The Multilayer Nepryakhino Site and the Streletskian

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Summary

Nepryakhino' bifacial points look pretty archaic even for Early part of the Upper Paleolithic. Its neighborhood in the same complexes with numerically and qualitatively representative group of Middle Paleolithic tool types seems organic. Presence of quite developed types of preforms and blade cores in those layers are unexpected and especially interesting.

Key words: Multilayer site, Early Upper Paleolithic, bifacial points, prismatic cores, sidescrapers

A Paleolithic site of Nepryakhino is situated 2 kilometers to the north of the village of same name in Ozinskiy District of the Saratov region, was discovered in 1989.

With regard to the geomorphology, the area where the site is situated is interesting for the reason, that at this place, in the interfluves of the Volga river and the Ural river, at the south-west border of the Syrtovaya plain the upland Obshchy Syrt is located. By its origin it is a peneplain of the Oligocene age, predominantly consisting of chalk and paleogene sands, limestones, sandstones and chalk. With its clear shelves up to 60 meters high, it differs from the younger Syrtovaya plain of the Early Quaternary age that stretches to the west and south-west right up to the Volga river.

Obshchy Syrt splits into separate ridges. Dividing ridges are separated into the local massifs in the form of mountain crests, upon which there are some denudation residual hills of different hights (Absolute height 90-220 metres). The slopes of the residual hills are asymmetrical and have a stepped, terrace-like structure. Within the limits of Southern Obshchy Syrt the river valleys are feebly marked. Apart from floodplain, they have well-developed terraces of Pleistocene age, and the second one occur fragmentary. In bare outlines the relief was formed by the end of the Late Khazar time (Vasilyev U. M. 1961).

The cluster of the cultural layers of Nepryakhino Site is assigned to the one of the offspurs/ residual hills of Southern Obshchy Syrt. The modern river-bed is situated 500 m to the west-south-west of the site, and its floodplain with oxbow lakes to spring from the very foot of denudation residual hill.

The residual hill consists of medium quartz sand, which are replaced by sandstone quartzite (the lower part of Saratov complex of Paleogene System), which, in their turn, give place to the package of Quaternary layers of Aeolian origin up to 3,5 m thick. On the slopes of the Muravlinskie Blue mountains around the site there is a stratum of quartzite-like sandstone of a light grey color and up to 1 m thick, that serves as a covering for Paleogene sands. On the top the sandstone is blocked by the package of sedentary soil deposits.

The quartzite plate, as a result of cracking on the surface, is represented, as a rule, by separate blocks. The quartzite is medium- and coarse-grained, of a grey colour (sometimes bluish grey), quartz grains are united by a quartz or opal cement, the isotropy is high, the foreign inclusions are rare. The quartzite particles both on the surface and inside the cultural layers are represented by subcube, less often by slab pieces of different, often very large (over 50 cm across) size.

The field investigations of the side were continued in 1990, 1993 and 1995 by stationary excavations (Zakharikov A., 1997, p. 99-123; Zakharikov A., 2002, p. 186-206), specialists of scientific research geological institute of Saratov state university conducted a scientific investigation of the vertical profile of the excavation pit, samples for granulometric, palynological and paleomagnetic analyses were taken. The obtained data confirmed the Pleistocene age of the cluster of cultural layers, with the exception of covering soil, which has a Holocene age.

The layers 1 to 7 are dense with debitage products of different intensity. Compact, well-marked cultural layers in the vertical section are not recorded. The complexes are examined according to lithological layers.

The artifacts are angular and not patinized. The exceptions are the pieces in the layers 2-5, that have a whitish patina, that occurs as a result of weathering. It is significant that only supine artifacts are covered with patina.

A quite representative spore-pollen spectrum is described in one sample (layer Б-I). As N. I. Kuznezova, a member of the palynological laboratory of geological scientific research institute of Saratov State University, concludes, the age of enclosing strata can be defined within the limits of maximum of the last glaciations (Ostashkovo level in the scheme of Interdepartmental Stratigraphical Committee, 1986 (Shadruchin A. V. 1992, p. 11-13).

Out of almost hundred units of faunal remains, found in the excavation pits, only 17 of them are definable to some extend (the definitions of A.K. Kasparov, Institute for History of Material Culture of Russian Academy of Sciences):

Layer Г-Н – Ovis/Capra sp.: carpal bones (2 samples), phalanx.

Layer К-I – Mammalia indet.: the fragment of tubular bone.

Layer Слой К-II – Equus sp.: fragment of a tooth; Bison sp.: fragment of a tooth, astragals dex.

Layer K-III – Mammuthus sp.: fragments of tusks (5 samples); Coelodonta antiquitatis: a rib; Equus ex gr. Caballus: lower jaw; Bison sp.: ribs (2 samples), a fragment of distal epiphysis humerus sin.

In 2006 Marcel Otte (Marcel Otte, Universite de Liege) got the AMS bone date for the lower part of the layer K-II of Nepryakhino site – 32 810±450 BP (Beta-217473)[1]. In 2012 we got another AMS date from Otte via email – for the upper part of the layer K-III 36 060±350 BP (Beta-244075)[2]. The received absolute data allow to have a more well-reasoned look at the geochronology of the Palaeolithic layers of Nepryakhino.

To the time interval, corresponding to the obtained radiocarbon dates, belongs the border between the glacial Würm-III and interglacial Periods Würm- III-IV (Arcy, Denenkamp) of the West European geochronological sequence.

1. The layer-by-layer description of the quartzite complex

Layer 1 (Г)

The total amount of findings in the layer Г– 9481 (9480 quarzite pieces and 1 fragment of a pottery vessel)

In the layer 1 Г-Н the rim fragment of the profiled and richly ornamented pottery vessel (the ornamentation was done with stroked and fine comb ornament, which is characteristic of Eneolithic Altata type of Trans-Volga territory).

Based on the sum of techno-typological features it seems possible to attribute the complex of the level Г-Н to neo-eneolithical period.

Layer 2 (Б-I).

The collection of stone artifacts is relatively small. The total amount of findings – 1445. The proportion of splinter and fragments is very high (41%), especially in the upper part of the layer.

Characteristic cores and extreme unspecified the tool assemblage are discerned of this complex. Among cores the group of prismatic core is the most prominent. Both – cores at the early reduction stage and exhausted are present. All of them have a massive body, 6 out of 7 are distinguishable through their elongated proportions. They all have well-shaped narrowed bases, rather sharp splitting angle (60-75°), semicircular flaking surface front. The flaking was carried out from one platform in one direction.

Among the blanks without secondary treatment there is a group of technological blanks, connected with the preparation, correction and rejuvenation of the prismatic cores. These are "crested" blades, flakes of the radical correction of the core-platform – "core-tablets" and specific transverse flakes of the reforming of the prismatic cores (Zakharikov A. P., 1997).

Blades are quite numerous (15% of all blanks). They have the regular parallel faceting of the dorsal surface and characteristic features of the upper Palaeolithic knapping technique at the basal part of the flake: dotted, linear and concave striking surfaces, diffuse bulb of applied force, "lip" or "visor" between the ventral surface and the striking platform. The method of the rough reduction of the surface is also noticed. The striking surfaces themselves are smooth or with some minor corrections.

The tools in the layer are few in numbers, for this reason it is difficult to characterize the peculiarities of the tool set. Mostly, it is scrapers, side-scrapers and retouched flakes.

Layer 4 (Б-II)

Almost one meter thick loam contained 119 quartzite pieces in total, and in the upper part of the layer they are sporadic – 27 flakes. The main part of the complex originates from the level connected with the underlayer 5. Characteristic is incredibly high percent of artifacts with retouch – 42%. However, characteristic artifacts are few in numbers. Retouched flakes make up almost the half of the tool assemblage. Among the morphologically formed tools the group of the end scrapers on the plate flakes and convergent side-scrapers on the massive flake can be distinguished. Nuclei – 5 samples.

Layer 5 (К-I)

The layer is extraordinarily dense with tools and wastes from the stone knapping, and just debris.

The collection consists of 8893 quartzite pieces. Core-like – 70 samples. The cores of parallel flaking with flat or slightly bulging front prevail – 12 one-platformed and 5 two-platformed (among them 2 are of the opposite flaking. One of the one-platformed core with slightly bulging flaking surface and the flaking in the sub-parallel direction has a subtle frontal longitudinal ridge, which makes it similar to its prismatic cores preforms. There are 2 rough-prismatic cores and one proper prismatic core. All core are at the initial stage of reduction. There are 13 atypical cores, even greater in numbers (31 samples) are indefinable, mainly trial pieces. 13 preforms of the prismatic core are of interest (fig. 4, 1). They have a prolonged shape, as a rule, sub-triangle section, narrowed base, longitudinal ridges, faceted with the alternating removals, roughly shaping striking platforms.

The overwhelming majority of the blanks are by-products. Above all, these are the flakes of the processing of the large bifacial tools. The blades are sporadic. It is in accordance with the fact that in general core are very few

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№ OF LITHOLOGICAL LAYER	CULTURAL LAYER	DESCRIPTION	THICKNESS
1	Г	Casing soil - black mould humus The upper cespitose part (Г-В) is grayish. The lower part (Г-Н) is a little bit darker. The contact with the underlayer is clear.	up to -0,3m
2	Б-I	Light-brown loam. In the lower part – light carbonate disseminations in the form of flakes, which are 2-3 cm in diameter. The layer is split by the wedges of leaking humus.	-0,4-0,6m
3		A thin black-gray stratum – buried soil	up to -0,02m
4	Б-II	Light-brown loam. The layer is enriched by the carbonates of a thin structure, which define the whitish color. The transition to the 5th layer is not clear, the border is uneven	-0,5-0,7m
5	К-I	Light-brown loam with disseminations and lentils of a darker (humic?) loam. The layer is dense with detrital material. The detritus are cemented by mineral salts with the tools and flakes and make up a solid breccias.	around -0,4m
6	К-II	Buried soil of a rich black soil type, dense with humus, of a black-chestnut color	-0,2-0,5m
7	К-III	Pale-yellow sandy loam/ loess-like loam? The structure of the layer is heterogeneous. There are some inclusions and lentils of gravel, clay- and other rocks. Closer to the bottom the amount of sand in the layer gets higher.	-0,4-1,0m
8		Quartz sand of a palaeogene age. It is separated from the superstratum by the plate and loaves of quartzite.	visible thickness -10m

Table 1: *Subsurface stratigraphy (summary data)*

in numbers, and the exhausted samples are absent. There are several samples of crested blades and core "tablets" (fig. 4, 3).

One cannot overlook the fact that there is a high percent of retouched pieces (10,3%, and in the upper levels of the layer it is even higher – 29,5 %). These numbers are overstated due to many retouched pieces of natural origin. Retouch is in many cases similar to the damage through trampling down (see Schelinskiy V. E., 1983, p. 86-88; fig.1), which is connected to the extraordinary large amount of quartzite material in the layer.

Characteristic tools are rather large in numbers. The most diverse are side-scrapers (fig. 3, 1,) -241 samples (26%): longitudinal -82, double – 40, transverse and diagonal-10, convergent – 22, angular -33. Points are few in numbers, as well as in other layers. There are only 5 of them, but they are represented by the remarkable forms (fig. 3, 2).

There are 24 scrapers in the layer 5 (2,5%), they are represented by different types. In the collection there are several scrapers of high shape, so- called scrapers with denticulate edge (grattoir denticule), scrapers with stem (fig. 3, 3), with beak (nosed scraper), double scraper, circular scraper.

Bifacial tools – 183 samples (20% in the lower part of the layer 33%). Triangle/ leaf-shaped -50 pieces. Many of them are broken. The asymmetrical bifaces are less in numbers- 22 samples. Rough and partial bifaces together make up 41% of the total amount of the double-sided tools. "Other bifaces" (35 samples) may include not well-informative tiny fragments of the double-sided tools with regular treatment and intact pieces of original form.

There are a lot of large massive tools – 108 (12,5%). Mainly, these are the result of culling.

56 items belong to the group of denticulate tools. These are the tools of two types: the tools with denticulate edges, often shaped by the alternating retouch, and the tools with one or some retouched notches.

Characterizing the secondary technology, it should be noted that the burin blow technique was rarely applied, both in the complex of layer 5, and in other layers. The secondary thinning of the basis of the artifact and the whole implement from the ventral side comes up quite often. In general, the retouch is versatile, often it is extensive, significantly modifying the blank.

Layer 6 (К-II)

The total amount of splitting products in the layer - 10566.

The cores are low in numbers – 13 samples (0,1%). Out of them: 5 are of parallel splitting with a flat front part, 8 unsystematic, one nuclei is with a treatment of the sides and the base and looks like a perform.

About untreated debitage products we can say the same as what was already pointed out above concerning the flakes of the layer К-I.

Tools – 322 samples. Points are greater in numbers than in other layers – 12. Among the classical points on the triangle flakes with stabilizing edge retouch, (fig.3, 4) there are big prolonged, in their form similar to leaf-shaped points, formed with the retouch, covering the whole back (fig.3,5); sometimes they have a ventral underworking.

Sidescrapers (81 samples) are represented by all the main types. Both – flakes and quartzite pieces were used as blanks. Most numerous are longitudinal sidescrapers -33%, double -17%. The group of sidescrapers with converging edges (fig. 3, 6), including convergent, angular and limaces make up 36% of all the sidescrapers) in layers 5 and 7- 22%). Among all types of the scrapers there are tools with double-sided treatment of different elements. They are not distinguished into separate types, since the method of bifacial treatment in Nepryakhino is in general very well represented. There are 9 samples of scrapers. Retouched flakes, compared to layer 5, are less numerous. Rough massive tools are 19 samples.

Bifaces -78 samples, they make up 24% of all tools of the layer (fig. 36, 1-4). It is significant that 46% of them are broken (fig.36, 2, 3).

The group of pointed prolonged triangle/leaf-shaped bifaces (34 samples) and asymmetrical "knifes" stand out among the total mass. The pointed bifaces are different for the reason that in their shape or peculiarities of treatment, one way or another, the model of the point of the spear/dart can be traced. Their common features: symmetrical form in plan and in profile, prolonged shape, relative thinness, blades converging by the angle of 45-65°, lenticular section, the base is straight or round-rectangular, flattened.

Not numerous, but also interesting is a group of asymmetrical bifaces – 5 items (in the layer 5-22).

Relatively numerous are rough and partial bifaces – 25 samples. The general tool model is poorly marked in these samples. They are, as well as the biggest part of the triangle/leaf-shaped bifaces, are unfinished products.

Layer 7 (К-III)

Total amount of artefacts -4288 samples.

In this layer the only bone tool was found (fig. 4, 6), made of the rib of a large mammal (mammoth?). According to A. K. Filippov, this tool was used for troweling the stitches on the skins.

Out of 26 core-like items almost a half (11) are "opportunistic" cores. There are 7 cores of parallel knapping, one is strongly worn-out, radial, 5 are indefinable. In the complex of the layer 7 there are also two precores with a bulging front, prolonged ridges, which prepared with alternated removals (fig. 4, 2), similar to the preforms of the prismatic cores in the layer 5. From the striking platform of one of them 3 short blade-like detachments are split off (fig. 4, 2).

Flakes are pretty similar to blanks of the layers 5 and 6. Crested blades – 2 samples.

Tools -119 samples. Bifacial tools -33 items (28%). Almost half of them is triangle/leaf-shaped bifaces (fig. 2, 5). There are only 2 asymmetrical bifaces. Rough and partial – 21%. Rough massive tools are not numerous.

Side scrapers of all types – 33 (28%). Longitudinal side scrapers prevail – 48%. There is almost the same amount of double (9-12,5%), transverse and diagonal, angular, convergent (fig. 3, 7) and scrapers of the original form (other). In the collection of the layer К-III points are absent, scrapers and burins. Denticulate tools make up 10% of the tool set. 22% - flakes with retouch (fine edge dorsal irregular retouch prevails). In the group of original tools the perforators, made with alternative retouch on the proximate blade section is interesting.

The peculiarity of the complex of the layer 7 is that many types of tools are represented by very expressive, thoroughly shaped items.

It should be highlighted that any formal classification of the collection, containing numerous unfinished items, will be very relative. Some items could occupy space in different sections of the tables.

In general, the following can be said about the structure of the quartzite complexes of the Paleolithic layers of Nepryakhino:

- In the collection of the layer 2 (Б-I) the group of items, connected with producing, correction, reshaping and rejuvenation of prismatic cores is well represented. Almost all the blades are fragmented. The tool set is characteristic of the absence of bifaces and relatively high percentage of scrapers.
- Not rich and unexpressive complex of the layer 4 (Б-II) is characteristic of the numerous retouched artefacts. By its position in the profile this complex is familiar to the assemblage of the underlayer 5.
- Three lower layers reveal marked similarity in their techno-typological features. Their common features are: the small role of the core detachment in industries; high percentage of bifaces and side-scrapers; rarity of points and scrapers; single cases of the usage of burin blow technique; general predominance between the tools on flakes artefacts of the Mousterian group over upper Palaeolithic. Complex of the layer К-I, compared to the two other lower layers, has a higher percentage of performs of prismatic cores and other core-liked forms, numerous retouched items (often of natural origin), the lower amount of bifaces. In collection of the layer К-II the core-like and rough massive tools are less numerous,

points are bigger in numbers. Complex of the layer К-III is characteristic of the highest percentage of bifaces (28%), including triangle/ leaf-shaped, less amount of tools with irregular treatment, the absence of scrapers and points.

The rich collection of the debitage products of Nepryakhino Site enables to look at various aspects of the utilization of raw materials and the technology of quartzite knapping. The most informative are the complexes of the three lower layers of the site.

The strategy of the utilization of raw materials in the layers К-I-III.

In the collection of the lower layers of Nepryakhino by-products prevail, which is an evidence of the extensive model of its utilization, as well as at many other sites, confined to the outcrops of the raw stone materials. For further usage mostly massive (these are most characteristic of Nepryakhino deposits) quartzite "blocky" pieces, resembling "brick" in their contours, were selected. The test of the material was made with several large detachments. Samples, not meeting the necessary requirements, were discarded.

After testing the less massive quartzite pieces were used for the fabrication of bifacial tools, more massive – for the production of cores. Culling of the items was carried out at all stages- both at the production of bifaces and at the manufacture of cores. Discarded or "put off" and for some reasons unclaimed items make up a significant part of collection of the lower layers of Nepryakhino.

Fully shaped prismatic cores were carried away from the site for further utilization. Different forms of flat nuclei were locally knapped. From the obtained blanks side-scrapers, scrapers, points and other tools were made.

Points of spears/darts were made predominantly with a method of biface knapping technique (see below: the technique of the production of bifacial tools). Finished implements were carried out of the boundaries of the site.

Flat tabular quartzite pieces were rarely used for knapping. Exclusively tools were made from them. Large tablets were appropriate for bifaces, and small, as an alternative to flakes, were used for the fabrication of side-scrapers, scrapers, etc. A peculiar case of material utilization was a special detachment from the large fragments of the quartzite plate, almost without a preliminary preparation, macroflakes. Macroflakes, along with large plates, were used for producing bifacial points.

At the moment there is a following correlation between the Pleistocene layers of Nepryakhino and the geochronological scale:

Layer К-III – stadial Wurm III (middle Valdai stage 4)[3];

Layer К-II – interstadial Wurm III III-IV (Arsi, the Denenkamp) (middle Valdai stage 5);

Layer К-II – interstadial Wurm III-IV (Arsi, the Denekamp) (middle Valdai stage 5);

Layer К-I – stadial Wurm IV – Late intersstadial Wurm III-IV (Arsi, the Denenkamp) (middle Valdai stage 5);

Layer К-I – stadial Wurm IV –late phase of the interstadial Wurm III-IV (Arsi, the Denekamp) (middle Valdai stage 5);

Layer Б-II –early phase of the stadial Wurm IV (Late Valdai– Ostashkov);

Layer 3 (upper buried soil) – interstadial Tursak? (Gmelin? soil-forming horizon);

Layer Б-I –late phase of the stadial Wurm IV (Late Valdai– Ostashkov).

Thus, industries of the Pleistocene layers of Nepryakhino site reflect all chronological stages of the development of the Upper Paleolithic from its earliest stages (layers К-III and К-II, and, apparently, layer К-I) to the well-developed and, probably, late Paleolithic stage (layers Б-I, Б-II). Complex of the layer К-III, even considering the tendency towards making the whole range of early Upper Paleolithic sites older than they are (see Anikovich M.V. 2006, p. 97-99; Derevyanko A. P., Shun'kov M. V. 2006, p. 110-113), can be seen as an industrial phenomenon of the early stage of Upper Paleolithic.

Industries with bifaces of the Early Upper Paleolithic is quite a widespread phenomenon in the central and east Europe. To denote the industries of the early Upper Paleolithic with characteristic double-sides tool shapes and a range of others (predominantly archaic) features the notion "Seletoid technocomplex" is used (Ankovich M.V., 1993, p. 3-19) or "eastern selet" (Demidenko U. E., 2003b, p. 36-50).

Taking into account all techno-typological features (first of all, based on the bifacial forms and Mousterian group in the tool set), the industries of the three lower layers of Nepryakhino can be included into the wide circle of sites of the Eastern Selet (Zacharikov A.P., 1999a, p. 197-206), on which background they stand out because of their blade knapping tradition, based on the prismatic cores.

2. Conclusion

In all Paleolithic layers of Nepryakhino (except for the less informative layer Б-II) the specialized production character is clearly defined.

For the complex of the layer 2 (Б-I) functional domi-

[3] Unfortunately, we have only two absolute dates so far, which is, for sure, not enough for 6 pleistocene layers of the cut. Besides, there is the so-called "radiocarbon plateau", which covers C14 dates in the interval of 31-39 kyr BP, which some authors consider as equal (Chabay V.P. 2003, p. 80). Thus, it is not excluded that the lower buried soil could be formed in the time of the earlier interstadial Hengelo (CBC3).

nant is the production of blanks, based on the reduction of prismatic cores. In the complex of the layer there are artefacts, reflecting different stages of this activity: an acquisition, the extraction, selection and testing of the raw material, production of the prismatic cores and their blades reduction. Debitage products-blades- were carried out of the site.

In the layers K-I-III quartzite complexes reflect two types of specialized production: the production of the prismatic cores and the production of bifacial points (finished cores and points were carried out of the site). The second specialization, judging from the large amount of corresponding by-products, prevailed. The reduction of plane cores and getting blanks, as well as the production of tools on flakes, played a minor role and only served the needs of the group in life support during in the times of functioning of the workshop-site.

Today we can consider complexes of the three lower layers of Nepryakhino, which have an Early Paleolithic age, as approaching in terms of age and typological and technological characteristics the industry, which combines the blade reduction of volume prepared massive cores with a quite bulging front (applying Upper Paleolithic knapping technique – margin detachment), a high percentage of the tools of the Middle Paleolithic type, primarily side-scrapers (not only simple and double, but also multiple and expressive convergent and angular), and, at last, a high percentage of bifaces, primarily biface points of prolonged proportions.

The comparison of complexes of the lower layers of Nepryakhino with the material of the chronologically close Paleolithic sites is appropriate to do according to these characteristics.

When comparing the industries of the lower layers of Nepryakhino with the industries of the famous Paleolithic sites of Late Mousterian and Early Upper Paleolithic age, we always had to involve the material of the sites, which are located quite far. The reason is simple – there are no other sites at the Volga-Ural interfluve.

The most numerous sites with cultural layers of the early Upper Paleolithic age are located in Kostenki-Borshevo area in the Middle Don River (Paleolithic of the Kostenkovsko-Borshevcskiy area…1982; The early stage of the Upper Paleolithic…2006). Among them we should, first of all, pay attention to the complexes, which belong to Strelezkaya culture (Anikovich M.V., 1977, p. 94-112; Rogachev A.N., Anikovich M.V., 1984, p. 179-181; Anikovich M.V., 1988; Anikovich M.V., 1993, p.3-19). The age of the earliest Strelezkaya culture sites (Kostenki 12, layer 3; Kostenki 6 (Streletskaya); Kostenki 1, layer 5) according to the latest data – 38-40 kyr BP (Sinitsyn A.A. et al 1997, p. 21-66; Anikovich M.V., 2005, p. 70-86; Holiday V.T. et al. 2006, pp. 57-80).

The early industries of the Kostenki-Strelezkaya industry are notable for the non-blade core percussion technique, clearly defined Mousterian group (simple, convergent and angular side-scrapers, points and truncation forms) in the tool set, the rare usage of the burin blow, special types of bifaces (primarily triangular points). At the late stage we can trace the eliminating of the Mousterian traditions and the development of the Late Paleolithic elements of culture. The blade becomes the main type of blanks, and in the tool set of, for instance, Sungir site (which is referred to Strelezkaya culture not by all scholars) there are a lot of Aurignacian elements. To the time of 28 kyr BP the sites, referred to Strelezkaya culture, are known at the territory from the Lower Don to the Ural (Matioukhine A.E., 1990, p. 141-160; Pavlov P.U. et al, 1996, p.73; Anikovich M.V. 2006, p. 97-00), which can be rather an evidence of the unity of the techno-technological basis, than of cultural closeness.

The lower layers of Nepryakhino are similar to the Kostenki-Strelezkaya sites only in terms of the high percentage of the Mousterian tools, bifaces and the rare usage of the burin blow. The side-scrapers of Nepryakhino are much more versatile (the groups of angular and convergent side-scrapers are distinguished), typical scrapers of Strelezkaya type and triangular points are absent. In general, the bifaces of Nepryakhino are remarkable for both their size and their proportions and the manner of treatment, which seems more archaic. Preforms and prismatic nuclei of Nepryakhino themselves do not have analogies in earlier sites of Strelezkaya culture, for which the blade reduction is not characteristic at all.

Numerous camps with the cultural layers of the Early Late Paleolithic in Biryuchya Balka in Rostov region (Matyuchin A.E., 2001, pp. 26-36; Matyuchin A.E., 2002, pp. 24-28; Matyuchin A.E., 2003, pp. 12-27), partly connected with Kostenki-Strelezkaya culture and which are, predominantly, workshops, bear resemblance to the lower layers of Nepryakhino. Thus, the materials of the 3rd layer of Biryuchya Balka 2 (there are several AMS – data, the oldest and, according to A. E. Matyuchin, is the most preferable is 31 480+ 200 BP (Beta-183589), quite representative and containing more than 200 bifacial points, display the blade detachment (including the cylindrical prismatic and sub-prismatic cores close to those of Nepryakhino), numerous various side-scrapers, at the same time the scrapers are typologically expressive and numerous. The morphology of the bifacial points of the 3rd layer of Biryuchya Balka 2 is also different of that of Nepryakhino – these are the typical triangular points of Strelezkaya type with the concave, less often straight base, with mostly shortened proportions (Matyuchin A.E., 2012, p. 175-194). Bifacial points of the 3rd layer of Biryuchya Balka 1a are morphologically closer to the points of the lower layers of Nepryakhino (Matyuchin A.E., 2002a, pp. 14-28; fig. 6-9). For this layer there is also an AMS date (Matyuchin A.E., 2012, p. 29), and it is earlier than the dates of the 3rd layer of Biryuchya Balka 2– 35900+280 BP (Beta – 183587). The similarity is, first of all, in the functional specificity of the sites, in the presence of different bifaces and side-scrapers. However, both the character of primary knapping and the general typological character of the industry of the 3rd layer of Biryuchya Balka 1a, according to the published data, is not clear yet. The comparison of so complicated complexes requires a more detailed comparative analysis.

Among the Middle Paleolithic sites of the Eastern Europe, which have a late age (at least, corresponding to oxygen isotope stage 3), those referred to the "East Micoque" draw our attention. The materials of these sites are taken by the researches (Anikovich M.V. *et al*, 2008, pp. 106, 107) as a possible genetic basis of the East Seletien , and, in particular, Kostenki-Strelezkaya culture. The whole set of the "East Micoque" sites were present until the Arci Interstadial (Chabay V.P., 2003, p. 78-82).

The most of late Micoque sites are located in the Crimea, which even acquired a name of "neanderthalic refugim" (Anikovich M.V. 2006, p.96). The East Micoque is different from other Mousterian industries (both levaluzski and non-levaluzski) by the broadly represented group of double-side treated tools. Close by age to the lower layers of Nepryakhino (taking into account all the concessions, we take the interval of 30-40 kyr BP) the Micoque complexes are known in Zaskalnaya V, Zaskalnaya VI, Kabazi V, Prolom 1, Staroselye, Buran-Kaya III, probably Prolom 2[4].

Commensurable with points of Nepryakhino according to general morphology bifacial pieces are present in layers II, III and III-a Zaskal'noe VI (Kolosov Y.G. 1986, table. XLVII, 1; LVIII, 2). Convergent and angular side-scrapers are also typical for those assemblages. It is indicative that those layers earlier described by Y.G. Kolosov as camp-workshops (Kolosov Y.G. 1986, p.p. 39-52), which well coincides with morphology of majority double-sided worked «knives», with unworked natural and artificial striking platforms (usually described as tubbers). Presence of bifacial point in the group of double-sided worked tools marked for flint complex of the lower layer of the Prolom 1 (Stepanchuk V.N. 1994, p. 146). Elongated bifaces, reminding Nepryakhino' pieces by its general form, are present in Zascal'naya V, Staroselye, Kabazi V (Kolosov Y.G. 1986, p.p. 110-126, table. 11; Chabai V.P. 2008, fig. 12, 3). Micoquian' complexes of Zaskalnaya V, Zaskalnaya VI and Staroselye are characterized by big percentage of prismatic and subprismatic cores and blades which apparently were purposed blanks. It looks that precores of Nepryakhino-type with lengthwise ridges given by distinctive knapping technique (also called gigantolithes), not exists in Zaskalnaya V, Zaskalnaya VI, not even in blade-typed industry of Staroselye, but the very fact of combination of developed technology of double-sided knapping with blade knapping technology seems important[5].

The combination of layer C from station Buran-Kaya III, beside remarkable leaf-shaped bifacial points of double-convexed section contains a series of geometric microlithes – trapezes and also various scrapers and other Palaeolithic kinds of tools – on this base the industry of this layer is attributed not as Micoquian but as "Eastern Szeletian" (Chabai V.P. 2000, p. 26-28; fig. 4). Resemblance with industries of lower layer from Nepryakhino site is seen only in relation to bifacial points and it is not evident.

We should stop on important peculiarity of Micoquian' industries as plano-convex section of bifaces. By its shape it may be absolutely analogous to leaf-shaped, triangular and other points of the Upper Paleolithic. But the section of last ones is primarily bi-convex.

Author's attempt to find similarity in technological traditions of late Micoquian of Crimea with industries of lower layers of Nepryakhino bring him to the following conclusion. The important factor which points to that resemblance is not presence of double convex bifacial points in late-Micoquian complexes, but distinctly seen signs of use of soft knapping-technique and blow "in ridge"[6]. Thus, the set of technical methods of «Micoquian» artisans allowed him to produce points, similar to Nepryakhino'-type in a bulk. Stilistic differences of Micoquian' bifaces from Nepryakhino' bifaces may have cultural, economical or other (peculiarities of the raw material) reasons.

Thus, we have whole stratum of the sites of the Late Middle and Early Upper Paleolithic with bifacial tools including points on Russian plane and in Crimea. These industries are very different[7]. Part of them has reliable geostratigrafic position, absolute dates, enters into groups by technical and typological indicators in steady «facials» (Crimean Micoquian), or for Earlier Upper-Paleolithic (Kostenko-Borshchevo region) even into archaeological cultures. Others are not dated with the same reliability, and set of technical and typological indicators testifies about it peculiarity.

But considering whole set of facts we may come to conclusion about abundance in the end of Middle Pale-

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[4] For Zaskalnaya V, layer 2, there is a radiocarbon date Ki-10743 – 31,60+0,35; for the layer III of Zaskalnaya VI –radiocarbon dates - OxA-4772 – 35,25+0,90; Ki-10894 – 36,40+0,45; Ki-10609 – 38,20+0,40, for the layer IIIa –OxA-4132 – 30,76+0,69; OxA-4773 – 39,10+1,50; Ki-10610 – 39,40+0,48; Kabazi V – the set of horizons III/1a (interstadial Denecamp)– OxA-2134 – 30,98+0,22, – the set of horizons III/5 (interstadial Hengelo) – OxA-4726 – 38,78+0,36; Prolom 1 the upper layer– GrA-13917 – 30,51+0,58/0,53; GrA-13919 – 31,30+0,63/0,58;the lower layer– Ki-10615 – 33,50+0,40; Ki-10616 – 35,20+0,45; Buran- Kaya III layer C– OxA-6869 – 32,20+0,65; OxA-6672 – 32,35+0,70; OxA-6868 – 36,70+1,50; Staroselye layer 1– 41,2+1,8 and 42,5+3,6 kyr BP (Chabai V.P. 2000, p. 26-28; fig. 2; Chabai V.P. 2003, table 1; Chabai V.P. 2008, table 9).

[5] Combination of leaf-shaped bifacial edges and plate split of queen cells is typical for the number of industries of Central and Western Europe, for instance Linkomb-Ranis-Ezhmanovice group (its age defines by multiple radio-carbon dates in interval 30-40 тлн) (Vishnyatsky L.B. 2008, pp. 152-155). Prismatic technik of initial splitting are mentioned for some selet's combinations (Dolukhanov P.M. *et al.* 1980, tabl. 3; Grigoryev G. P. 1968, p. 43; Grigoryeva G.V., Anikovich M. V. 1990, p. 9-11).

[6] See for instance: Kolosov Y.G. 1986, table. XV; XXIX; XXXIII, 3; Demidenko Y.E. 2003, p. 28-154; Chabai V.P. 2008, fig. 13; 14; 15, 2.

[7] There is not enough publications on many mentioned monuments mentioned above. Probably this problem will never be solved but we should seek after it.

lolithic technical traditions of producing bifacial tools on Russian plane, in Crimea and probably even in Transural territory. In this connection it is not surprising that even in Early Upper-Paleolithic there were workshops of production double-sided processed points (lower layers of Nepryakhino, Biruchya hollow 1a layer 3, Biruchya hollow 2 layer 3). There are yet no stilistic parallels to Nepryakhino points[8].

On many sites of the final period of the Middle Paleolithic prismatic core, crested blades of preparation and reshape of core-surface, purposeful blades themselves are present. There are no analogues to remarkable preforms of cores from lower layers of Nepryakhino neither in Latter-Mousterian nor in Early Upper-Paleolithic sites of Eastern Europe.

Thus, Nepryakhino' bifacial points look pretty archaic even for Early part of Upper Paleolithic. Its neighborhood in the same complexes with numerically and qualitatively representative group of Middle-Paleolithic types of tools seems organic. Presence of preforms and blade cores in those layers quite developed type is unexpected and especially interesting.

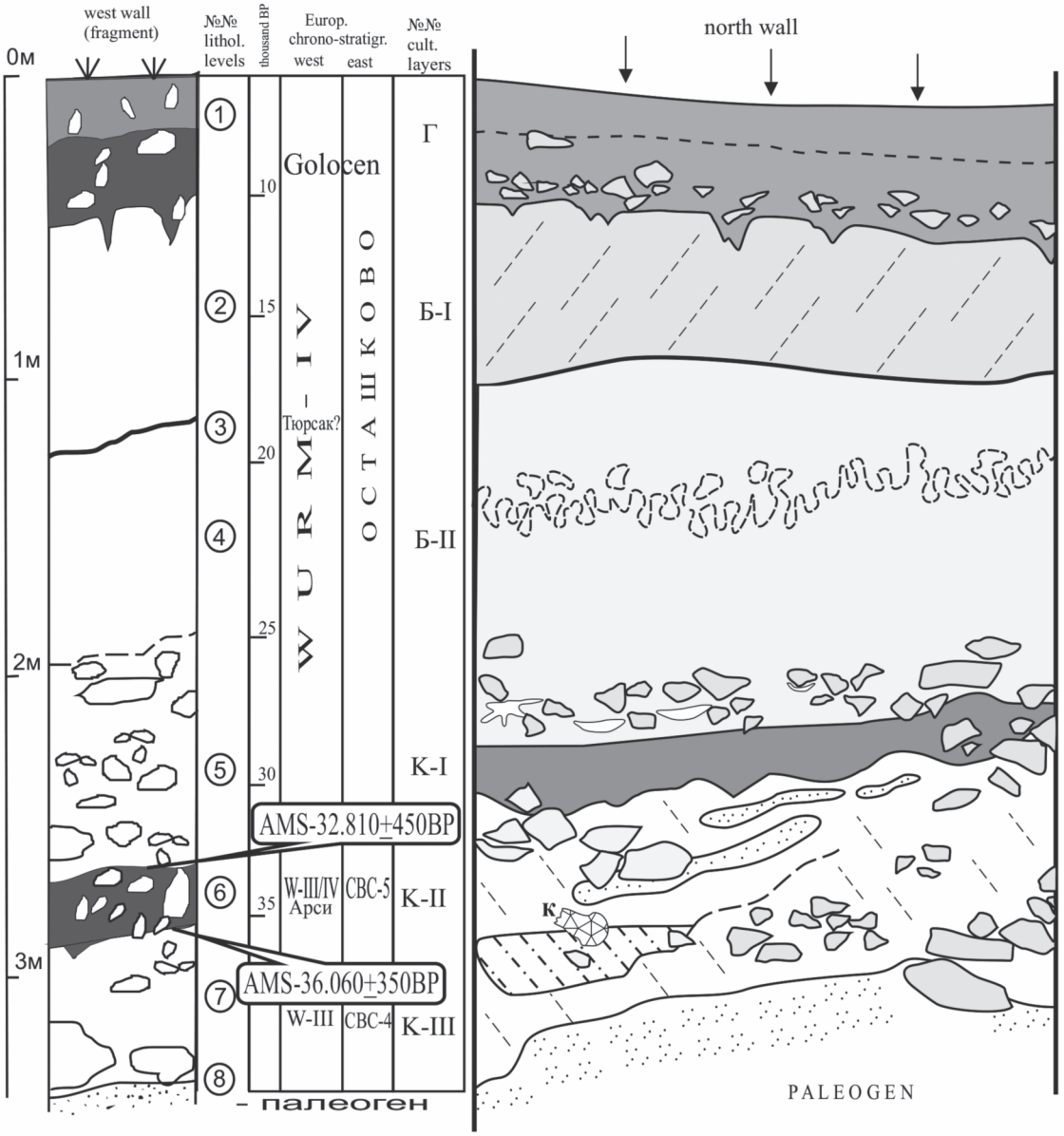

Figure 1: *The Nepryahino Site. The stratigraphy and geochronology.*

[8] Actually, we cannot say that the stylistic canon for lower layers of Nepryakhino' edges is reliably established because of small amount of completed pieces in collection.

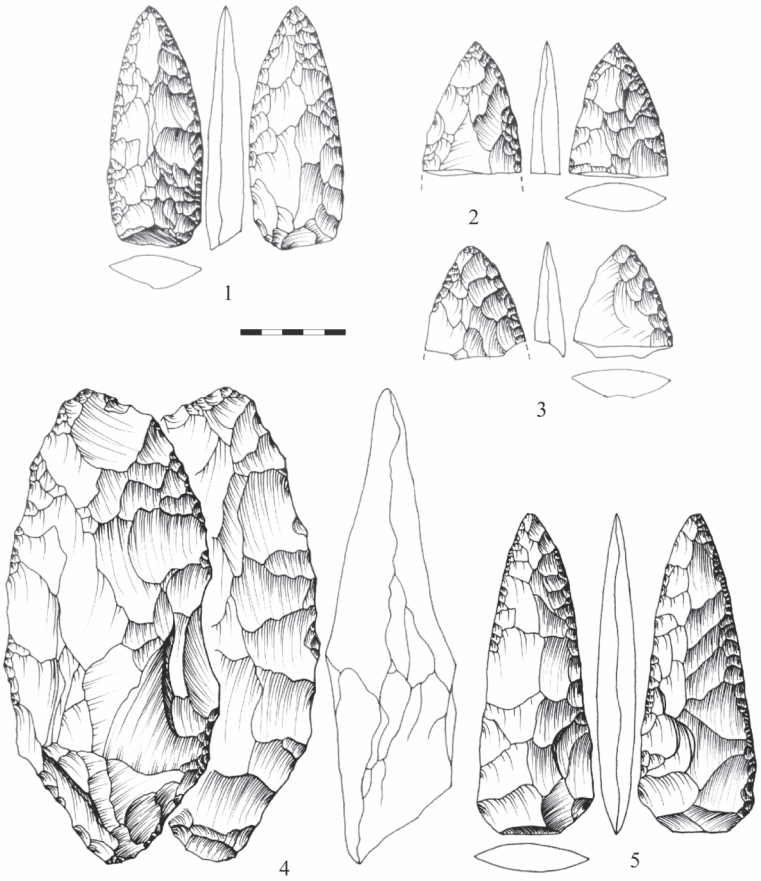

Figure 2: *The Nepryahino Site. Bifacial points 1-4 - layer K-II, 5 - layer K-III*

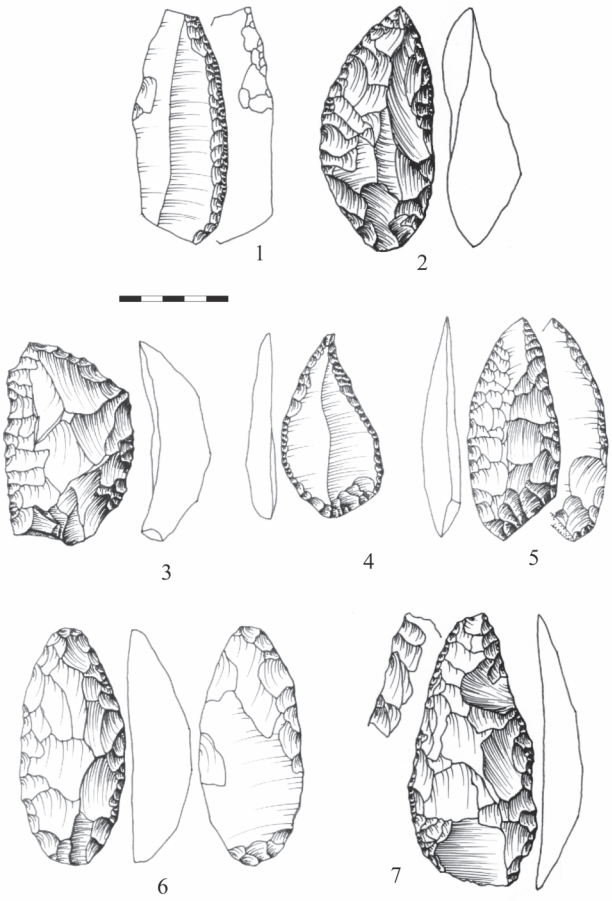

Figure 3: *The Nepryahino Site. The tools mousterian. 1-2 - layer K-1, 3-6 - layer K-II.*

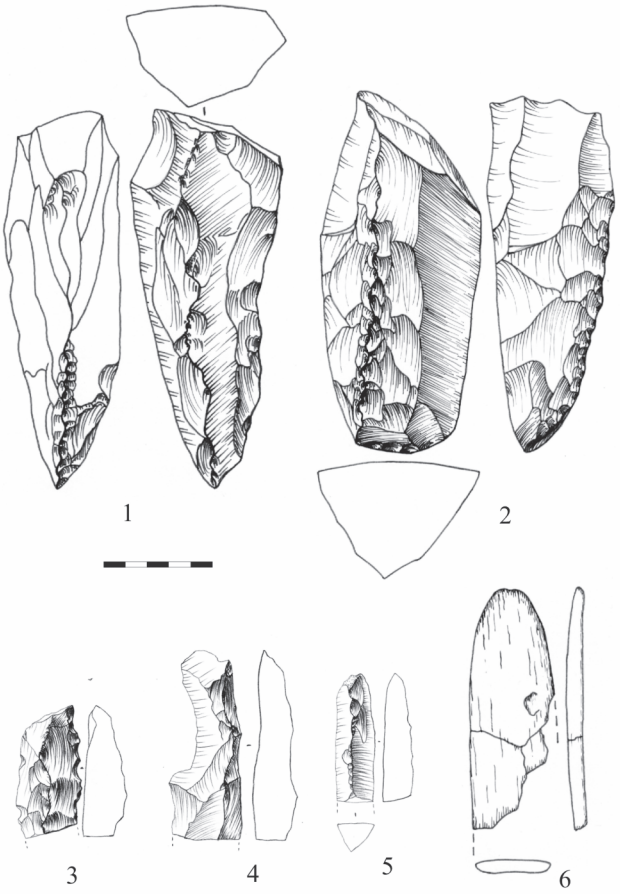

Figure 4: *The Nepryahino Site. Cores, Crested blades and bone tool. 1,3 - layer K-I, 4, 5 - layer K-II, 2, 6 - layer K-III.*

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