L'INSTITUT D'ARCHEOLOGIE
DE L'UNIVERSITE JAGELLONNE DE CRACOVIE

RECHERCHES ARCHEOLOGIQUES

NOUVELLE SERIE 5 – 6
2013-2014

KRAKÓW 2014

EN COUVERTURE

Nucléus mésolithique de Glanów. Collection de Musée archéologique de Cracovie (grâce a l'aimable autorisation de Mirosław Zając; photo par Agnieszka Susuł)

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La version originale des Recherches Archéologique Nouvelle Serie est la version papier

“Recherches Archéologiques Nouvelle Serie” est régulièrement sur la liste dans The Central European Journal of Social Sciences and Humanities

ISSN 0137-3285

Professor BOLESŁAW GINTER

THIS VOLUME OF *RECHERCHES ARCHÉOLOGIQUES, NOUVELLE SERIE*
IS DEDICATED
TO PROFESSOR BOLESŁAW GINTER
ON HIS 75TH BIRTHDAY

In 2013 Professor Bolesław Ginter turned seventy five, therefore his students, colleagues and friends, together with editorial board of *Recherches Archaéologiques NS*, decided to dedicate to him the 5th and 6th volumes combined.

Professor is one of the most eminent and respected European authorities in the field of Paleolithic and Mesolithic issues. In 1961 he graduated from the Faculty of Philosophy and History at the Jagiellonian University, reaching his master's degree in archaeology. In 1966 he acquired his PhD and in 1973 he became Assistant Professor. In 1985 he received the title of Associate Professor and he obtained the full professorship in 1994. He is an educator and researcher, appreciated in many different centers. He has been conducting lectures at the University of Rzeszów since several years and in 2011 he was granted the *honoris causa* doctorate of the University of Wrocław. During his academic career he held scientific internships and invited lectures in the Czech Republic, Slovakia, Ukraine, Germany, Denmark, Switzerland and Italy. In the years 1984–1987 Professor Bolesław Ginter was Vice Dean of the Faculty of History and Philosophy at the Jagiellonian University and in the years 1990–1993 the Vice Rector. From 1985 to 2008 he was head of the Department of Stone Age Archaeology at the Jagiellonian University. Professor was a member of the Central Council of Science and Higher Education, and from January 3'rd 2003, he served as Vice Chairman of the eighth cadency. Professor Bolesław Ginter conducted excavations at many sites. As particularly important we should mention the Balkan works, which embraced, e.g. Middle- and Upper Paleolithic sequences in Bacho Kiro and Temnata Caves. Last but not least were the works in Egypt, which initially had been performed in cooperation with the Centre of Mediterranean Archaeology of the University of Warsaw and subsequently were run by share of the *Deutsches Archäologisches Institut* and encompassed predynastic positions of El-Tarif and Armant (west and south of Luxor) and also Qasr el-Sagha (north of the Fayum Oasis). In the years 1994–2005 Professor co-led the excavations in the Peloponnese, in the cave no. 1, in the Klissoura Gorge in Argolid. They led to the documentation of the first comprehensive sequence of the Neanderthal stratum in this part of Meditteranean Europe. From among Polish positions we should distinguish co-direction of a long-term, so far lasting project of the research of the main chamber of the Ciemna Cave in Ojców. He also directed an investigative project of the Committee for Scientific Research: "The site of the Magdalenian culture in Dzierżysław in Upper Silesia".

Professor's studies enriched the Paleolithic flint workshops systematics by contents of fundamental significance. It can be best proven by the brilliant habillitation thesis titled *Wydobywanie, przetwórstwo i dystrybucja surowców i wyrobów krzemiennych w schyłkowym paleolicie północnej części Europy* środkowej from 1974 and the monograph from the same year *Spätpaläolithikum in Oberschlesien und im Oberen Warta Flussgebiet*. Among other monographs, it would be hard not to mention about such important, co-edited

items like *Excavation in the Bacho Kiro Cave (Bulgaria)*, *Predynastic Settlement near Armant*, *Temnata Cave. Excavation in Karlukovo Karst Area, Bulgaria* (1992, 1994, 2000), and also co-authorship of an eminent and repeatedly resumed academic textbook *Technika obróbki i typologia wyrobów kamiennych paleolitu i mezolitu* (1975).

Professor Bolesław Ginter has published a total of 170 scientific items. He is the author, co-author or co-editor of 14 books. He supervised 19 masters and 5 doctors. He has participated in the sessions of numerous scientific bodies on the electoral basis. Professor is a deputy president of the Comittee of Prae- and Protohistoric Sciences Polish Academy of Sciences, a member of the boeard of Archaeological Commission of the Kraków Branch of Polish Academy of Sciences, and member of following Commisions of the Polish Academy of Art and Sciences: Paleogeography of Quaternary, European Affairs, Praehistory of Polish Carpathians. He is deputy chairman of the XXXII Commission of *Union Internationale des Sciences Préhistoriques et Protohistoriques*, member correspondent of *Deutsches Archäologisches Institut,* member of International Association of Egyptologists and American Academy in Rome.

In recognition of his services, Professor Bolesław Ginter was six times individually awarded and twice as a team by the Minister of Education. Eight times he received the Award of the rector of the Jagiellonian University. He was honored by the Knight's Cross and Officer's Cross of the Order of Polonia Restituta and the Medal of the National Education Commission.

Paweł Valde-Nowak

CONTENU

ÉTUDES

RAPPORTS

Recherches Archéologiques
NS 5–6, 2013–2014, 25–34
ISSN 0137 – 3285

Krzysztof Cyrek[1]

The oldest Middle Palaeolithic finds in the northern foothills of the Carpathians

Abstract: The north-eastern Carpathian foothills is an upland area interspersed with valleys. The largest number of Middle Palaeolithic sites are situated on the Lesser Polish Upland and the Podolian Upland. The Polish Jura is characterised by a typically Jurassic landscape marked by large relief variations, dry valleys and a number of outcrops of Upper Jurassic rocky limestone with numerous caves. Podolia, on the other hand, is an upland territory with a dense network of wide and deep river valleys cutting into thick layers of loess. An important element of this landscape is the range of hills made up of neogene limestone (Towtry) with poorly preserved karst forms. In this article, the oldest phases of the Middle Palaeolithic have been compared on the example of two benchmark sites of a multi-phase character: the Biśnik Cave (BC) and Velykyi Glybochok. They are both located in a similar favourable geographical position. Lower sections of chrono-cultural sequences from both sites have been presented and compared with the chronostratigraphy of the Korolevo site in Transcarpathian Ukraine. The oldest occupation phases in the Biśnik Cave have been preserved in the complex of the following layers: 19a–d, and 19. The oldest of those (layers 19 b–d), dated to over 500 ka, were re-deposited within the area of the cave. They are characterised by the proto-Levallois technique, the occurrence of side-scrapers, denticulate-notched tools and inserts of composite tools. A well-developed Levallois method, the La Quina method, side-scrapers and denticulate-notched tools are the features of the assemblage from layer 19a, discovered in the primary context and dated to OIS 7. From the same phase comes layer III in VG. It is characterised by the presence of the Levallois method, discoid method, the La Quina method, side-scrapers, denticulate-notched tools and Mousterian points. In Korolewo, the Levallois method is accompanied by bifacial technique in the form of Middle Palaeolithic points, there are also side-scrapers and denticulate tools. Both in VG (III B) and BC (layers 18 and 15) the bifacial technique does not appear before OIS6. The above observations allow us to regard the Carpathian region as an independent centre of the initial Levallois method of lithic raw material processing, regardless of Western Europe. The analysed assemblages, along with several others from southern Germany, may be traces of the oldest phase of the Mousterian culture of the Acheulean tradition in Central-Eastern Europe, distinguished by the co-occurrence of the Levallois and bifacial methods.

Keywords: Middle Palaeolithic, Podolia, Polish Jura, Levallois method, bifacial method

1. Introduction

The northern foothills of the Western Carpathians and the north-eastern foothills of the Eastern Carpathians is a homogenous, but at the same time diverse territory (Fig. 1). It is an upland area consisting of: the Lesser Polish Upland, the Lublin Upland, the Podolian Upland and the Moldavian Plateau. The extent of research of the Middle-Palaeolithic settlement on this extensive territory is quite diverse. The most numerous sites are located on the Lesser Polish Upland and the Podolian Upland. Therefore the subject of the Middle Palaeolithic on those territories has been addressed in different studies, less frequently of a synthetic character (Sytnyk 2000; Stepanchuk 2006; Cyrek 2007, 2009; Wiśniewski 2012), and more commonly in monographic ones (Cyrek 2002; Valde-Nowak *et al*. 2003; Cyrek 2010; Cyrek *et al*. 2010). Situated between the two sites, the Lublin Upland with its single, scattered finds, seems to have been a settlement desert during the period of the Middle Palaeolithic. This, however, may be a false picture resulting from an inadequate state of research. The same refers to the situation on the Moldavian Plateau. On the other hand, traces of Middle Palaeolithic settlement in the area of Lesser Poland and Podolia occur in several clusters next to regions completely devoid of any sites. We can distinguish a cluster of sites on the Kraków-Częstochowa Upland (Polish Jura), including 46, mostly cave sites (Cyrek 2009). A similarly dense cluster of sites from the Middle Palaeolithic can be found in Podolia, where about 60 exclusively open sites have been discovered (Sytnyk 2000).

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2. Geomorphological description

All the above mentioned clusters are located in the upland zone, characterised by a diverse landscape. The Polish Jura has features of a typically Jurassic landscape, currently void of any larger water currents which in the Pleistocene filled valleys that are today completely dry. The area is marked by a heavily diversified hypsometry (between 200–500 m above sea level), and above all by numerous outcrops of Upper Jurassic rocky limestone which form ranges of hills, or can be found in the form single monadnocks, with numerous caves or shelters (Tyc 2009). The sites on the territory of the Polish Jura can be found in two clusters: the southern cluster, on the Kraków Upland and the northern one, on the Częstochowa Upland (Cyrek 2009).

Podolia is an upland territory (between 420–310 m above sea level) with a dense network of broad and deep river valleys and a thick layers of loess which constitutes particular terrace levels and forms flat areas on the height. An essential element of the landscape is provided by a range of hills made up of neogene limestone, and called Miodobrody – in Polish (in Ukrainian – Towtry). They are characterised by weakly preserved karst forms, e.g. in the form of rock shelters. Middle Palaeolithic sites of an exclusively open character occurred in two clusters: the northern one, in the basin of the upper Seret and Horyń rivers (Łanczont *et al.* 2014) and the southern one, in the valley of the middle Dniester and its tributaries (Łanczont *et al.* 2002).

3. Selection of the compared sites

Such diverse landscape conditions of the Polish Jura and Podolia and their similar intensity of settlement in the early stage of the Middle Palaeolithic foster the comparison

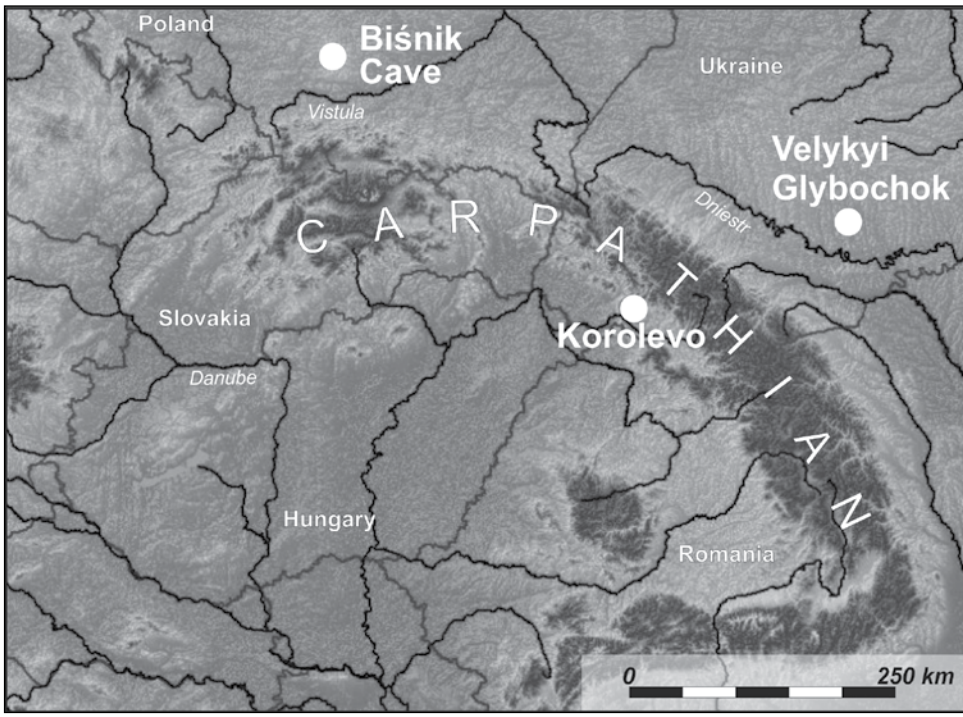

Fig 1. Geographic location of the sites discussed in the study: Biśnik Cave, Velykyi Glybochok, Korolevo

of both areas. It may refer to such issues as: the environmental conditions of the inhabitation of the site, spatial planning of the site and its functional character, technology, chronology and the cultural character of the unearthed lithic assemblages. The above problems will be discussed in the current paper, and exemplified by selected sites which may be regarded as benchmarks for the older phase of the Middle Palaeolithic on the territories in question (Fig. 1). The Biśnik Cave (BC) is one such site in the Polish Jura. It is characterised by a complex stratigraphy of cave sediments and over a dozen well preserved cultural layers (Cyrek 2002; Cyrek *et al.* 2010; 2014). In the eastern cluster there is Velykyi Glybochok (VG), with a well recorded stratigraphy and preserved levels of loess, divided by fossil soils (Sytnyk, Boguckyj 1998; Łanczont *et al.* 2014).

4. Location of sites

The main method of reconstructing the beginnings of the Middle Palaeolithic in the area of the Carpathians is the comparison of the cultural chronostratigraphy of the above mentioned sites. The stratigraphy of both sites has recently been revised thanks to the application of similar specialist analyses (Krajcarz *et al.* 2014; Łanczont *et al.* 2014). They prove the benchmark character of the sites for the Middle Palaeolithic of the northern and eastern foothills of the Carpathians. It is important to note that VG was probably a rocky overhang when it was inhabited by humans in the Middle Pleistocene (Sytnyk *et al.* 2010). It means that like the Biśnik Cave, it had the proper conditions for sedimentation and inhabitation. It is worth noticing that both

sites are similarly located on a prominent site in comparison with the neighbouring territory.

The Biśnik Cave is situated in a rocky monadnock, with the entrance hole c.a. 10 m above the bottom of the dry Wodąca Valley (Cyrek, Sudoł 2010). Velykyi Glybochok is located on a promontory , c.a. 60 m above the bottom of the Seret Valley (Łanczont *et al.* 2014). It is worth noting that in both cases the valleys at the bottom of the sites clearly widen up, as they both join side valleys. Also, in the vicinity of both sites (200 m from the BC and 600 m from the VG) the route of the valley undergoes an abrupt change which underlines the prominent position of the place where the Palaeolithic sites are situated. All this signifies that in both cases we are dealing with a similarly favourable location, based on the proximity of water and the possibility of observing a substantial section of the river valley. This certainly facilitated hunting among the Palaeolithic community. Both sites had easy access to local resources of flint raw material, suitable for processing (in the case of the BC – Jurassic flints; in the case of VG – Turonian – Late Cretaceous flints), which was of great importance (Sytnyk, Boguckij 1998; Krajcarz *et al.* 2012).

5. Chronostratigraphy and cultural character (Table 1)

The oldest cultural layer at the BC (assemblage A7), deposited on the primary sediment structures was unearthed in layer 19a and is dated to the final phase of the Oder glaciation or the initial phase of the Lublin interglacial (MIS 8/7). Assemblage A7 was deposited in the bottom part of layer 19a, which was formed in the cool climate, in the conditions of an open grass landscape with small clusters of coniferous trees and shrubs (Krajcarz *et al*. 2014). This not particularly numerous assemblage consists of only 13 artefacts, including 8 retouched tools. These are side-scarpers, denticulate and notched tools and a perforator. The semi-product is dominated by Levallois flakes, supplemented by thick flakes, made with the Quina technique. This tradition is characterised by the gradual retouch of side-scrapers. In typological, technological and stylistic terms, the assemblage links with the Mousterien with the Levallois technique and the late Acheulean (Cyrek *et al*. 2010; Cyrek 2013)

The stratigraphic equivalent of the above level of the BC is level III at the site at VG. It was unearthed in the bottom part of the soil complex, formed during the Korszew interglacial (MIS 7). It is the Ukrainian equivalent of the Polish Lublin Interglacial. The level formed in the conditions of an open pine forest with an addition of birch, oak and fir trees (Łanczont *et al.* 2014). The assemblage, consisting of 388 artefacts, included Levallois cores, semi-product and ca. 30 retouched tools. The latter included side-scrapers, knife-like tools, denticulate tools and a point. According to Sytnyk it is a late Acheulean assemblage with the prevalent Levallois method (Sytnyk *et al.* 2010; Łanczont *et al.* 2014).

6. State of the preservation of artefacts

If we compare both cultural levels (19a at the BC and III at VG) it is noticeable that they are both favourably positioned in a prominent place with a good view of the neighbouring area, easy access to water and the deposits of flint raw material used on both sites. In both cases, the deposits are located several kilometres from the site. The different character of the sediment (dusty clay with polished gravel at the BC and the horizon of fossil

soil formed in loess at VG) resulted in a different state of the preservation of artefacts. At the Biśnik Cave the surfaces of the artefacts were covered with patina and were slightly polished. At Velykyi Glybochok, patina (except for two artefacts) did not occur and the surfaces and edges of artefacts were "fresh" in character. The difference might have resulted from the type of sediment, as well as the fact that it covered the cultural level at VG faster than in the case of the BC. The time that passed between the moment when the finds were abandoned by people and covered by the sediment may have something in common with the spatial picture of the finds. In both cases the flint artefacts and charcoals were scattered and did not form any clear cluster. On the one hand, it may indicate the re-deposition of artefacts and, on the other, it may be a reflection of their true location, resulting from several episodes

Table 1. Comparison of chrono-cultural-stratigraphy of the Biśnik Cave, Velykyj Glybochok and Korolevo

OIS	BIŚNIK CAVE	VELYKYJ i GLYBOCHOK	KOROLEVO
6	Layer 15/A4 Mousterien + Micoquian (?) Levallois, discoidal, bifacial method Bifacial knives, scrapers, notched-denticulate tools	Layer III B Acheulean Mousterien Levallois method Scrapers, bifacial tools, mousterien points	Layer V (?) Mousterien Levallois, discoidal method Scrapers, notched- denticate tools
	Layer 18/A5 Mousterien + Micoquian (?) + Taubachien (?) Levallois, bifacial, core for flakes method Scrapers, notched-denticulate, inserts for composite tools		
7	Layer 19/A6 Mousterien Levallois method Unifacial knives, scrapers, notched-denticulate, inserts for composite tools, mousterien points	Layer III Acheulean Mousterien Levallois, discoidal, Quina method Unifacial knives, scrapers, denticulate tools, mousterien points	Layer Va Mousterien Levallois (?), bifacial method Leaf- shaped points, scrapers, denticulate tools
	Layer 19a /A7 Acheulean Mousterien Levallois, Quina method Scrapers, notched-denticulate tools		
8	Layer 19 b, c, d /A8 Acheulean Mousterien Proto-levallois method, core for flakes method Scrapers, notched-denticulate tools, inserts for composite tools		

of occupation. The presence of charcoals scattered at VG and forming an unclear cluster at the BC proves the primary presence of hearths, i.e. elements of campsites on both sites.

7. Elements of palaeoenvironment, technology and typology

The comparison of the structure of assemblages is not completely reliable due to the quantitative disproportion between the two. We can only compare the presence or the lack of a concrete method of reducing cores or the presence of particular types of tools. The main similarity is based on the fact that in both cases the Levallois method was applied for the processing of flint raw material. The dominant method at the both sites was based on centripetal and bidirectional parallel reduction, in the case of the BC supplemented by the La Quina type. As a result of applying the Levallois technique at the BC and VG, blades and flakes of very similar size and shape were formed (Sytnyk *et al*. 2010, figs. 7–9; Cyrek *et al*. 2014, fig. 22). Secondary processing of the semi-product in both assemblages primarily involved the edge, denticulate retouch (denticulate tools and side-scrapers) as well as a gradual retouch of La Quina type (side-scrapers). The assemblage from VG is of a surprisingly complete character (Sytnyk *et al*. 2010). It contains cores at various stage of reduction, semi-product, retouched forms, chips and wastes. The poor assemblage from the BC is void of cores. Half of it consists of retouched forms and the other half is a semi-product (Cyrek *et al*. 2010; 2014). Thus, the assemblages differ in the presence or the lack of subsequent stages of flint processing. It seems that at VG a large supply of raw material was available. The material underwent processing from raw nodules, through core preparation and reduction, obtaining flakes and blades and turning them into tools. At the BC, however, the campsite founders obtained flakes, blades and ready-made tools elsewhere. Under these circumstances, it seems that the BC was a short-lived hunting campsite, whereas at VG we are dealing with a campsite or campsites where, apart from hunting, intensive flint processing took place.

Moving on to the comparison of the paleo-environment of both sites during the oldest phase of their inhabitation we must consider the whole complex of layers 19a, 19b, 19c, 19d and 19 (Table 1) in order to make it completely reliable (Cyrek *et al*. 2010; 2014). Such a stratigraphic complex is comparable with layer III at VG, both in terms of its thickness and diversity of sediment, as well as the description of the vertical deposition of artefacts.

In climatic-stratigraphic terms, the level of fossil soil S2 at VG corresponds with the Korszew interglacial with two levels of soil formation: S2 – I and S2 – II. The latter contained artefacts from cultural level III (Łanczont *et al*. 2014). Its closest equivalent in climatic-stratigraphic terms at the BC is layer 19 (Lublin interglacial), with the prevalent Levallois method, unifacial knives, side-scrapers, retouched Levallois points with no traces of bifacial processing (Cyrek 2013, 40–49, pls. VII–XIII; Cyrek *et al*. 2014). The not particularly numerous bifacial tools were present at the level Va at Korolewo in Carpathian Ukraine (Kulakovskaya 2003; Stepanchuk 2006). The method of bifacial processing of artefacts occurs at the BC later, in the OIS 6 period (assemblage A6 from layer 18) and is continued in subsequent layers 15 and 14 (assemblages A5 and A4) (Cyrek *et al*. 2014).

The oldest levels with artefacts at the BC occurred in layers 19b–19d and were marked as assemblage A8. These are finds on secondary deposits and come from the

older layers, re-deposited in the form of mud flows (Krajcarz, Cyrek 2011). The chronology of those layers is established on the basis of TL dates, obtained from the sediment (569±182 ka) and an overheated flint artefact (568±131 ka) which implies the Lower Palaeolithic origin of the oldest cultural level at the BC, and at the same time its Middle Pleistocene chronology charakter. The assemblage is an example of the application of the proto-Levallois method with the use of a hard hammer (Cyrek *et al*. 2010, fig. 13; Cyrek 2013, 24–34, pls. I–IV; Cyrek *et al*. 2014, fig. 21). On the other hand, the presence of microlithic denticulate-notched tools, as well as a blade insert in the assemblage, implies its link with the Lower Palaeolithic microlithic technology. Based on this interpretation, assemblage A8 could have been proof of the genetic-technological links between the microlithic-flake technology and the proto-Levallois one. Taking into consideration the stratigraphic position of layers 19b-c and the above mentioned TL dating, it can be assumed that assemblage A8 is of proto-Mazovian age. The presence of birch tree implies the cool (interstadial?) character of the corresponding climatic phase (within the boundaries of southern-Polish glaciations ?). Such old episodes of settlement have not been noted at VG. However, at Korolewo, situated 300 km SW in Transcarpathian Ukraine, equally old, or even older cultural levels have been observed. Questionable Levallois products (Gladilin, Sytlivyj 1990; Koulakovska 2003) and bifacial, leaf-shaped points were present in assemblages from layers V a and V (Koulakovska 2003, Stepanchuk 2006) (?). Unquestionably Levallois products occurred in layers IV, III, II, IIa and IIb (Koulakovka 2003, Stepanchuk 2006). These levels, dated respectively to the period between 200 000 ka (layer V a) and ca. 50 000 ka (layer II), between 7-4 OIS (Koulakovska 2003a), likewise the sequence from the BC, seem to be a similar example of the development of the Levallois method in Central-Eastern Europe, from the early stages of the Middle Palaeolithic, to its late phases.

Comparing the above oldest examples of applying the Levallois method in the Carpathian region (in the BC from OIS 8/7, Korolevo from OIS 7 and VG from OIS 7) and taking into consideration the proto-Levallois character of the oldest level from the BC (OIS 8 or older) we can assume the Carpathian region was the centre of the beginnings of the Levallois method of flint raw material processing, alternative to Western Europe. If we take into account assemblages such as Markkleeberg (Mania, Baumann 1983) or Achenheim (Richter 2011), it is possible that the phenomenon encompassed a wider area of the Carpathian Foothills and the Sudety Mountains, from Transcarpathian Ukraine to Thuringia.

8. Conclusions

Assemblages from layers 19a-d, 19, 18, 15 and 14 from the Biśnik Cave, beside such assemblages as: Rheindahlen, Tonchesberg and Balve (Bosiński 1967), Velykyi Glybochok III, IIIA, IIIB (Sytnyk *et al*. 2010), Korolevo V, Va, Vb (Koulakovska 2003; Stepanchuk 2006) may be an example of the oldest phase of the Mousterian culture of Acheulean tradition in central-eastern Europe. It is characterised by the co-occurrence of the Levallois method, Mousterian forms and bifacial artefacts. Thus, the assemblages would be an eastern and central-eastern equivalent of the oldest phase of west-European Mousterien represented by, inter alia, assemblage from Fontechevade E (Chabay, Sitlivy 1993; Chase *et al*. 2009).

Najstarsze znaleziska środkowopaleolityczne na północnym przedpolu Karpat

Północno-wschodnie przedgórze Karpat to obszar wyżynny urozmaicony licznymi dolinami. Najliczniejsze stanowiska środkowopaleolityczne znajdują się na Wyżynie Małopolskiej i Wyżynie Podolskiej. Jura Polska to typowo jurajski krajobraz o silnie zróżnicowanej hipsometrii, z suchymi dolinami i licznymi wychodniami górnojurajskich wapieni skalistych z licznymi jaskiniami. Natomiast Podole to obszar wyżynny z gęstą siecią szerokich i głębokich dolin rzecznych, wciętych w grube pokłady lessu. Istotnym elementem krajobrazu jest pasmo wzgórz zbudowanych z neogeńskich wapieni (Towtry), ze słabo zachowanymi formami krasowymi. W artykule porównano najstarsze fazy paleolitu środkowego na przykładzie dwóch, reperowych dla tego obszaru, wielofazowych stanowisk: Jaskinia Biśnik (BC) i Velykyj Hluboczok (VG), o podobnie korzystnym położeniu. Zestawiono dolne odcinki chronostratygrafii kulturowej obydwu stanowisk i nawiązano je do fragmentów chronostratygrafii w Koroleve na Ukrainie Zakarpackiej.

Najstarsze fazy zasiedlenia Jaskini Biśnik zachowały się w kompleksie warstw 19a, 19b, 19c, 19d oraz 19. Najstarsze z nich (w. 19 b, c, d), datowane powyżej 500 ka, zostały redeponowane w obrębie jaskini. Charakteryzuje je metoda protolewaluaska, obecność zgrzebeł, narzędzi zębato-wnękowych i wkładek narzędzi złożonych. Natomiast rozwinięta metoda lewaluaska, metoda Quina, zgrzebła i narzędzia zębato-wnękowe to skład inwentarza warstwy 19a zalegającej na złożu pierwotnym i datowanej na OIS 7. Z tej samej fazy pochodzi warstwa III z VG, odznaczająca się obecnością technik: lewaluaskiej, dyskoidalnej i Quina, zgrzebeł, narzędzi wnękowo-zębatych i ostrzy mustierskich. Natomiast w Korolewie metodzie lewaluaskiej, towarzyszy technika bifacjalna w postaci ostrzy dwustronnych, występują zgrzebła i narzędzia zębate. Technika bifacjalna zarówno w VG (III B) i w JB (w. 18 i 15) pojawia się dopiero w OIS 6. Na powyższej podstawie, można mówić o niezależnym od Europy Zachodniej, ośrodku początków lewaluaskiej metody obróbki kamiennych surowców, właśnie w rejonie Karpat. Analizowane zespoły, obok kilku innych z południowych Niemiec, są być może śladem najstarszej fazy kultury mustierskiej o tradycji aszelskiej w Europie Środkowowschodniej, charakteryzującej się współobecnością metody lewaluaskiej i bifacjalnej.

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