FINAL PALAEOLITHIC-EARLY MESOLITHIC CULTURES WITH TRAPEZIA IN THE VOLGA AND DNIEPER BASINS: THE QUESTION OF ORIGIN

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Abstract

Transversal arrowheads (trapezia) are a characteristic type of hunting implement of some Final Palaeolithic-Early Mesolithic cultures of Eastern Europe. These cultures were studied in the Volga-Oka basin (Ienevo Culture), the Middle Dnieper-Desna basin (Pisochny Riv Culture), the Lower Dnieper-Donets region (Zimivnyki Culture) and the Volga-Kama confluence (Oust-Kamskaya Culture). Issues of origin and fate still remain debatable. An interest in the formation and interaction of Volga-Dnieper cultures with transversal arrowheads in their inventory is induced by their specific geographical position as well as a permanent increase in data. Discussions of the genesis of these trapezium complexes has tended to focus on two variants: 1) within Post-Ahrensburgian industries due to some factors (natural or social); 2) from west Asian-Caucasian cultures with geometric tools. Probably the first variant is most likely to be attributed to Ienevo and Pisochny Riv, and the second is preferable for Zimivnyki and Oust-Kamskaya. Cultures in the Dnieper-Donets and Middle Volga basins, on the basis of the great variety of trapezia, are assumed to represent an area of crossing of cultural tradition. The forms of this crossing need to be concretised in the course of further research.

Key words: Final Palaeolithic, Early Mesolithic, Eastern Europe, Dnieper and Volga rivers, Ienevo Culture, Pisochny Riv Culture, Zimivnyki Culture, Oust-Kamskaya Culture, genesis, trapezium, transversal arrowhead.

Ienevo Culture

The Upper Volga-Oka basin is the most extensively investigated area among regions under study (Fig. 1). The Final Palaeolithic sites situated within this territory have been identified by M.G. Zhilin and L.V. Koltsov as Eastern Federmesser (Altynovoye, Zolotoruchye 1, Zaozerye) and Eastern Lyngby or Eastern Ahrensburgian (early complex of Oust-Tudovka 1) (Zhilin 1996; Koltsov, Zhilin 1999). These sites were occupied during Alleröd/Dryas 3. This assumption needs to be proved more because of the problematic character of the Federmesser points in the Upper Volga region (Kravtsov 1998; Sinitsyna 2000; Galimova 2001). Mesolithic in the Volga-Oka basin is represented by: 1) Post-Ahrensburgian (or Post-Lyngby) Ienevo Culture and Postswiderian Butovo Culture, which were distinguished by L.V. Koltsov and further studied by A.N. Sorokin, M.G. Zhilin, A.E. Kravtsov, E.V. Leonova et al. Ienevo Culture dating back to the eighth or seventh millennium BC is now admitted by all of them (Zhilin 1996; Koltsov, Zhilin 1999; Kravtsov 1999; Sorokin 1999). According to recent investigations, the Avseregovo 2 site may be one of the oldest Ienevo sites, dating back to the beginning of the Preboreal (Leonova 2002).

The technology and inventory of Ienevo Culture are well represented in publications. According to M.G. Zhilin, the most important sites are Ladyzhino 3, Yelovka 2, Belivo 6v, Belivo 4a during Preboreal as well as Boreal sites of Ienevo 2 and Penkovo (Zhilin 1996). Lithic technology was aimed at the production of irregular blades and flakes. Bladelets are met in these assemblages very seldom. Cores demonstrate various types: single and double-platform, prismatic or flat, pyramidal, multi-platform formless. A secondary modification is characterised by blunting and sharpening retouch, burin split technique and flaking. Flat retouch, microburins and tranchet techniques were used occasionally (Kravtsov 1999). The tool kit consists of retouched and angle burins, end, sloped, circular, side and double scrapers. Dihedral burins occur rarely. Push-planes with arched notches, blades with edge formation retouch, perforators of different shapes and proportions, oblique retouched points, and combined tools are quite well represented. A.N. Sorokin distinguishes various chopping tools: strangulated axes and adzes of oval and trapezium shape, pieces, esquillees (Sorokin 1999). Expressive and numerous points and geometric tools were found: Ahrensburgian and Post-Ahrensburgian side-notched and symmetrical tanged points, trapezia, triangles, segmented and lanceolate points (Fig. 2). These tools are the main issues of Ienevo Culture to be considered by many specialists.

The development of Ahrensburgian points and trapezies as a chronological sequence of its shape, as considered by A.N. Sorokin, gives an opportunity to distinguish three groups of sites: 1) with tanged points and...
Fig. 1. Locations of the cultures in the study
Fig. 2. Ienevo Culture: A Penkovo site (after M.G. Zhilin); B Belivo 6 (after E.V. Leonova); C Dalnii Ostrov (after M.G. Zhilin, A.E. Kravtsov, E.V. Leonova)
without geometric forms (Ust-Tudovka 1, Vysokino 6, Starokonstantinovskaya 4); 2) with points and trapezia (Ladyzhino 3, Bragino, Dmitrovskoye, Penkovo etc); and 3) with trapezia only (Ienevo 2, Koprino) (Sorokin 1996). This idea was supported by A.E. Kravtsov and E.N. Spiridonova who analysed pollen data and hunting implementations of this culture (Kravtsov, Spiridonova 1996). L.V. Koltsov and M.G. Zhilin regard Ienevo as the result of Eastern Federmesser and Eastern Ahrensburgian interaction with the backed points tradition migrating from the Don basin (Borschevo 2). According to G.V. Smitsina and L.L. Zaliznyak, Ienevo is considered to be a descendant of Eastern Bromme-Lyngby (site of Podol, Krasnoselye Culture). Traces of Ienevo-Butovo contacts are remarked on by A.N. Sorokin. Possibly a part of the Ienevo population moved to the Dnieper-Desna basin (Koltsov, Zhilin 1999).

Pisochny Riv

This culture (Fig. 1) is recognised by the majority of specialists as close to Ienevo (Fig. 3). L.L. Zaliznyak regards both cultures to be local variants of a single cultural unity genetically related to Eastern Lyngby-Ahrensburgian (Krasnoselye Culture) influenced by the Final Palaeolithic tradition of the Middle Don basin (Borschevo 2) (Zaliznyak 1999a). In another publication, L.L. Zaliznyak proposes a hypothetic scheme of transformation on the Dryas/Preboreal border of the Grensk-Borovka type of Krasnoselye Culture into Pisochny Riv and Ienevo (Zaliznyak 1999b). Unfortunately, Pisochny Riv sites are poorly stratified and have no reliable dating. This fact gives rise to a discussion concerning its chronological position. The Middle/Late Mesolithic dating of Pisochny Riv complexes seems to be the most probable (Zhilin 1996). In L.L. Zaliznyak’s opinion, trapezia (especially symmetrical) are more representative in Pisochny Riv assemblages than in Ienevo ones. G.N. Matisushin mentioned the similarity of the Pisochny Riv and Oust-Kamskaya cultures’ geometric microliths in his book describing the Mesolithic of the Urals (Matisushin 1976: 140, 198). This peculiarity of the Pisochny Riv trapezium complex is assumed to have a close analogy in the Zimivnyki Culture inventory.

Zimivnyki

This culture (Fig. 1) includes the sites of Zimivnyki 1, Surskoi 5, Vyazivok 4a, Sabivka 1, etc (Gorelik 1984; Nuzhnyi 1992; Zaliznyak 1999; Koen 1992; Zaliznyak, Gavrilenko 1995; Gavrilenko 2000; Manko 1996). The lithic technology was based on the utilisation of multi-platform, amorphous or discoid cores for flakes, and to a lesser extent on prismatic or conical cores for blades. The flakes and irregular blades were prevailing tool blanks. Burin technology, blunt retouch and retchlet are demonstrated in these assemblages. Microlithic production is characterised by microburin and pseudo-microburin technique. The tool kit consists of retouched, angle and sporadic dihedral burins, end-scrapers, side and double scrapers, small circular scrapers on the flakes, blades and flakes with retouched notches, perforators, oblique points, and truncated flakes. Chopping tools of retchlet shape are not numerous. Transversal arrowheads form a very expressive tool group (Fig. 4, 5). There are symmetric and asymmetric trapezia (sometimes with concave edges), trapezia of low proportion, segments of middle proportion and rare triangles. Most of these geometric tools were made of flakes and irregular blades. Questions of the origin, territory and chronology of Zimivnyki Culture are still under discussion. But according to the view of the majority of researchers, south Zimivnyki flint assemblages, the lower layers of the Sabivka 1 and Zimivnyki 1, are probably of Final Palaeolithic chronology and the archaic appearance of its industry. V.A. Manko reports about 60 trapezia of high and medium proportion in the Sabivka 1 tool-kit (Manko 1996). The geometric inventory of Zimivnyki 1/3 is less impressive. Probably, V.A. Manko is right to regard the combination of small and large trapezia as a characteristic feature of early Zimivnyki complexes. Thus, the early stage of this culture is assumed to be represented by the assemblages of Sabivka 1, Zimivnyki 1 (2-3) and Surskoi 5 which existed during the Final Palaeolithic/Mesolithic border. A further stage is represented by the western sites of Zagai and Vyazivok 4a (Middle Dnieper basin). These industries are believed to have functioned during the Preboreal and Boreal (Gavrilenko 2000). Besides this generally accepted chronology, there is an alternative point of view on the age of Vyazivok 4a: Final Palaeolithic (Koen 1992).

I.N. Gavrilenko makes the correct assumption that there is a definite typological difference among the Zimivnyki assemblages. He divides this industry into three local variants: Surskoi 5 (Lower Dnieper), Sabivka and Zimivnyki (Seversky Donets basin), and Vyazivok (Middle Dnieper). L.L. Zaliznyak, I.M. Gavrilenko and D.Y. Nuzhnyi consider this culture to be formed on the same basis as Pisochny Riv-Eastern Lyngby or Eastern Ahrensburgian, with the addition of industries with backed points (Borschevo 2). According to this concept, Early Zimivnyki industries existed during Dryas 3 (Zimivnyki 1, Sabivka, Surskoi 5), and later ones (Vyazivok 4a, Zagai) during the Preboreal and Boreal. Zimivnyki Culture, alongside Pisochny
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Fig. 3. Pisochny Ry Culture (after L.L. Zaliznyak)
Fig. 4. Zimivnyki Culture: A Zimivniki 3 (after A.F. Gorelik); B Vyazivok 4a (after L.L. Zaliznyak, I.M. Gavrilenko)
Riv, are proposed to be of the same origin (from the Middle Don basin) and similar to Oust-Kamskaya Culture in the Middle Volga. Moreover, Borschevo 2 industry as its origin is mentioned by I.N. Gavrilenko as Eastern Epigravettian (Gavrilenko 2000). A single characteristic type of the Borschevo 2 tool-kit, backed points, were interpreted in this publication as chatellerdonian points, or even crescent-like microliths. In my opinion, there are not sufficient arguments to classify these widespread types of points in such a way.

Oust-Kamskaya

It is this culture’s microlithic inventory that has a close resemblance to Zimivnyki. Oust-Kamskaya Culture has been studied at the Volga and Kama river confluence (Fig. 1). A comparison between this culture’s sites’ geologic-geomorphologic position allows us to distinguish three chronological groups: 1) transitional Palaeolithic/Mesolithic (upper layer of Kamskoye Oustye, Syukeyevskii Vzvoz, Beganctikh, Semenovskaya, Tetyushskaya, etc); and 2) Mesolithic (Kosyakovskaya, Lyubavskaya, etc). According to pollen and geomorphological data, there are some Upper Palaeolithic sites situated on the right bank of the Volga in the mouth of the Kama region (Lobatch, lower layer of Kamskoye Oustye, etc) (Galimova 2001). The question of the cultural attribution and genesis of these Upper Palaeolithic sites still remains to be solved. Archaeological data ought to be extended. The Lobatch inventory contains two sufficiently expressed backed tools: retouched burin-long segment and oblique point, which allows us to make some analogies with Final Palaeolithic complexes studied in the Russian Plain. However, the point of view mentioned above on the genesis of Oust-Kamskaya Culture from the Final Palaeolithic population of the Middle Don (Borschevo 2) has no reliable data in its support. A specific feature of a more representative industry of the lower layer of Kamskoye Oustye, apart from micro-core typology and some specific tools, is a large quantity of narrow blades. Some analogies seem to be found in the assemblage of the Talitskogo site in the western Urals. Nevertheless, these analogies give no reason for these sites to be defined as the same culture. Besides, a comparative analysis of both Kamskoye Oustye industries (of the lower and upper layers) demonstrates a considerable typological resemblance. It is to be of major significance in the solution of the problem of the origin of Oust-Kamskaya Culture.

Trapezia of various shapes appear to be an important but by no means a single specific type of Oust-Kamskaya Culture implement. Its blade production technology is characterised by prismatic, wedge-shaped, conical, flat and amorphous cores, with the addition of secondary cores made of large flakes. Massive and irregular blades were the main type of blanks. The tool-kit also seems to be massive (especially tools from Begantchik and Syukeyevskii Vzvoz). Retouched and angled burins, as well as end-scrapers, are the most representative. Dihedral burins of different shapes and combined ones occur in smaller proportions. Transversal retouched burins made of flakes seem to be typical but not numerous. Backed points, lanceolate tools and bifacial chopping tools of trapezium shape occur in small amounts. A trapezium with concave edges is the most specific feature of Oust-Kamskaya Culture. Its size and proportion are of great variety. Arrowheads of a form different to a trapezium are almost unknown. Occasional tools interpreted as arrowheads of non-transversal shape do not demonstrate a stable typology (Fig. 6). Expressive prismatic, conical and pencil-shaped cores with microblade negatives give evidence about more developed blade techniques of the youngest Oust-Kamskaya Culture sites (Kosyakovskaya and Lyubavskaya). These complexes have other typological peculiarities in their inventory: scrapers are of great variety and number, angle burins have preference over retouched ones, and the bifacial technique is almost absent.

Discussion

A hypothesis of the Siberian origins of the Upper Palaeolithic/Early Mesolithic population of the Middle Volga basin has been put forward by A.K. Khalikov. As a result of a comparative analysis between Syukeyevskii Vzvoz and Postnikov Ovrag (in Samara city) (Fig. 1) which, in Khalikov’s opinion, are attributed to the Siberian Upper Palaeolithic (Khalikov 1991), the conclusion is made by the author about a lack of significant resemblance. Typological features of the sites situated in the Enisey basin and western Siberia, as well as in the Urals (Golyi Kamen’, Medvezhya cave), which, according to Khalikov, mark the route of Siberian newcomers to the Middle Volga, demonstrate no similarity with the Syukeyevskii Vzvoz and Postnikov Ovrag industries. Nevertheless, some peculiarities in the Postnikov Ovrag industry are close to the inventory of the Tchernoozerye and Talitskogo sites. These peculiarities are as follows: a small quantity of burins, large scrapers, and expressive types of sub-circular scrapers.

A comparison between the lithic industry of Syukeyevskii Vzvoz and Gornaya Talitsa in the western Urals provides an opportunity to suppose a significant resemblance. However, there are no reasons for the cultural unification of Gornaya Talitsa, Syukeyevskii Vzvoz and
Fig. 5. Zimivniki Culture: C Surskoi 5 (after D.Y. Nuzhnyi); D Sabivka 1 (after V.A. Manko)
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Fig. 6. Oust-Kamskaya Culture: A Syukeevskii Vzvoz; B Kamskoye Oustye; C Begantchik; D Semenovskaya; E Kosyakovskaya; F Lyubavskaya; G Tetyushskaya
Flakes can be regarded as the main type of tool blanks these cultures, there are some important distinctions. Despite the significant resemblance between these cultures, there are some important distinctions. Flakes can be regarded as the main type of tool blanks in the Ienevo technology, and massive blades in Oust-Kamskaya. Making use of flat retouch is not a specific feature of Ienevo, by contrast with Oust-Kamskaya. There are certain typological differences: well-known Ahrensburgian and Post-Ahrensburgian asymmetrical side-notched and tanged points are not sufficiently represented in the Oust-Kamskaya industry; the transversal arrowhead complex of both cultures is rather different. The predominance of trapezia of low or average proportion with concave edges is likely to be a specific feature of the Oust-Kamskaya inventory. A trapezium of high or average proportions with prevailing straight edges seems to characterise the Ienevo tool kit.

L.L. Zaliznyak and I.N. Gavrilenko believe that backed crescent-like knives, which are present in the Oust-Kamskaya, Pisochny Riv and Zimivnyki tool kits, prove their genesis from the Borshevo 2 site in the basin of the Don.

A.N. Sorokin also puts forward an assumption concerning Post-Ahrensburgian cultural unity containing the four above-mentioned cultures. He considers asymmetrical side-notched points, oblique-bladed points and trapezia to form a typological line of development in the Ienevo and Oust-Kamskaya industries (Sorokin 1999). However, this sequence appears not to be attributed to the Oust-Kamskaya and Zimivnyki stratified assemblages.

In my opinion, the once rejected hypothesis of A.F. Gorelik about Zimivnyki origins on the basis of Chokh Culture appears to have some future (Gorelik 1984). Chokh Culture, situated in the eastern part of the northern Caucasus (Fig. 1), demonstrates the development of microlithic techniques during the Final Palaeolithic/Neolithic (Amirkhanov 1986). It is characterised by symmetric and asymmetric trapezes, segments, asymmetric triangles, backed points and original chokh points. Except for these specific points, most of the above-mentioned geometrical tools seem to find analogies in the Vyazivok 4a assemblage. Now the chronology of Chokh Culture is revised from the Final Palaeolithic to the Mesolithic. But the contact of its inhabitants with the population of Middle Dnieper Mesolithic sites seems to be likely. The same contacts appeared to happen between inhabitants of the Final Palaeolithic sites of Satanai in the northwest Caucasus and Surskoï 5 in the Lower Dnieper. Taking into consideration the palaeogeographic situation of both these in the steppe or forest-steppe zone makes this hypothesis probable.

Thus, the question concerning the migration of the population with geometric tools in its lithic inventory from western Asia—the northern Caucasus towards the Dnieper-Donets basin ought to be analysed again on the basis of new data.

Conclusion

The hypothesis of the existence of populations with common lithic technology traditions in the Upper and Middle Volga basins and the western Urals during the Final Palaeolithic/Early Mesolithic is considered. The idea of the native origination of Oust-Kamskaya Culture has received a stratigraphical and technological-typological base by means of a comparative analysis of the lower and upper layers of the Kamskoye Oustye site. The sites studied near Perm (the western part of the Urals), Gornaya Talitza and Oust-Sylva are the most closely related to Oust-Kamskaya Culture. At the same time, it is clear that the Oust-Kamskaya and Ienevo industries represent similar forms of technological and typological development. Besides, it is impossible to deny that a general typological pattern of cultures in the Dnieper-Donets and Middle Volga basins existed not only during the Mesolithic but also during the Neolithic and later. Finally, the discussion of the genesis of trapezium complexes has tended to focus on two variants: 1) within Post-Ahrensburgian industries due to natural or social factors; 2) from western Asian-Caucasian cultures with geometric tools. In my opinion, the first variant is most likely to be attributed to Ienevo and Pisochny Riv, and the second is preferable for Zimivnyki and Oust-Kamskaya cultures. The idea of the similarity and even cultural unity of these industries is accepted by many researchers. Really, we can see close analogies in the symmetry, shape and size of geometric microliths of both industries. But this similarity seems to be the most significant between trapezia of the Sabivka 1, Surskoï 5 and Oust-Kamskaya sites of the late stage (Tetyushskaya, Kosyak-
Fig. 7. A Satanai; B Chokh Culture (after N.O. Bahder)
vskaya). Small and large symmetrical trapezia of low and medium proportions, axes of tranchet form, as well as discoidal cores, alongside a common technological tradition and typology of burnis and scrapers, are characteristic features of the Sabivka and the Final Palaeolithic-Mesolithic industry studied in the mouth of the Kama region.

However, in the author’s opinion, there is a certain diversity between the last one and the more asymmetric trapezium assemblage of the Vyazivok complex. In its turn, trapezia of high proportions and oblique retouched truncated flakes of the last one appear to be closer to the microliths of the Pisochny Riv inventory. At the same time, we may speak about a tendency for the Zimivnyki trapezium complex to have major analogies with numerous symmetric trapezia which were found in sites of the Desna river variant of Pisochny Riv Culture (Gridasovo, Komagyno sites), and so on. Thus, these local variants of relative cultures are assumed to form an uncertain continuity (Gavrilenko 2000). In the author’s opinion, we ought to include in the causes of this phenomenon not only ethno-linguistic continuity but also our unreliable methods of analysis.

The details of this continuity need to be concretised in the course of further research.

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