HANDAXES IN THE MIDDLE PALAEOLITHIC OF EAST EUROPE

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I. INTRODUCTION

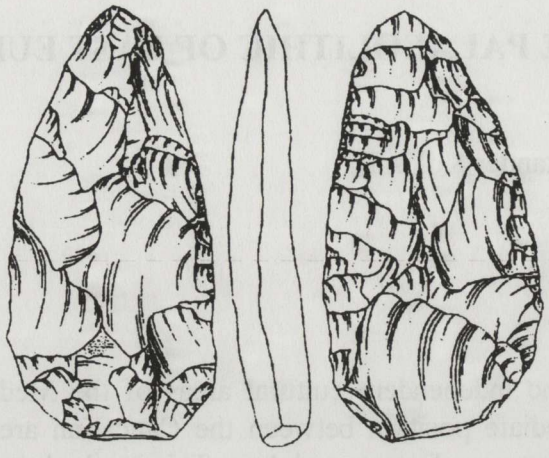
East Europe represents one of the independent cultural areas of the Mediterranean Palaeolithic zone. It occupies an intermediate position between the Caucasian area and the Central European one, and, respectively, between Europe and Asia. This is why it is extremely important to reveal the qualitative characteristics of the East European Palaeolithic. Most reliable is the information about the Middle Palaeolithic, because this stage is represented by numerous sites. The purpose of the present article is to analyze the Late Acheulean and Early Mousteriam handaxes, marking the beginning of the Middle Palaeolithic in East Europe. As will be shown below, the majority of the handaxes after typological criteria can be assigned to the Acheulean, and so the Acheulean is considered here not only in the chronological and cultural sense, but also, and first of all, in the phasic one, though in some cases these senses may overlap.

The handaxes present in the East European Middle Palaeolithic sites are large pointed bifaces of various shapes (Fig. 1). They possess the traits typical for this tool class, such as pointed end, blunted butt, lens-like section, and thickness increasing towards the butt. Oval and transverse handaxes, as well as ficrons, are not characteristic of East Europe. Some handaxes can be compared to bifacial tools of other types (leaf-shaped points or asymmetrical backed knives). From both technological and stylistic points of view, handaxes are the most complex tools known in the Middle Palaeolithic. They may be considered as an independent category of stone inventory. It is necessary to take into account that nearly half of the East European handaxes are isolated (often surface) finds without any typological and stratigraphic context.

In this paper the author considers only the handaxes coming from the Russian Plain and the Crimea. The Caucasian sites are not analyzed here, because this region is part of another cultural zone.

II. HANDAXES: THE MAIN FINDS AND THE HISTORY OF THEIR STUDY (Fig. 2)

Amvrosievka. According to the generally adopted view, the study of Acheulean sites in the Russian Plain and Crimea started in 1935, when the Donetsk local lore student V.M. Evseev found a redeposited biface of Acheulean appearance on the right bank of the Krynka river near the town of Amvrosievka. S.N. Zamyatnin correctly estimated the age of the find and published it as a typical Acheulean handaxe (Zamyatnin 1951; 1953). Taken together with



C - Bifac from Chokurcha (from Yu.Kolosov, V.Stepanchuk and V.Chabai, 1993).

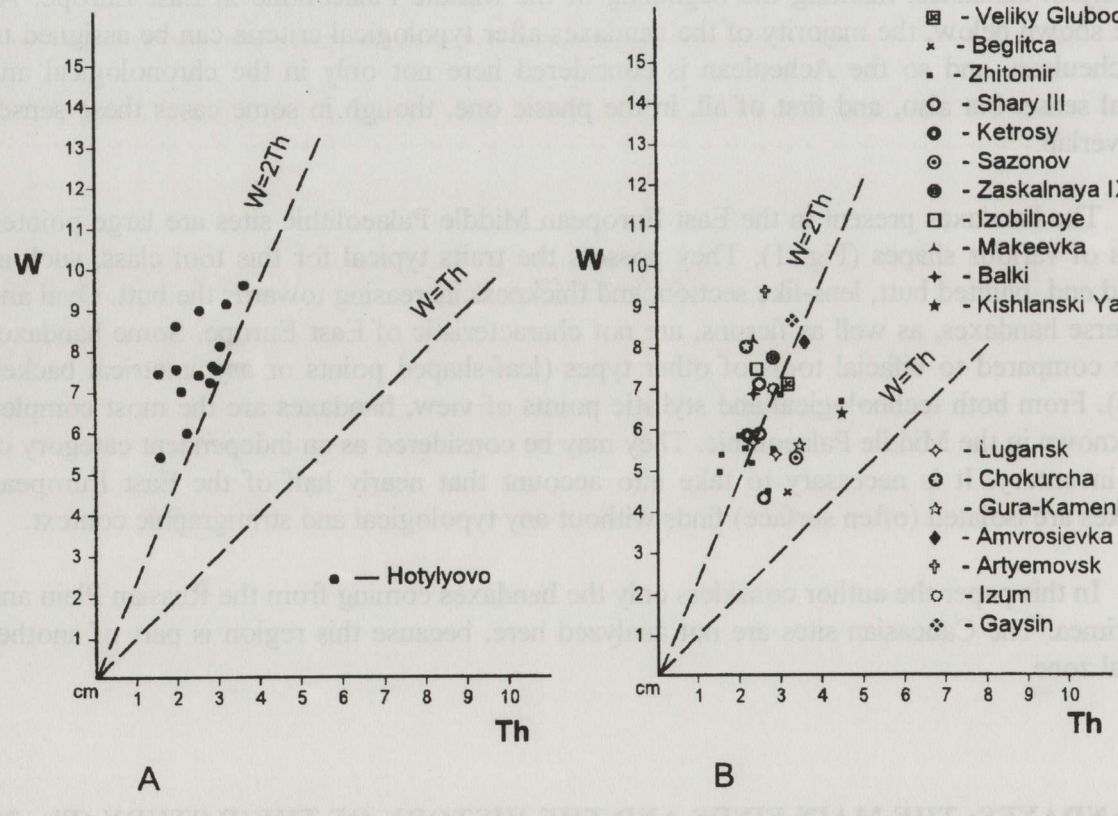
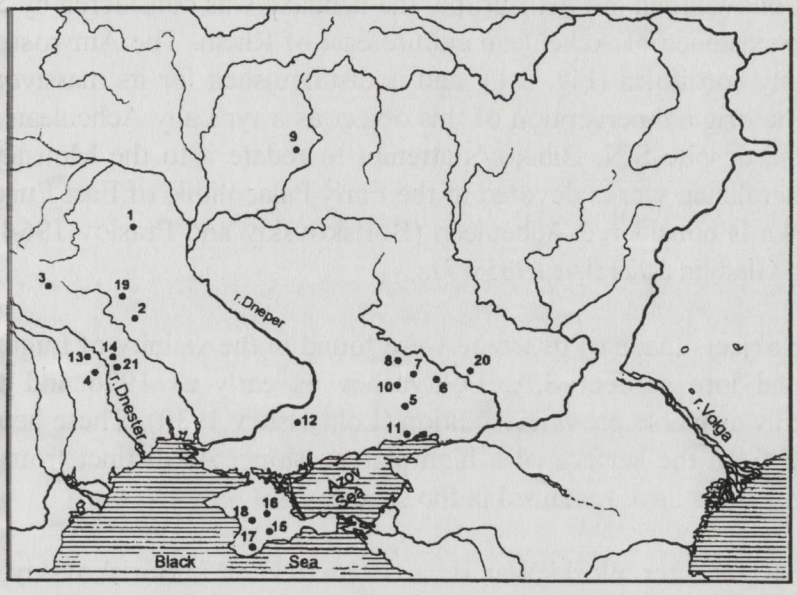
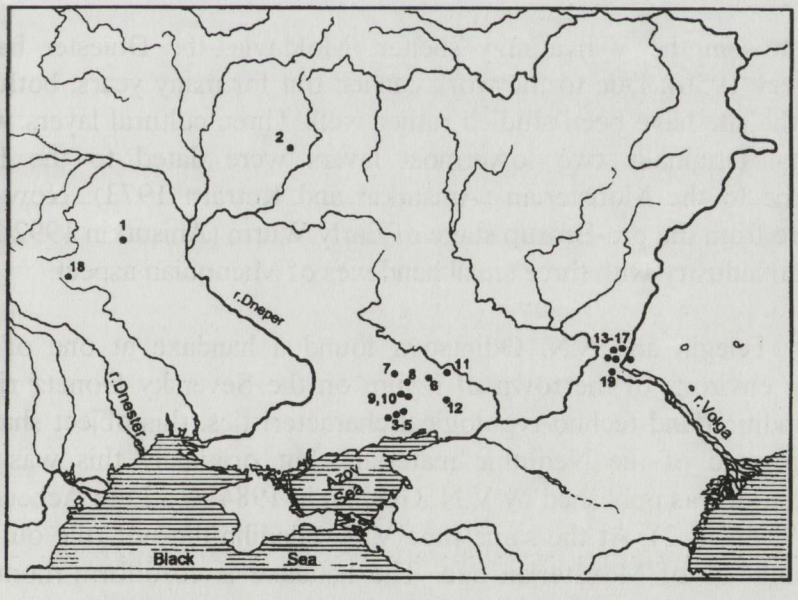


Fig. 1. Scattergram to show dimensions of bifaces.



1 — Zhitomir
2 — Gaysin
3 — Veliky Glubochek
4 — Gura-Kamenka
5 — Amvrosievka
6 — Lugansk
7 — Artyemovsk
8 — Izum
9 — Hotylyovo
10 — Makeevka
11 — Beglitca
12 — Balki
13 — Vikhvatintsi
14 — Kishlanski Yar
15 — Zaskalnaya IX
16 — Shary III
17 — Izobilnoye
18 — Chokurcha
19 — Nagin
20 — Sazonov
21 — Ketrosy

A - Sites of hand axes



1 — Zhitomir
2 — Hotylyovo
3-5 — Antonovka I, II;
Alexandrovka
6 — Krasny Yar
7 — Cherkasskoye
8 — Belokuzminovka
R-W compl.
9-10 — Kurdumovka,
al. compl.;
Ozeryanovka
11 — Rubezhnoe
12 — Bobrikovo
13-17 — Zaikino Pepelishe,
Cheluskinets,
Erazina Balka,
Barabashev Ovrag
18 — Galich
19 — Sukhaya Mechetka

B - Eastern Micoquian sites

Fig. 2. Map of Late Acheulean and Micoquian Eastern Europe sites.

the other few Acheulean sites known then in East Europe, the handaxe was considered by S.N. Zamyatnin an evidence of the existence of Acheulean culture east of Rhein. The Amvrosievka handaxe is asymmetric, roughly cordiform (Fig. 3:1), and is distinguished for its massiveness and shortened proportions. The original perception of this object as a typically Acheulean one has become deeply rooted, and despite S.N. Bibikov's attempt to redate it to the Mousterian (Bibikov 1961:343), in all generalizing works devoted to the Early Palaeolithic of East Europe, the handaxe from Amvrosievka is considered Acheulean (Boriskovskiy and Praslov 1964:14; Praslov 1968:59; 1984:98-99; Gladilin 1971:14; 1985:17).

Lugansk. Two similar objects made of quartzite were found in the vicinity of Lugansk, Donbas, Ukraine, by the local lore student S.A. Loktyushev as early as 1926 and then published by him in a not readily available provincial edition (Loktyushev 1930). These heavily rolled bifaces were picked up from the surface of a high plateau slope. As distinct from the biface of Amvrosievka, they for years have remained in the shadow.

Luka-Vrublevetskaya. Right after World War II, in 1946-1947, P.I. Boriskovskiy and S.N. Bibikov found a small series of redeposited, heavily rolled flint objects on a pebble beach in the flood-lands of the Dniester river, at the Luka-Vrublevetskaya village, not far from Podolsk. In accordance with the periodization scheme widely accepted at that time these objects were defined as Cheulean (Boriskovskiy 1953). Particular attention was given to three handaxe-like objects. Some workers do not consider these things true artifacts (Chernish 1965:26; Anisutkin 1992:22).

Vyhvatintsy. Excavations in the Vyhvatintzy shelter, Moldavia, the Dniester basin, began as early as 1946 (Sergeev 1950). Due to the work carried out for many years, both the geology and archaeology of the site have been studied rather well. Three cultural layers were distinguished in the deposits. Originally two lowermost layers were dated to the Late Acheulean, and the upper one to the Mousterian (Anisutkin and Ketraru 1973). Now the middle layer is believed to date from the pre-Brorup stage of Early Würm (Anisutkin 1992:22). It was this layer that yielded an industry with three small handexes of Micoquian aspect.

Izyum. In 1951 D.N. Telegin and S.N. Odintsova found a handaxe at one of the Neolithic sites situated in the environs of the town of Izyum on the Seversky Donetz river, Ukraine (Fig. 3:2). By its condition and techno-typological characteristics, this object sharply stood out against the background of the Neolithic materials, but originally this was not assessed at its true value. The tool was published by V.N. Gladilin in 1984 as a Late Acheulean handaxe (Gladilin 1984:16-17, Fig. 1,2). At the same time V.N. Gladilin did not rule out the possibility that the object might be of Mousterian age. The handaxe is cordiform-rhombic, formed by centripetal flaking.

Gura-Kamenka. The basal part of a handaxe and a small number of archaic flakes were found by A.P. Chernish (Chernish 1965, Fig. 6,4) at the village of Gura-Kamenka, Moldavia, the Reut (a tributary of the Dniester) river basin, in 1956 (Fig. 9:2). The finds come from the surface of the third terrace and after typological criteria can be attributed to the end of the Acheulean.

Zhitomir. Of particular importance among the East European Acheulo-Mousterian sites with big bifaces are the Khotylevo and Zhitomir sites. The latter was discovered by V.A. Mesyats in 1959 and excavated by himself in 1960-1963 (Mesyats 1962a; 1962b). The collection of flints (about 6000 items) contains mixed Palaeolithic material. The geologist M.F. Veklich who studied the site considers most plausible to date it to the period between the Kaidak (Riss 2-3) and Priluki (Riss-Würm) time (Veklich 1966). In the first publications the site was defined as Acheulean (Mesyats 1962a; 1962b), since there was a great number of handaxes. N.D. Praslov distinguished in the collection a small series of typologically most archaic tools, while the main part of the assemblage was dated by him to the Mousterian period (Praslov 1985:108). Having studied all the materials in detail, Yu.V. Kuharchuk distinguished three groups of flint objects with different states of preservation, one of which he considers Acheulean and the other two Mousterian (Kuharchuk and Mesyats 1991a; 1991b). The Acheulean group comprises about 600 heavily rolled flints with thick white patina, including here 13 of 38 handaxes found at the site. Yu.V. Kuharchuk defines them as subtriangular or almond-shaped handaxes (Fig. 5:5-8) (Kuharchuk and Mesyats 1991a:13). In the two conventional Mousterian groups there also are found the same subtriangular and elongated almond-shaped handaxes (Fig. 5:1, 4; Fig. 6:4) represented mainly by fragments (Kuharchuk and Mesyats 1991a; 1991b:9,20). Triangular, elongated triangular and one "pear-shaped" (almond-shaped - A.K.) handaxes were mentioned also in the first preliminary publication of the Zhitomir site (Mesyats 1962b, Fig. 1,1,4,5-7). Morphologically the handaxes of the Zhitomir site close up with thin leaf-shaped bifacial points. N.D. Praslov distinguishes in the whole collection 34 leaf-shaped points formed by flat retouch (Praslov 1984:108). He publishes also several triangular and broken handaxes, and a biface with long edges (Praslov 1984, Fig. 57) (Fig. 5: 2, 3; Fig. 6: 1, 2, 3, 5).

Khotylevo. The Khotylevo site yielded one of the largest Middle Palaeolithic assemblages in East Europe. The site is situated not far from Bryansk on the Desna river, Russia, and confines to the basal horizon of terrace alluvial deposits occuring at a depth of 15-20 m. The first indisputable artifacts were found here by F.M. Zavernyaev in 1958 (Zavernyaev and Schmidt 1961). Then, over a period of five years, a collection consisting of several tens of thousands of flints was gathered. F.M. Zavernyaev divided the collection into several complexes which he called Mousterian or Acheulo-Mousterian. As to the geological age of the site, various assessments have been put forward, ranging from the Odintsovo (Riss) time (Grishchenko 1971) to the onset of the Valdai (Early Würm) time. Acording to the most widely accepted view, the artifact-bearing alluvium dates from the end of the Mikulino (Riss-Würm) Interstadial or the very beginning of Early Würm (Ivanova 1969; Velichko 1969; Lazukov et al. 1981). Practically all Palaeolithic archaeologists regard the assemblage of the site as a Mousterian one. The Khotylevo industry is remarkable for its macrolithism and relatively high percentage of bifacial tools. The collection includes 25 handaxes. Nearly all these are represented by fragments. F.M. Zavernyaev divides the handaxes into to subgroups. The first one includes elongated triangular tools with convex working edges, lens-like cross section and commonly round base. The second subgroup comprises handaxes in which the shape of the working end is close to the equilateral triangle (Zavernyaev 1978:51-52). These handaxes are compared by F.M. Zavernyaev with Late Acheulean - Early Mousterian specimens. Besides, he distinguishes in the collection 10 "chopping bifaces", which are close to oval bifaces (Zavernyaev 1978:59). The handaxes of Khotylevo (Figs. 7 and 8) are remarkable

for their flatness, profile symmetry, stability of forms, and careful working achieved by removing wide flakes with subsequent delicate retouching. Most handaxes have rounded butts and convex working edges, but in some of them the edges in the middle part are straight and parallel. The latter specimens close up to the big elongated points which also constitute a well-expressed series of tools.

Beglitsa. Very interesting are two bifaces found by N.D. Praslov on the sea beach of the Beglitsa spit not far from Taganrog, Russia. Both tools are rolled and slightly patinated. One of them is represented by a fragment, the second is a very big leaf-shaped biface (Fig. 6:7). The fragment is dated by N.D. Praslov to the Late Acheulean (Praslov 1962:114-115; 1984:99), the second biface is compared with analogous Acheulean and Mousterian finds from Central and West Europe (Praslov 1968:103-105). Close to the place where the fragment was found, a section with several horizons of buried soils is revealed in the 11 m high precipice. In 1962, in the course of examination of the site by a geological commission, a typical Mousterian tortoise core was picked out of the stratum overlying the Mikulino (Riss-Würm) soil (Praslov 1968:101, 106). Typologically Mousterian sidescrapers were found in the precipice talus. Therefore, taken as a whole, the site is considered Mousterian (Boriskovsky and Praslov 1964, p.7; Ivanova and Praslov 1963; Lazukov *et al.* 1981:114).

Sazonov. N.D. Praslov published (Praslov 1984:84) a fragment of a carefully worked Late Acheulean flint biface found at the Sazonov farmstead, the Seversky Donetz river, Russia (Fig. 6:6). This biface is characterized by relatively narrow body and thick lens-like section.

Kochurov. About ten flint objects, including three bifaces, were collected by P.I. Khavlyuk at the Kochurov village, not far from Gaisin, the Kiblich river basin, Ukraine. N.D. Praslov identified in the collection one oval tool with clear bifacial working, and one cordiform biface created by rather crude flaking. The second biface is distinguished for two wide parallel flake scars directed fron the tip to the butt. N.D. Praslov dates the finds to the Upper Acheulean time, which is in line with the fact that in the vicinity of the site there is a geological section revealing a well expressed Mikulino (Riss-Würm) soil (Praslov 1984:99).

Kishlyansky Yar. A handaxe fragment (Fig. 9:1) was found on the surface in the southern part of the site of Kishlyansky Yar near the village of Derobani, the Chernovtsi region, the Dniester river basin, Ukraine (Anisutkin and Shcherbakova 1986; Anisutkin 1992:18-19). Proceeding from a number of facts, this object is believed to date from Riss-Würm or the end of the Acheulean.

Ketrosy. One more large handaxe fragment was found in the alluvial complex of the Ketrosy site situated close to Kishlyansky Yar (Fig. 4:2). This complex occurs below the main Mousterian layer and is tentatively dated to the Late Acheulean (Anisutkin 1981a; 1981b).

Balki. A triangular biface was found in the 1970s at the Balki village, the Zaporozhie region, Ukraine, by A.V. Bodyanski. This object (Fig. 4:4) is published here for the first time (the drawing and information were kindly given to the present author by A.S. Sitnik). It comes from the place called Uzviz on the Azov sea shore. The handaxe has a relatively regular triangular shape and well expressed butt. It was created by means of removing wide flakes.

Besides, in the vicinity of Uzviz, I.P. Savovsky gathered a big archaeological collection including several massive sidescrapers (Savovsky 1977). In the same place, there were also found faunal remains coming from a coastal outcrop and dating from different times (southern elephant, mastodon, mammoth, bison). Some of the bones lay in a loam layer together with flint artifacts. Unfortunately, it remained unspecified exactly which bones exactly came from this layer.

Makeevka. Typologically intermediate between the Acheulean and the Mousterian is a spectacular partly bifacial tool coming from the south-eastern part of Makeevka, western Donbas, Ukraine (the Kalmius river basin). It was found by chance in the course of earth works in unstratified Quaternary loams (Zveibel 1971; 1979). The biface is drop-shaped, its cross section is flat-convex. (Fig. 4:5). It was made of a big curved primary flake. The curvedness of the blank was skilfully corrected in the course of the tool manufacture. The butt is rounded and retains cortex. The tool is heavily rolled and patinated.

Artemovsk. Among the objects found in Donbas one should note a very expressive subrhombic biface (Fig. 3:3) picked up at Zaitsevo setlement, near Artemovsk, the Bahmutka river basin, Ukraine, in 1987 (Kolesnik 1990; 1993). The biface is notable for its lens-like convexo-convex cross section, regular symmetrical outline of the profile. Its thickness evenly increases towards the butt. The butt is well expressed, formed by several blunting blows. The cross section of the biface is very thin. The edges of the tool are carefully worked by small retouch. Probably, this is one of the best examples of East European Middle Palaeolithic handaxes.

Velikiy Glubochek. This multilevel site situated near Ternopol, the Seret river basin, Ukraine, has yielded several handaxes found in a clear stratigraphic context. The buried soil with Acheulean tools lies at a depth of 6,0-6,5 m. The geologist A. Bogutsky defines it as an analog of the Kaidak soil (Riss 2-3, the lowermost horizon of the Mikulino double soil). This geological date is quite in line with the character of the flint tools, which, according to A.S. Sitnik, are represented by handaxes (Fig. 9:3-5), bifacial knives, elongated bifacial points, asymmetrical points, endscrapers and some other types (Sitnik 1993a:73; 1996). A.S. Sitnik defines this assemblage as a proto-Levallois blade industry with handaxes and bifacial points. He compares it to the Acheulean materials of the Zhitomir site.

The industry of another stratified Late Acheulean site in the Ternopol region (near the town of Bugliva, the Pripyat river basin, Ukraine) includes a big and massive handaxe-like object which, probably, is a half product or a core.

M.V. Voevodsky mentions a fragment of the basal part of a flat handaxe or large bifacial point from Pushkari, the Desna basin, Chernigov region, Ukraine (Voevodsky 1950:222, Fig. 1,3). By its shape this small fragment resembles the convex bases of the Khotylevo handaxes.

A.V. Bodyanskiy mentioned two handaxes found by him on the right bank of the Dnieper river near the villages Voiskovoe and Nikolskoe (Bodyanskiy 1952:75). The drawings of the tools were not published. However, after S.V. Smirnov, the artifact from Voiskovoe

represents a shapeless single platform core, and the "handaxe" from Nikolskoe is an oval sidescraper with convex working edge (Smirnov 1972:66-67).

An isolated Acheulean handaxe was also found at the village of Nagin near Kamenetz-Podolsk, the Dniester basin, Ukraine (N.K. Anisutkin, pers. comm.).

N.A. Beregovaya, referring to I.F. Kovaleva, mentions a handaxe found at the village of Kudashevka, the Dnepropetrovsk region, Ukraine, in 1963 (Beregovaya 1984:6). However, in fact, in her original publication, Kovaleva writes about two Mousterian tools found in the Nikolaev region of Ukraine in 1962 (Kovaleva 1965).

The Acheulean handaxe from a private collection, which was published by O.N. Bader as provenient from the Middle Volga region (Bader 1965:129), most probably had come to the collection from abroad (Kuznetsova 1989:5).

Nepryakhino. An interesting Palaeolithic site is being studied now in the Middle Volga region of Russia. This is a spacious biface production workshop confined to the quartzite outcrops near the village of Nepryakhino, the Saratov region, the Chabakly river basin. The excavations conducted by A.P. Zakharikov have shown that chipped quartzite artifacts are connected with three lithological evels in a 3 m thick bed of Quaternary deposits. The finds lie in a buried soil which can be correlated with the Mikulino (Riss-Würm) soil, above this soil, and below it (Zakharikov 1993:48). This stratigraphic position corresponds to the Late Acheulean - Early Mousterian. A.P. Zakharikov distinguishes in the collection more than 100 bifacially worked tools. Most of these are large bifaces in different stages of preparation. There are both big handaxe-like objects and elongated bifacial points. The former are regarded by the excavator as preforms for the latter. In A.P. Zakharikov's opinion (Zakharikov 1993:52), the desired end products were elongated leaf-shaped and elongated triangular bifaces with thinned base (i.e., leaf-shaped points).

Now let us consider the handaxes from the Crimea, where there are known numerous Mousterian sites with bifacial tools. Up to relatively recently, the problem of the Crimean Acheulean had been discussed mainly in connection with questions of chronology and cultural meaning of the industry of the lower layer of Kiik-Koba (Bonch-Osmolovskiy 1940), and all thoughts about the role of the local Acheulean in the formation of the Mousterian traditions were of purely hypothetical character. The first supposedly pre-Mousterian sites with handaxes became known in the Crimea only in the 1970s, after A.A. Shchepinskiy discovered a number of surface occurrences between the Major and Middle ranges of the Crimean mountains, in the Bodrak river basin (Shchepinskiy 1979).

Shary. The most considerable series of bifaces came from the sites of Shary I, II, and III. Various Middle Palaeolithic tools, including several rough flint handaxes (Fig. 10:3-6), were collected here both on the surface and in test pits. The handaxes are core-tools of irregular shape, drop-like or oval. Besides handaxes, there were also found handaxe-like backed knives (Kolosov, Stepanchuk and Chabai 1993, Tabl. 17,18).

Zaskalnaya IX. Typologically similar forms were found in the lower layer of Zaskalnaya IX (Kolosov 1979). Among the few flint objects from the lower layer, there are 10 chopping-cutting (after Yu.G. Kolosov) handaxe-like tools (Fig. 10:1) which form a typological group attributed to the initial stage of the formation of the Ak-Kaya Mousterian culture (Kolosov, Stepanchuk and Chabai 1993:20). It is known that big bifacial knives with a finger-rest platform on the back are a specific feature of the Ak-Kaya industry (Kolosov 1986). The period of its existence is entirely within the Mousterian "section" of Würm (Stepanchuk 1996, Fig. 1). A large elongated leaf-shaped biface, resembling by its shape and manufacture, the proto-Ak-Kaya handaxe-like knives, but without a backed finger-rest (Fig. 10,2), was collected by A.A. Shchepinsky near the village of Izobilnoe on the southern shore of the Crimea (Shchepinsky 1972).

Chokurcha. Besides bifacial knives, the Ak-Kaya assemblages contain some other large bifacial tools which are not out of place in the general typological context. In particular, two such tools were found by N.L. Ernst in the Chokurcha shelter excavated by him in 1928-1931 (Ernst 1934). One of these tools can be defined as a large bifacial flat-convex point, the other (Fig. 1:5) as an elongated leaf-shaped-oval biface with a well expressed butt (Kolosov, Stepanchuk and Chabai 1993, Table 51), i.e., formally speaking it is a handaxe. Unfortunately, the materials coming from different layers were mixed and it is impossible now to ascertain the original stratigraphic position of these bifaces. All the layers contained cold-loving Würm fauna. (Vereshchagin and Baryshnikov 1980).

It is doubtful whether two large bifacial tools found by G.A. Bonch-Osmolovskiy in the lowermost layer of the Shaitan-Koba shelter in 1929-1930 should be considered handaxes. Bonch-Osmolovskiy described one of these tools as "regular almond-shaped" and compared them to the typical Acheulean handaxes (Bonch-Osmolovskiy 1930:71). Yu.G. Kolosov correctly defines one of them (with a finger-rest platform) as a sidescraper-knife (Kolosov 1972:71). The other is a small carefully flaked oval biface without pronounced basal part (butt) but with the sharpened straight working edge and the opposite convex backed edge (Bonch-Osmolovskiy 1930:71). In fact, the latter tool represents an asymmetrical bifacial knife, analogies to which can be found in layer 5 of Zaskalnaya VI (Kolosov 1986). These tools of the Ak-Kaya type sharply contrast with the Shaitan-Koba unifacial industry.

Let us mention also the discoveries of oval bifaces at Lechebnoe and handaxes at Gaspra (Kolosov, Stepanchuk and Chabai 1993:17, 31). However, in general, the Acheulean materials from the Crimea remain disputable and undated.

EVALUATION OF THE SITES IN ARCHAEOLOGICAL LITERATURE

The above-mentioned sites were rather thoroughly analyzed in a number of works by Ukrainian and Russian archaeologists. The Acheulo-Mousterian assemblages with handaxes are usually considered in connection with two problems: 1) the problem of their relation to the subsequent stages of the industrial (Mousterian) evolution (genetic approach), 2) the problem of the initial settlement of the Russian Plain and Crimea (migrationist approach). After the

materials of the Zhitomir and Khotylevo sites were published, it became obvious where to look for the roots of the local Mousterian. Still earlier, A.A.Formozov had proved that the main distinguishing feature of the Mousterian assemblages of the two regions is the high percentage of bifacial tools (Formozov 1958, 1959). All the Mousterian assemblages with bifaces were originally divided by V.N. Gladilin into two (Gladilin 1966) or three (Gladilin 1971:35-36) variants (Micro-Mousterian, Levallois-Mousterian, and Mousterian) which he assigned to MTA, emphasizing their Acheulean roots. Subsequently he wrote about the "Bifacial Mousterian" with three types of industries (Gladilin 1976:97-100). His next attempt to arrange the differences between Palaeolithic sites (Gladilin 1980) was based on a threefold scheme (variant, facies, type of industry). Finally, according to the the last version of Gladilin's classification of the Early and Middle Palaeolithic sites of Central and East Europe, only three Mousterian facies have clear Acheulean roots (the Carpathian facies, the East-Micoquian facies, and the Bokschtain facies), while for the other, the link with the Acheulean is hypothetical.

The affinity between the Khotylevo, Zhitimir, and Rihta sites, on the one hand, and the Middle Palaeolithic of Germany, on the other hand, has repeatedly been noted in literature (Zavernyaev 1978; Smirnov 1979; Praslov 1984; Gladilin 1976; Kuharchuk and Mesyats 1991b; Kuharchuk 1993). N.D. Praslov united all the Mousterian sites of the Russian Plain, Crimea, Poland and Germany into a single cultural area (Praslov 1984:111). In his opinion, the materials of the Zhitomir site allow one to raise and discuss the question of the local Acheulean-Mousterian continuity (*ibid.*, p.100).

After V.N. Gladilin, there were several waves of migrations of pre-Mousterian and Mousterian groups from Central to East Europe (Gladilin 1969). The migrationary routes lay to the north of the Carpathians (Gladilin 1976:148-149). It is thought also that the Acheulean with handaxes was brought into Central Europe in Riss as a result of the second wave of migrations from Africa northwards (through France) (Sitliviy 1986; Gladilin and Sitliviy 1990:140-141). After Yu.V. Kuharchuk, the bearers of the Micoquian traditions came to the Russian Plain from Germany through Czechia and the Carpathians, as well as through Poland and Ukrainian Polesie (Kuharchuk 1993:20). After A.I. Evtushenko, the Micoquians came to the north-east Mediterranean along the Danube (Evtushenko 1995:22).

The formation of the other industrial traditions distinguished in the Lower and Middle Palaeolithic of East Europe is also considered a result of migrations and cultural influences. Therefore it will not be an exaggeration to conclude that the theory of western and south-western origin of the oldest cultures of the Russian Plain and Crimea, suggesting that the Early and Middle Palaeolithic of East Europe was an organic part of the European Palaeolithic, has assumed a character of an official view (Praslov 1968, 1984; Gladilin 1976, 1985).

Now it is important to stress that while the thesis about the affinity of the Bifacial Mousterian with the Bifacial Acheulean has become commonplace, in fact only the materials of the Zhitomir site (the proto-Micoquian facies after Gladilin), Zaskalnaya IX (the lowermost layer) and Shary III (proto-Bokschtain facies after Gladilin), supplemented with recent finds from Velikiy Glubochek, are taken into account in most evolutionary constructions (Kolosov 1979, Kolosov *et al.* 1993; Kuharchuk 1993; Sitnik 1996). The other assemblages with

handaxes, as well as single finds of handaxes, remain as if not called for. To improve the situation, it is necessary to analyze the asemblages with handaxes in the aggregate and to determine the stratigraphic, chronological, and cultural positions of this aggregate.

III. DISCUSSION

GEOLOGICAL POSITION OF THE SITES

Chronological positions of the sites under discussion are usually determined after typological criteria. As to the geological grounds of these datings, they are often rather doubtful and applicable only to a small number of sites (Velikiy Glubochek, Vyhvatintsy, Zhitomir, Khotylevo, Nepryakhino). The stratigraphic position of the bifaces from Beglitsa, Kochurov, Balki is unclear. The cultural layer of Shary III cannot be dated geologically, as well as the biface from Chokurcha (though it is obvious that the latter is not older than Würm).

The Late Acheulean artifacts from Velikiy Glubochek are probably the ones that have the most clear stratigraphic position. In a number of characteristics they can be compared to the Zhitomir materials. However, the preservation and stratigraphy of the Zhitomir site itself leave much to be desired. Judging by the geological situation observed in Velikiy Glubochek, M.F. Veklich's date for the Acheulean assemblage of Zhimomir (late Riss - early Riss-Würm) seems most plausible. The present author is inclined to believe that the asemblage dates from late Riss. The Khotylevo industry cannot be younger than Riss-Würm. The early age supposed for the lowermost layer of Zaskalnaya IX is geologicaly groundless. The Mousteroid Micoquian handaxes from the middle layer of Vyhvatintsy are of Early Würm (pre-Brorup) age.

In general, it appears that while typical handaxes are confined to the Late Riss and Riss-Würm deposits, some more perfect bifaces come from the Riss-Würm and Early Würm (pre-Brorup) layers. Probably the majority of isolated and undated handaxes from East Europe should be placed into this chronological interval.

TYPOLOGICAL CHARACTERISTICS OF THE ASSEMBLAGES

Given the scarcity of geological data which would allow us to date the Middle Palaeolithic handaxes from the Russian Plain and the Crimea, one has to draw typological analogies with similar tools found in more readily dated contexts. First of all, this applies to the most specific forms, like a partial biface on a flake from Makeevka. D.S. Zveibel, proceeding from the comparison of this biface with analogous forms in Bordes' type-list (Bordes 1961, Pl.75,4), looked for analogies in Final Acheulean and Early Mousterian industries (Zveibel 1979). In general, the reasoning of this kind remains valid today. The technology permitted production of large bifaces from massive flakes appeared rather early. The archaic Acheulean industry of Ternifine, Algeria, contains around 130 handaxes, and about one third of these are

made on flakes (Balout, Biberson and Tixier 1967). The Ternifine handaxes on flakes are rough, massive, lanceolate (*ibid.*, Fig. 7:8). Technologically similar handaxes made on massive obsidian flakes were collected in great numbers in Satani-Dar, Armenia (surface finds) (Panichkina 1950). These handaxes are thick, shortened, roughly flaked. Proceeding from their typology, M.Z. Panichkina dated them to the Late Acheulean, and V.P. Liubin to the late Final Acheulean (Liubin 1984:61). A more perfect partial biface on a flake was found in the middle layer of the Late Acheulean site Sidi-Zin in Tunis (Vaufrey 1955). Its rounded butt and carefully retouched edges resemble the analogous characteristics of the biface from Makeevka. The partial bifaces on flakes are rather often found in Micoquian and MTA assemblages, but here they are smaller, more regular, and prepared mainly by retouching, not by flaking. The list of typologicall parallels could easily be continued, but even the examples cited above are sufficient to show that the closest analogies are found in the Late Acheulean assemblages.

The assemblages of Zhitomir, Khotylevo and Nepryakhino contain the coherent groups of bifaces consisting of handaxes and large leaf-shaped points. These classes of tools are undoubtedly interrelated both morphologically and technologically. In connection with the search for typological and chronological parallels it would be appropriate to compare the Khotylevo and Nepryakhino large bifacial points, on the one hand, and similar tools from the Acheulean and Mousterian sites of the Caucasus, on the other. First of all, let us turn our attention to the unique (for the Northern Caucasus) large leaf-shaped point from layer 5-B of the Matuzka cave (Golovanova 1994:83-84). According to the available biostratigraphic data layer 5-B dates from the Early Würm (Golovanova, Baryshnikov, Levkovskaya, and Nesmeyanov 1995). In its proportions and the character of manufacture, this point is extremely close to the elongated-oval point from Khotylevo (Zavernyaev 1978, Table 28,1). The point from Matuzka can also be compared to the leaf-shaped bifaces from Nepryakhino (Zakharikov 1993, Fig. 1,1). Among the other Acheulean and Mousterian analogies to the Khotylevo and Nepryakhino points, let us mention some fragments of points from the Abadzeh site (Autlev 1963), the Akhshtyr cave (Zamyatnin 1940), Yashtukh (Korobkov 1969), and Tsona (Kalandadze 1965). The analogies with the Blattspitzen of Central Europe are less reliable because the latter are broader and have sharpened ends. The extremely large specific elongated bifaces from Tsona (Tushabramishvili 1978) and Lysaya Gora (Liubin 1967) represent, in Liubin's view, an endogenous Caucasian phenomenon (Liubin 1984:69).

Some typological resemblance can be observed between the triangular-oval straight-based handaxes from Zhitomir and the bifaces of the Semiyablonya site in the Northern Caucasus. The materials of Semiyablonya come from a present river-bed, but, on the basis of a number of analogies with neighbouring sites, are dated to the Final Acheulean (Golovanova 1994:99-101). Besides, such handaxes have analogies in Korolevo cultural-chronological complexes 5 and 6, where there are also some leaf-shaped points (in particular, in complex 5 which is believed to date from Riss) (Gladilin and Sitliviy 1990).

At the same time, the majority of bifaces from the East European Middle Palaeolithic sites are typologically indifferent and can be compared to a wide range of tools dating mainly from the Late Acheulean.

METRICAL DATA

Additional arguments relevant to the dating problem can be obtained through the comparison of the massiveness factor. This simple metrical index originally proposed by M. Bourgon (Bourgon 1957) and then improved by N.K. Anisutkin (Anisutkin 1968; 1988) reflects the thickness(t) / length(l) ratio of artifacts - (t x 100):l. It was successfully applied to Middle Palaeolithic flakes which permitted clarification of the relative chronology of the corresponding assemblages.

The analysis of a sample of bifaces from the Caucasus and Central Europe has shown that here too the index of massiveness is chronologically sensitive. Its change correlates well with the age of handaxes. The index values vary from 40-45% to 13-15%. The lowest index (20% and less) is demonstrated by the handaxes from Würmian assemblages. These are bifaces from Chokurcha, large handaxe-like knives of the Ak-Kaya Moustewrian culture (Kolosov 1986), most of handaxe-like tools of Lebenschtedt (Tode 1982). The Late Acheulean handaxes, like those from Maklenberg (Mania and Baumann 1981), Arzni (Panichkina 1950), Kudaro I (Liubin 1959), Tsona (Kalandadze 1965), Dzhraber (Liubin 1961), Abadzeh (Autlev 1963) and so on, have the index of massiveness varying from 20% to 30%, excepting the handaxes of the Late Acheulean site Roitersru in Germany which are closer in this respect to the Early Acheulean handaxes (30% and more). Perhaps this may be explained by the character of the latter site which is considered a workshop (Bosinski 1967; 1976). The unretouched roughly flaked bifaces from Roitersru could have been half finished handaxes. In the archaic Acheulean handaxes, the index of massiveness varies from 30% to 40% and even more. These values are close to those calculated for pebble industries. Massive handaxes are present in the archeic series of Satani-Dar, Armenia (Panichkina 1950), in the Early Acheulean layers of the Azyh cave, Azerbaidjan (Guseinov 1981), in the collection of Ignatenkov Kutok, The Kuban basin (Zamyatnin 1949), in the lower layers of Korolevo in the Transcarpathian (Gladilin and Sitliviy 1990).

Table 1 shows the indices of massiveness for handaxes from different sites of the Russian Plain and the Crimea.

Izobilnoe	12.8
Chokurcha	15.1
Zaskalnaya IX,	
the lower layer	17.4, 18.7
Artemovsk	16.00
Makeevka	22.2
Balki	23.4
Zhitomir	31.0, 23.00, 19.1, 23,2
Gaisin	27.8
Shary III	27.5, 26.3, 25.4
Izyum	29.3
Lugansk	33.3
Amvrosievka	29.6
Velikiy Glubochek	29.5, 37.4, 25.0

Table 1. Indices of massiveness for handaxes.

In accordance with the proposed formal criteria, the bifaces from Izobilnoe, Chokurcha, Zaskalnaya IX and Artemovsk should be classified to the Mousterian technocomplex, and the other to the Acheulean one (its advanced variant).

Such a widely used index as thickness/width ratio (the cross section index) is less sensitive regarding chronological difference between bifaces, but may reflect some cultural peculiarities (see for example Copeland 1989a, Fig. 23; 1989b, Fig. 13; Copeland and Hours 1989, Fig. 38; present paper, Fig.1,B).

Thus we have seen that the dating of handaxes from the Russian Plain and the Crimea by different criteria (stratigraphic, typological, and metrical) leads to rather close results. We have every reason to regard these finds as part of some extensive cultural-chronological group.

EAST EUROPEAN SITES WITH HANDAXES AS A UNITY AND INTRAGROUP DIFFERENCES BETWEEN THEM

Geographically this group of sites represents the eastern continuation of the Central European massive of the Late Acheulean assemblages with handaxes. The former is something like a bridge connecting the north of Central Europe with the Caucasus, i.e., two regions rich in handaxes. In the Russian Plain, the sites with handaxes form a band running from the Carpathians to the Azov Sea. Within this band, there were also found some chronologically Late Acheulean sites without handaxes, which form a distinct group. These are Bugliv V, Korneev Yar (Riss 2-3) in Donbas, Ukraine (Kolesnik 1986), Besserghenovka on the northern shore of the Azov sea near Taganrog, Russia (Gromov 1940), Khryashchi and Mikhailovskoe in the Seversky Donetz river mouth, the Rostov region, Russia (Praslov 1968).

One can speak also about some intragroup differences displayed by the sites with handaxes.

First of all, there are typological differences between the handaxes. From the formal point of view, the sample under consideration includes triangular, almond-shaped and cordiform variants of handaxes. Some single specimens from Zhitomir, Lugansk, Amvrosievka and Balki conform well to these standards, especially to the triangular and cordiform ones. At the same time the cordiform-like handaxes from Artemovsk, Gaisin, Izyum and Velikiy Glubochek form a specific subrhombic variant. The cordiform (after Bordes' criteria) handaxes of Khotylevo reconstructed by M.F. Zavernyaev have their own peculiarities too. Judging by numerous fragments these handaxes are characterized by rounded base, conxex converging edges, and pointed end. The same is true for the shape of the handaxe from Makeevka. The triangular-oval straight-based handaxes from Zhitomir also differ from the classic triangular handaxes. A number of specific features are observed in the Crimean bifaces from Zaskalnaya IX, Chokurcha and Izobilnoe. The big bifaces of Shary III are typologically amorphous.

Secondly, the sites with handaxes are distributed in space unevenly, forming several accumulations of various density. Most bifaces are concentrated in the Donetz-Azov, Polesie-

Carpathian, Crimean, and Middle Dniester regions (perhaps, this list should be supplemented with the Middle Dnieper region). Single sites are known in the central Russian Plain (Khotylevo) and in the Volga basin (Nepryakhino). It is doubtful whether such an uneven distribution reflects the difference in the state of exploration of different regions, because the majority of these have been systematically studied for a long time. Most probably, we have to deal with some culture formation "hearths" (centres of cultural genesis), which became apparent in East Europe at the end of the Acheulean epoch.

RELATION OF THE SITES WITH HANDAXES TO THE EASTERN "MICOQUIAN"

The "hearth" pattern is also characteristic for the geographic distribution of the sites classified to the so-called Eastern Micoquian. Khotylevo, Rihta, Antonovka I-III, Alexandrovka, Krasny Yar, Sukhaya Mechetka, and Mousterian assemblages of Zhitomir have traditionally been classified to this group. In addition, the list includes such sites as Barbashin Ovrag (Zbrueva 1947), Cheliuskinetz and Zaikino Pepelishche (Kuznetsova 1989, 1993) in the Volga basin; Ozeryanovka I-II, Kurdyumovka (lower layers), Belokuzminovka (lower layers), Rubezhnoe, Bobrikovo and Cherkasskoe in Donbas (Kolesnik 1993; Kolesnik and Veselskiy, in press); supposedly the finds from the vicinity of Galich (Sitnik, Bogutskiy, and Kulakovska 1996). The "Eastern Micoquian" sites of the Russian Plain are mainly concentrated in Donbas and Povolzhie (the Middle Volga region), in Polesie and Carpathian Podolia (Fig. 2,B).

The stratigraphic position of these sites definitely points to the Early Mousterian age. The best preserved assemblages can be dated as follows: Antonovka I - from Late Riss to Early Würm (Gladilin 1976), Antonovka II - pre-Brorup stage of Würm I (*ibid.*), Sukhaya Mechetka - Riss-Würm or the beginning of Early Würm (Moskvitin 1967), Khotylevo - most probably Riss-Würm or Early Würm (Ivanova 1969; Velichko 1969), the lower alluvial layer of Kurdyumovka - late Riss-Würm (Gerasimenko, pers. comm.), the lower horizon of Belokuzminovka - Riss-Würm (Gerasimenko and Kolesnik 1989), Galich - the boundary between Riss-Würm and Early Würm (Sitnik, Bogutskiy, and Kulakovska 1996). The Micoquian-like industry from Korolevo (layers IIa and II) lies on the contact of the fourth (after the regional scheme) Riss-Würm paleosoil with the Early Würm loam, and slightly above (Kulakovskaya 1989). Let us note that the most reliable dates (i.e., those substantiated best of all) are concentrated in a rather narrow stratigraphic interval (the top of the Riss-Würm soil - the base of the Early Würm loess). The "Eastern Micoquian" is correctly considered the oldest Micoquian in the north-eastern Mediterranean (Evtushenko 1995:21).

It is difficult to ignore the fact that the areas occupied by the Acheulean and Early Mousterian sites with handaxes nearly completely coincide with the "Eastern Micoquian" industries of the Russian Plain (excepting Povolzhie). There are also grounds to suggest chronological continuity between these groups. Therefore, the transition from the Late Acheulean to one of the early Mousterian traditions (Micoquian) seems highly probable even in absence of an elaborated typological substantiation of such a variant of cultural development.

IV. CONCLUSION

While the conclusion about continuity between the Acheulean and Micoquian is not new, its major significance lies in the fact that it makes us to call in question the reality of any migrational waves which supposedly brought Micoquian traditions of flintworking from the west (south-west) to the east. Of course, one cannot rule out the possibility that some groups of Micoquians could have penetrated from one region to the other, but the thesis of the independent and simultaneous formation and existence of all the early variants (or provinces, after Topfer and Mania 1973) of the Micoquian in Russia, Ukraine, Poland, Germany and further westwards appears to be more plausible. The divergence event that divided the para-Micoquian industries of Central and East Europe should probably be sought in the periods which are much older than Würm. The diversity of the Russian-Ukrainian sites with handaxes, most of which are probably Late Acheulean, testifies that this event could have occurred even earlier than Late Riss.

The Late Acheulean sites with handaxes, together with the Early Mousterian "Eastern Micoquian" industries of the Russian Plain, form (despite some inner variation) a single phasic and cultural complex which represents the first clear manifestation of the beginning of the Middle Palaeolithic in East Europe. Such a conception of the beginning of the Middle Palaeolithic brings the periodization of the Palaeolithic of the Russian Plain into accord with European standards and meets with support from some specialists in the field (Anisutkin 1988:98; Stepanchuk 1996:21; etc.). In Germany, too, the late Acheulean with bifaces plus the Micoquian represented the first evolutionary form of the local Middle Palaeolithic (Bosinski 1967). Besides, the proposed approach allows us to elucidate the specific character of the "Crimean Micoquian", which supposedly derived from the proto-Bokschtain Late Acheulean facies (Gladilin 1985; Kolosov 1979) and evolved during the whole "Mousterian section" of Würm (Stepanchuk 1996). In V.N. Stepanchuk's view, the complex genesis of the Crimean Micoquian contributed to the formation here of the para-Micoquiam industries (*ibid.*).

Of course, in reality the processes of cultural history were richer than our ideas about them. In the Russian Plain, the Late Acheulean industries with bifaces could have evolved not only towards the Micoquian. A.P. Chernish assumed that the early bifacial technology had influenced even the formation of the Levallois-Mousterian of Molodovo which is alien to the Micoquian (Chernish 1989). Many authors suggest some continuity between the Late Acheulean and the non-Micoquian Mousterian industries (e.g., Liubin 1984). It cannot be ruled out that, in the Middle Dniester region, the Acheulean with handaxes evolved into the Stinka industry. However, it will be impossible to resolve these and related problems without making further progress in the study of the early Middle Palaeolithic sealed (stratified) sites.

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ABBREVIATIONS

KSIA Kratiye Soobscheniya Instituta Arkheologii AN SSSR, Moskva.
Brief Reports of the Institute of Archaeology of the Academy of Science of the USSR.

MIA Materialy i Issledovaniya po Arkheologii SSSR, Moskva.
Materials and Investigations in Archaeology, USSR.

MASP Materialy po Arkheologii Severnogo Prichernomorya.
Archaeological Materials of the Northern Black Sea Region.

SA Sovetskaya Arkeologiya.
Soviet Archaeology.

RA Rossiyskaya Arkheologiya.
Rossiyskaya Archaeology.

BKICHP Bulleten Komissii po izucheniyu chetvertichnogo perioda.
Bulletin of the Commission on Investigations of the Quaternary Period.

ASGE Arheologicheski sbornik Gosudarstvennogo Ermitazha, S; Peterburg.
Archaeological Collection (Review) of the State Ermitaz Museum.

TKICHIP Trudy Komiossii po izucheniyu chetvertichnogo perioda.
Transactions of the Quaternary Commission.

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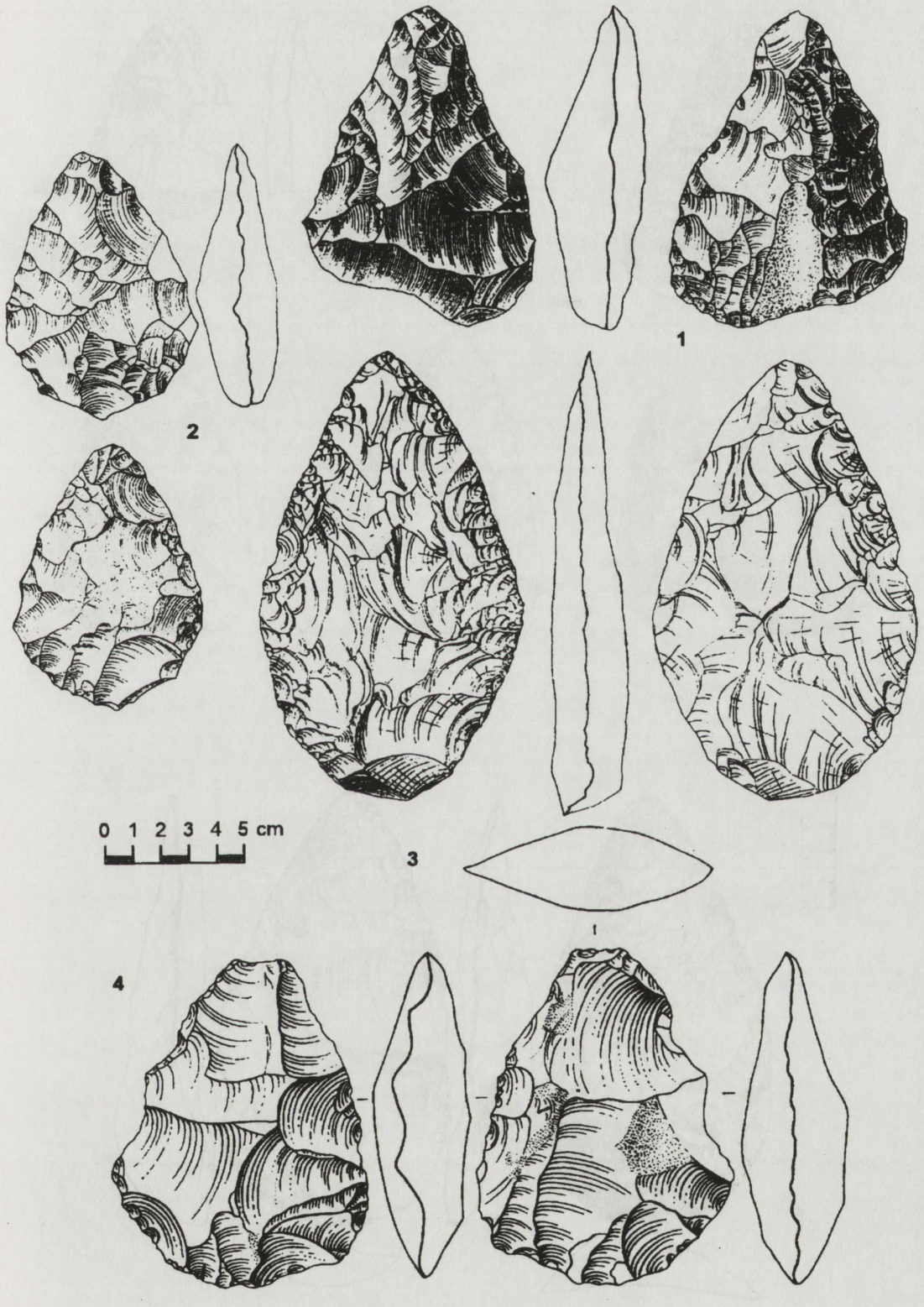


Fig. 3. Bifaces of Eastern Europe: 1 – Amvrosievka (from S. Zamyatnin 1953), 2 – Izum (from V. Gladilin 1985), 3 – Artyemovsk (from A. Kolesnik 1993), 4 – Gaysin (from N. Praslov 1984).

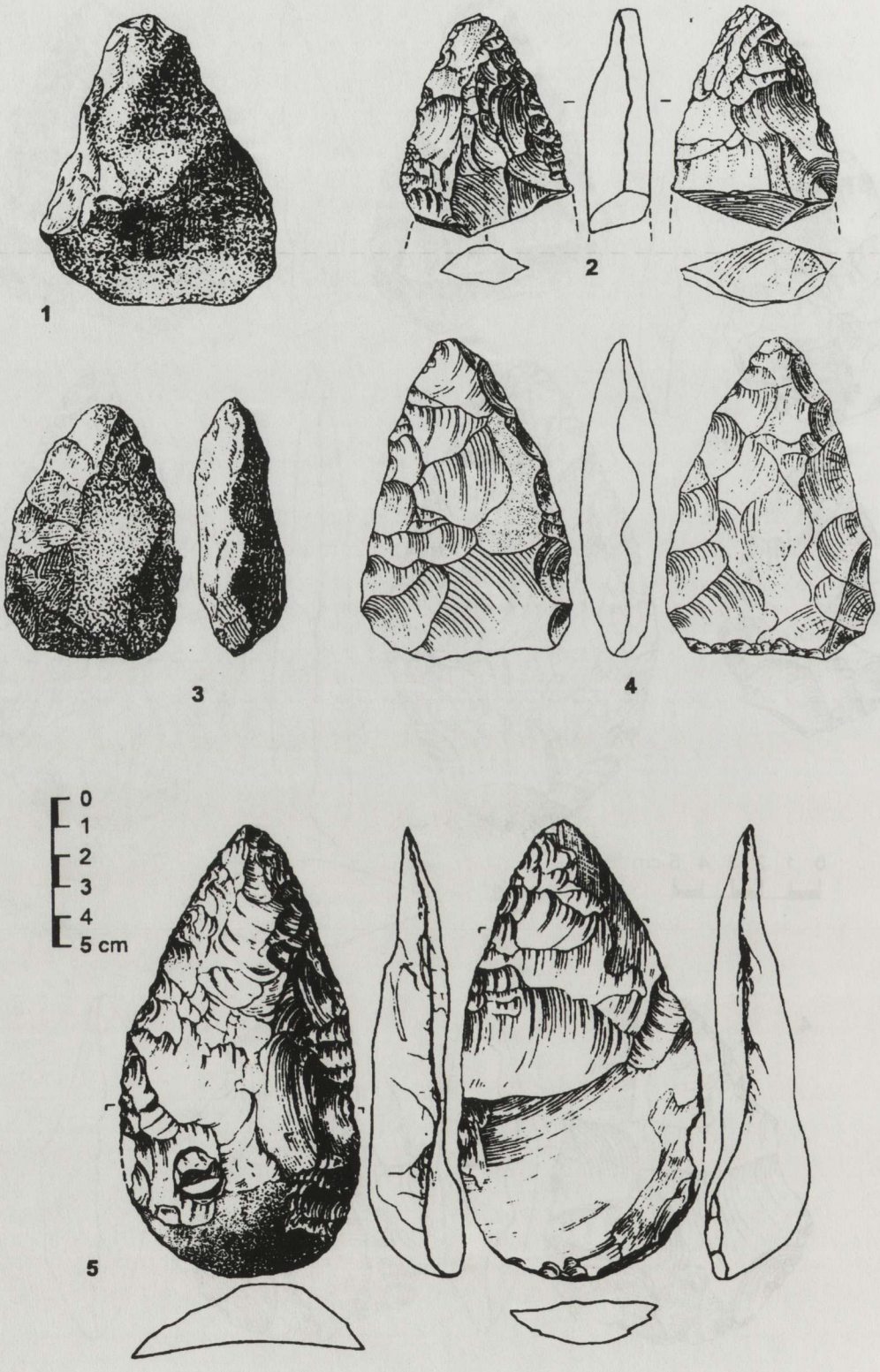


Fig. 4. Bifaces of Eastern Europe: 1, 3 – Lugansk (from S. Loktyushev 1930), 2 – Ketrosy (from N. Anisyutkin 1981), 4 – Balki (from A. Sytnik), 5 – Makeevka (from D. Tsveibel 1979).

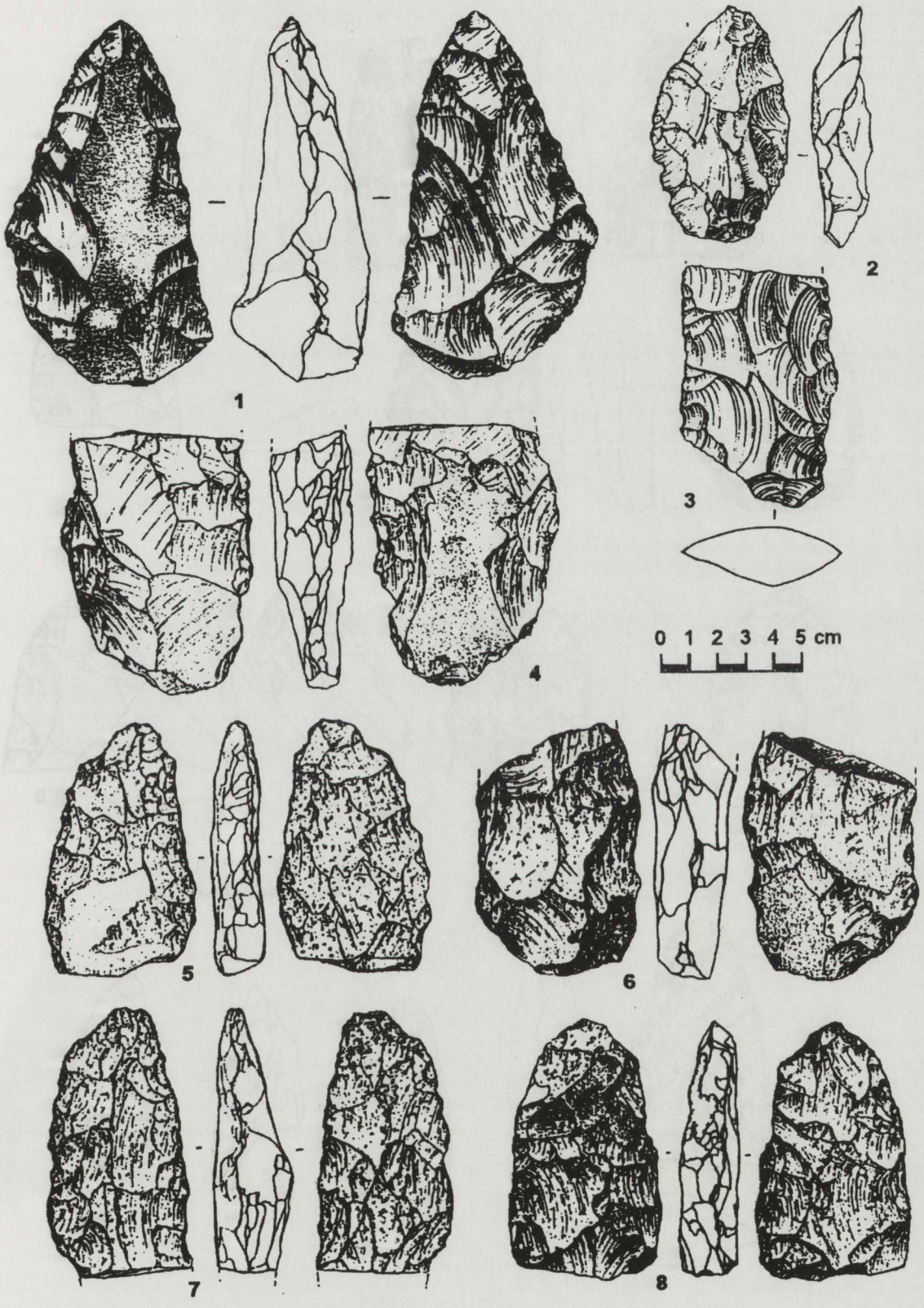


Fig. 5. Bifaces of Eastern Europe: 1, 4, 5-8 – Zhitomir (from Yu.Kukharchuk and V. Mesyats 1991), 2, 3 – Zhitomir (from N. Praslov 1984).

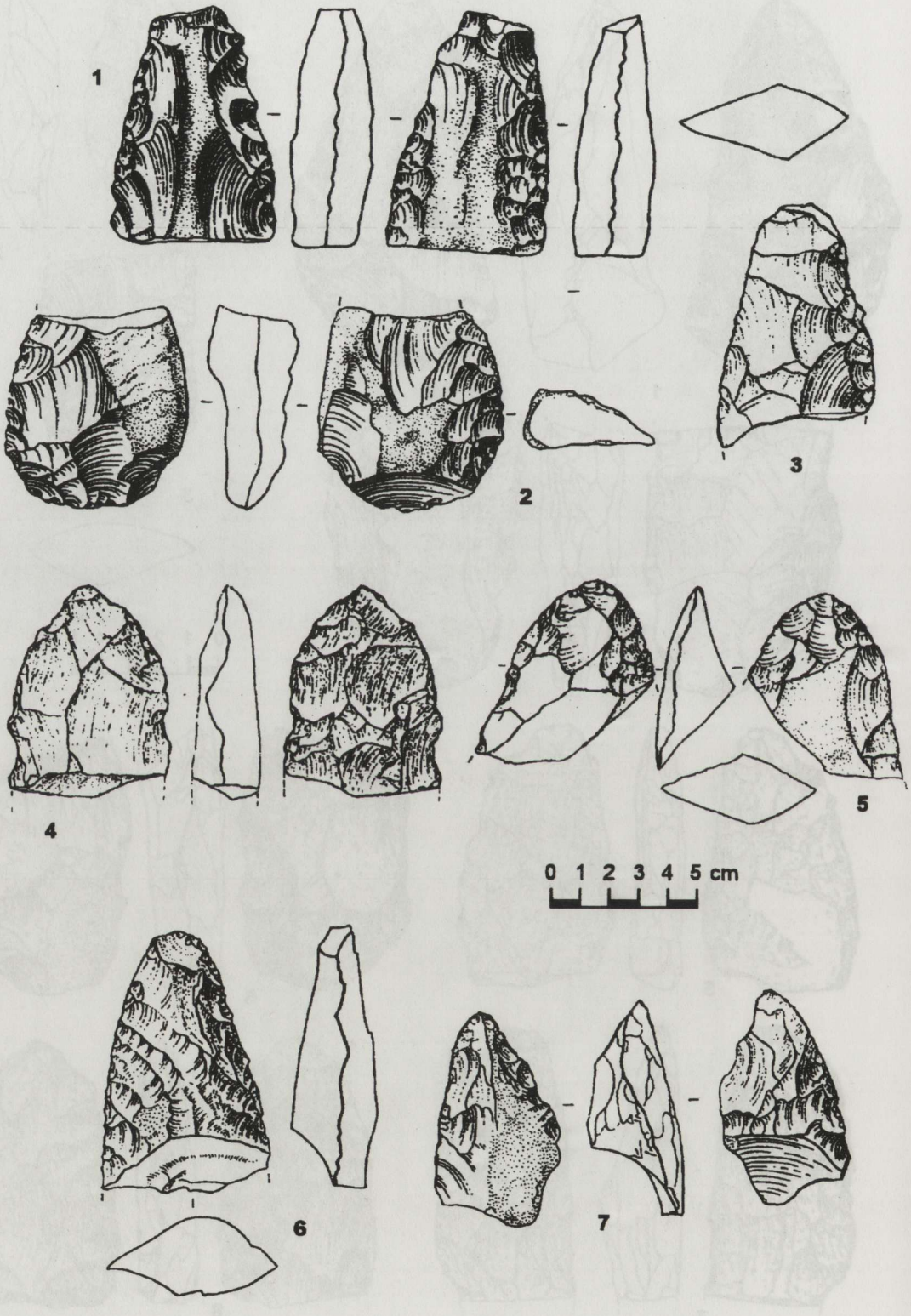


Fig. 6. Bifaces of Eastern Europe: 1, 2, 3, 5 – Zhitomir (from N. Praslov 1984), 4 – Zhitomir (from Yu. Kukharchuk and V. Mesyats 1991), 6 – Sazonov (from N. Praslov 1984), 7 – Beglitsa (from N. Praslov 1984).

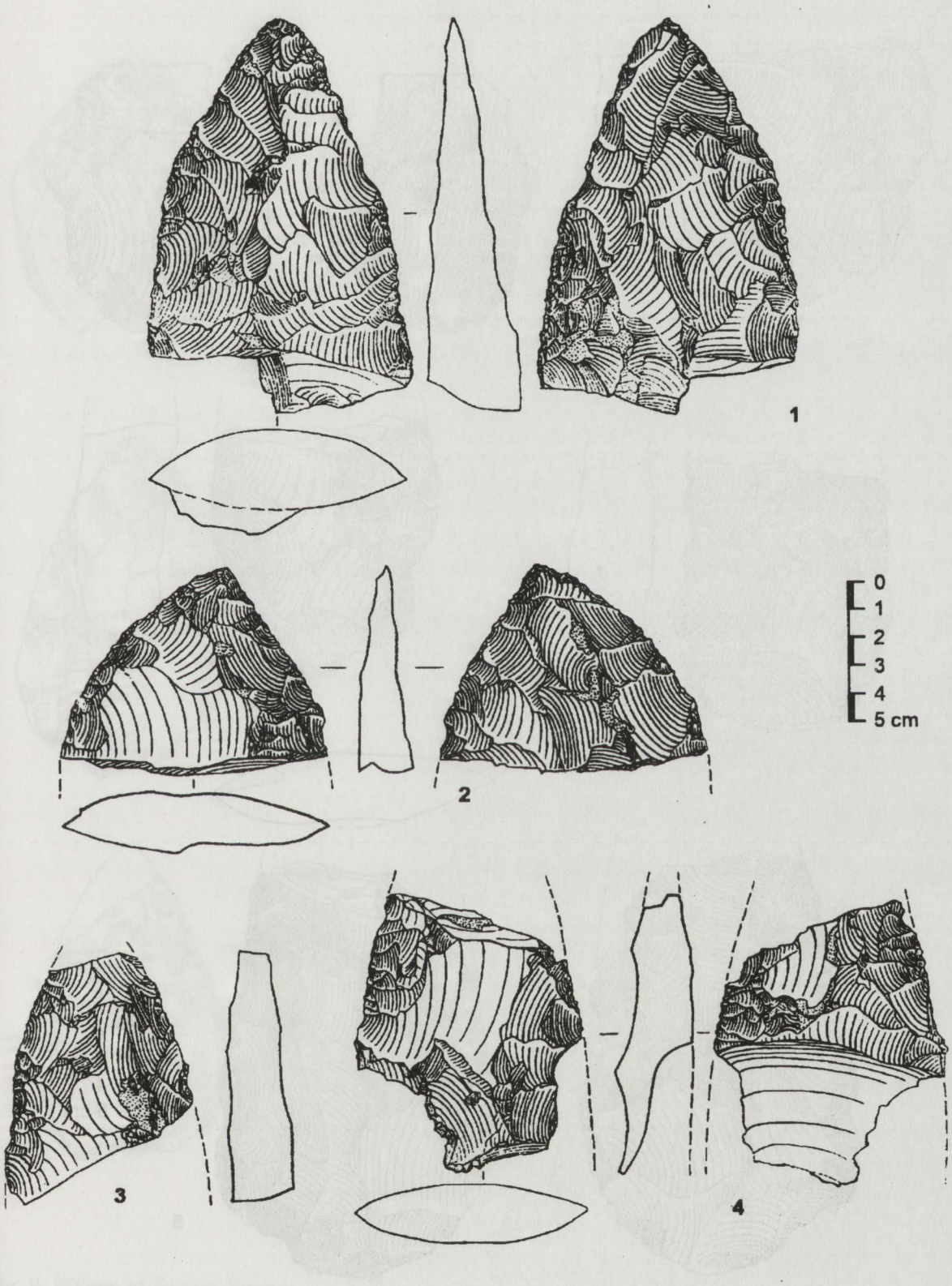


Fig. 7. Bifaces of Eastern Europe: Khotylyovo (from F. Zavernyaev 1978).

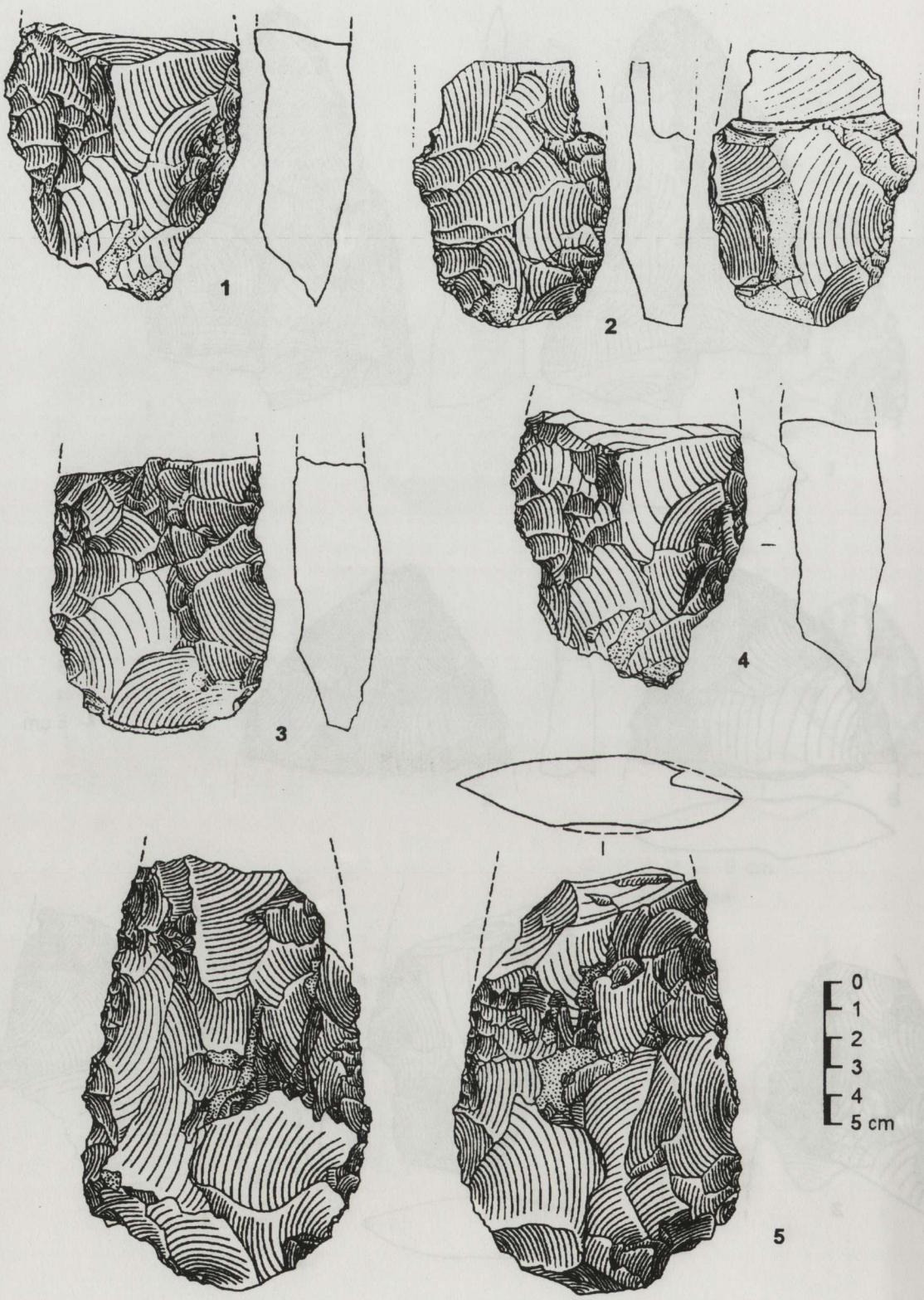


Fig. 8. Bifaces of Eastern Europe: Khotylyovo (from F. Zavernyaev 1978).

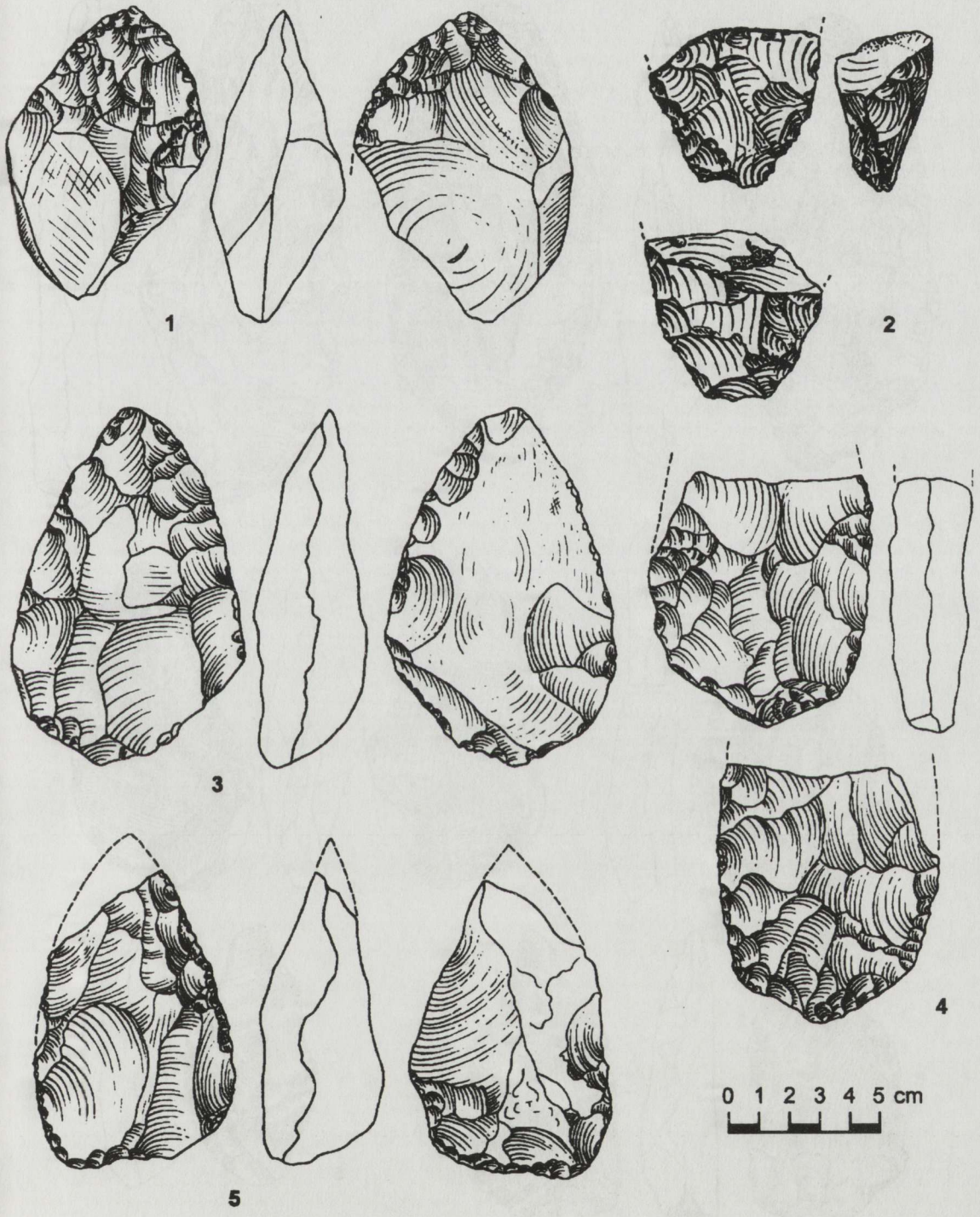


Fig. 9. Bifaces of Eastern Europe: 1 – Kishlyanski Yar (from N. Anisutkin and T. Shcherbakova 1986), 2 – Gura-Kemenka IV (from A. Chernysh 1965), 3-5 – Glubochek (from A. Sytnik 1996).

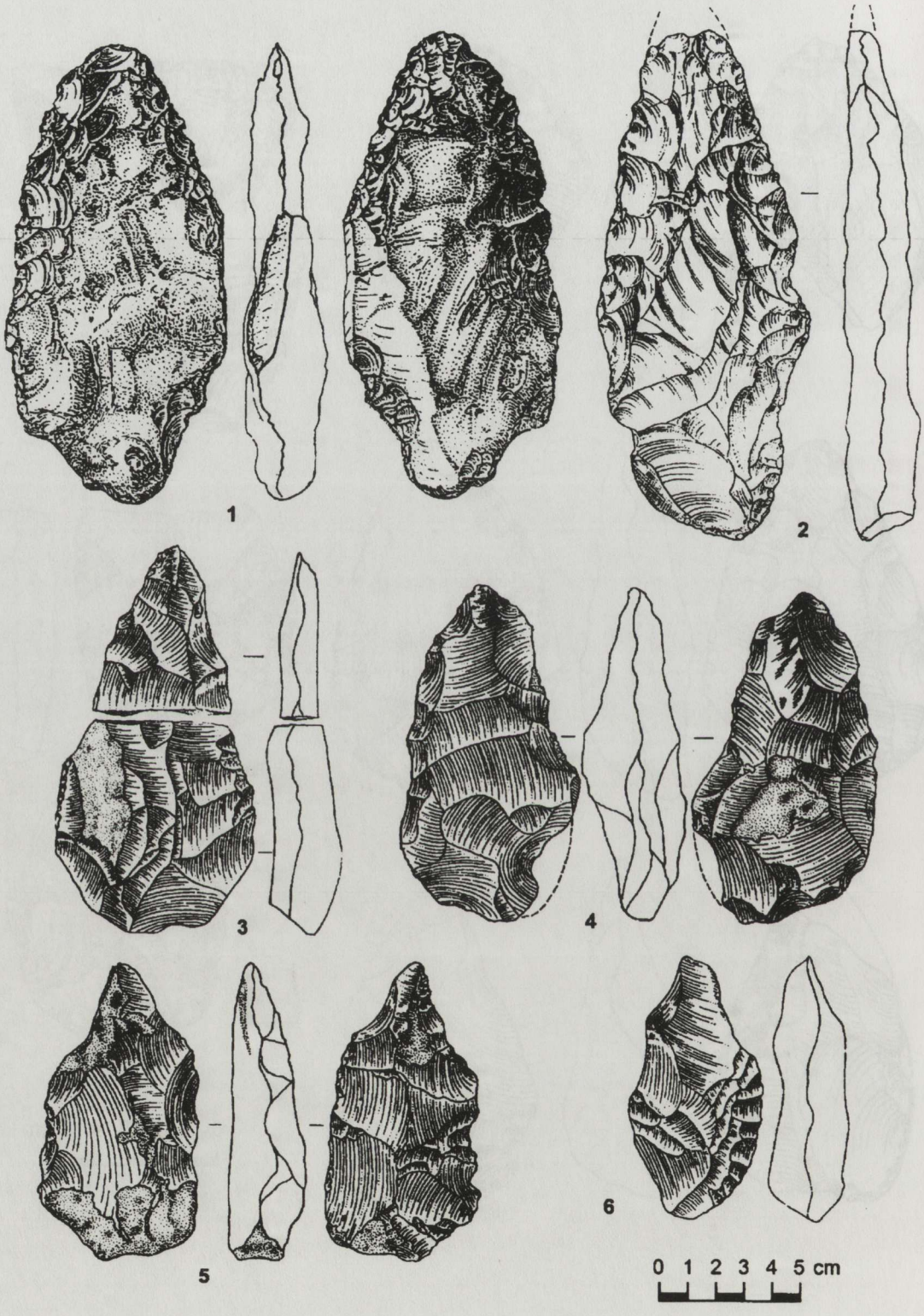


Fig. 10. Bifaces from Eastern Europe: 1 – Zaskalnaya IX (from Yu. Kolosov 1979), 2 – Izobilnoye (from A. Schepinski 1972), 3-6 – Shary III (from A. Shchepinski 1979).