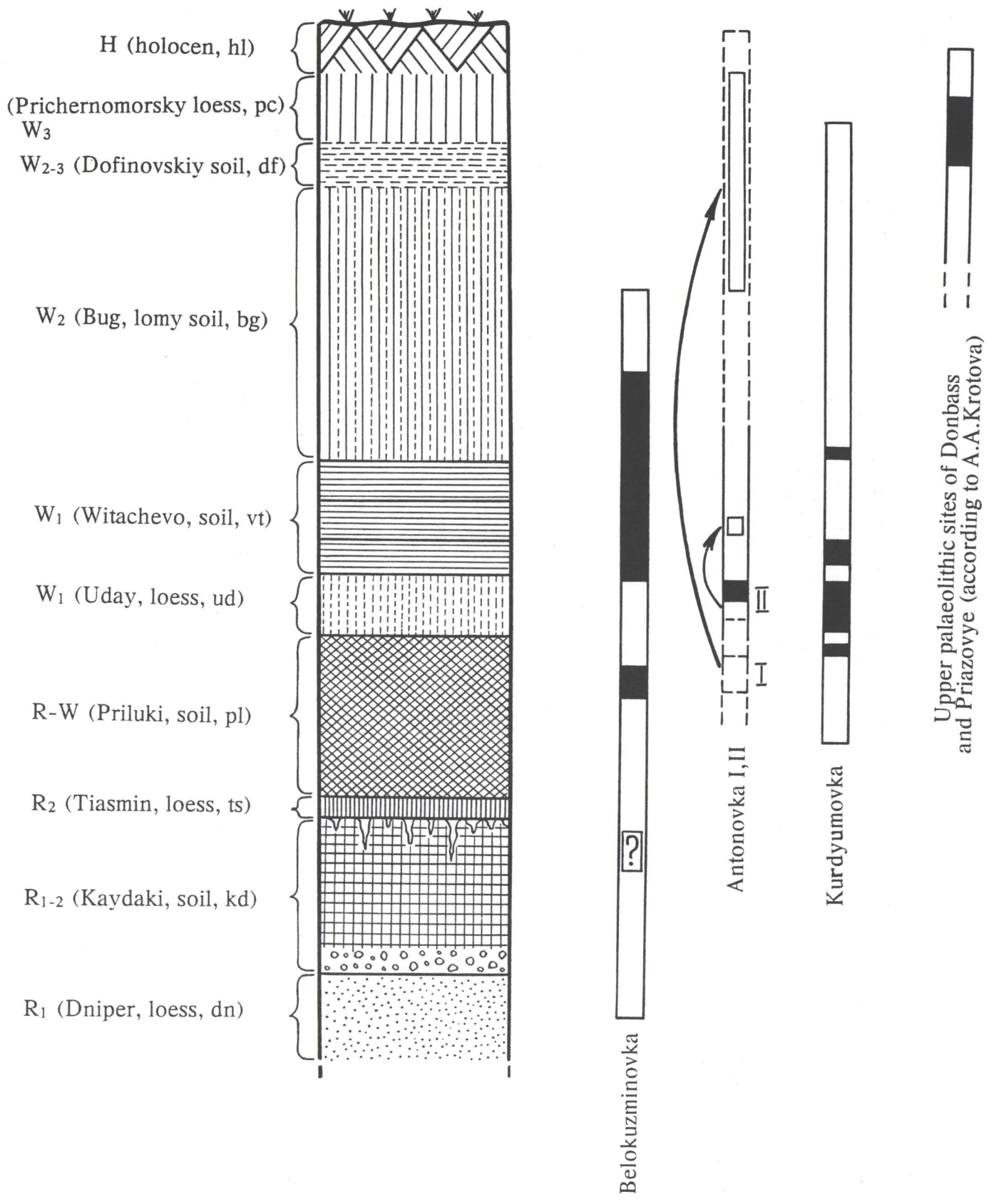


Figure 7 : Stratigraphic position of main Paleolithic sites of south Eastern Ukraine.