

Eötvös Loránd University, Faculty of Humanities

Markó András

Middle Palaeolithic assemblages from Vanyarc

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## **Middle Palaeolithic assemblages from Vanyarc (Northern Hungary)**

In the previously not investigated Cserhát region (Northern Hungary) large number of Middle Palaeolithic sites were discovered in the last decade. Nowadays there are at least three cultural groups, in which these assemblages can be classified in different entities. The assemblages from Legénd and Galgagyörk were sorted into the *Bábonyan* industry (having an affiliation with the *Micoquian* circle), the site of Debercsény to the *Szeletian*. In this thesis we discuss the third group of sites, discovered and excavated near the village Vanayrc.

1. Since 2000 the intense field surveys and the small-scale excavations (2003-2007) excavations gave knowledge on a previously not described Middle Palaeolithic industry. In this case the raw material composition is as peculiar as the typological and technological traits of this new unit. The basis of this thesis is the 2234 surface-collected artefacts, identified as belonging to the Middle Palaeolithic period, containing 199 (mainly fragmented) formal retouched tools and 34 more-or-less classifiable cores. Furthermore, during the excavations we collected 1950 individually cared lithic artefacts, 42 of them are tools and four typical cores are the artefacts, which was studied on a traditional way.

Besides, in the case of the excavated material we carried out an extended refitting program with the aim of getting typological, technological and taphonomical information. On the surface collected assemblages some refits (mainly traces of natural fragmentation) were also recognised, however, the study was not systematic in this case.

2. We collected the scattered data from the technical literature concerning the sources of the siliceous rocks, suitable for producing chipped stone artefacts of the Cserhát area. Because of the scarcity of these data we completed the Lithoteca collection by source collected pieces. The mapping and identifying of rock types completed by scientific investigations served as a background of our archaeological study.

As a result we identified the 26 individual sources of the “locally available” hydrothermal siliceous rocks. However, the variants suitable for producing chipped stone artefacts are clustered in two larger areas: in the Galga valley poor quality rocks, in the environs of Buják, Bér and Vanyarc more homogenous, but thin layered type of hydro- and limnic quartzite (or limnosilicite) were identified. Regrettably, the discrimination between these two variants is generally difficult in the archaeological collections, especially at the small chips and not cortical flakes and fragments. And – in some cases – even the differentiating of these rocks from the flint (in the strict sense) or the non-cortical siliceous pebble

types is also problematic.

In the Cserhát area two important (alluvial) pebble formations yielded siliceous types. The „older” formations (dated to the Oligocene or Lower Miocene period) are found typically west from the Galga valley, while the “younger”, Sarmatian pebbles are found on the surface around Vanyarc and in the region lying in eastern direction. With some exceptions both geological formations yielded all the types, which are important in archaeological point of view (quartzite, radiolarite, nummulithic chert and silicified wood). Besides, in the Sarmatian sediments glassy andesite and jasper is also found, and the sources of the “Buják-type” limnic quartzite, mentioned above is linked the same formation too.

The most peculiar raw material of the Cserhát assemblages is called (by a petrographically incorrect name) quartz porphyry (or felsitic porphyry). The neutron-analytical investigations (PGAA) verified our assumptions, that this variant is identical in its chemical composition with the geological hand specimens and the archaeological samples originating from the eastern part of the Bükk mountains. The dozens of samples from the Cserhát area, including 7 pieces from Vanyarc (partly elements of reduction refits from the excavated assemblage) clarified the question of the provenance of this raw material type.

3. By taphonomical studies we demonstrated that the excavated pieces excavated were found in a more-or-less in situ, not disturbed position.

Before 2003 the excavated open air sites of plateau position (e.g. Avas, Korlát, Eger – Kőporos, Demjén, Ostoros, Sajóabony, Hont, Egerszalók) yielded poor “cultural layers” extending from the present day surface until the mother rock. Moreover, the charcoal pieces found in a secondary position suggested the documentation of an artefact-bearing layer is quite difficult and it is possible under quite lucky circumstances. In our observations from Vanyarc showed that in spite of the large scale fragmentation of the lithics and the presence of probably intrusive charcoal pieces, the artefact-bearing layer were not disturbed in a *considerable* way. The documentation of the find concentration even on the small excavated area, the shape of them, the presence and the ration of the tiny chips from the tool production, and the refitted pieces (chips, flakes fragmented during knapping, waste material and the a half made bifacial tool, from which they were chipped etc), excavated close to each other, verified that only restricted disturbance should be taken into account. Put another way: the excavated features are suitable for making behavioural inferences.

The many recently fragmented limnic quartzite pieces with two exceptions were not moved or only to a little distances (less than 15 cm). In these cases the roots and the swelling clay minerals were identified as the most important factors causing the fragmentation. Moreover, according to our observations only a small part of the trench was affected by these post-sedimentation agents.

On the other hand, the spatial distribution of the “old” breakages with patinated surfaces practically coincide with the ones of limnic quartzite in general. At least one part of these fragmentations occurred under the time the occupation of the humans (syngenetical taphonomical events) or slightly later but before the onset of the sedimentations (epigenetical events). This means that they have a secondary importance in taphonomical point of view and mirror only the past human actions. As a conclusions we can asses that the excavated artefact bearing layer is similar to that ones, observed in the *Szeletian* sites in Vedrovice (Moravia) or Zeitlarn (Bavaria) with a limited disturbances. The excavated pieces are suitable for spatial analysis as the original distribution was not modified significantly. On the other hand the possibly ever existed fine stratigraphical differences were destroyed, however, the archaeological contemporaneity (or *occupational contemporaneity* by N. Conard) of the whole assemblage was not changed.

4. The pieces of quartzite, limnic quartzite and felsitic porphyry were worked on-site in the excavated part of the site as our successful reduction refits showed. It is important that we have only scarce data on the use of the quartzite pebbles from the Cserhát sites. The verification of the local reduction and tool production or rejuvenation of the extralocal raw material (originating from 95 kms as the crow flies) has an at least Middle European importance.

5. The industries documented around Vanyarc were placed to the latest Middle Palaeolithic period in the circle of the leaf point industries (*Blattspitzengruppe*).

The classical chronological questions concerning the Vanayrc-type industry are highly problematic to answer, because the poor stratigraphical data and the radiocarbon ages (32 and 27 kys, respectively) are highly questionable and the paleontological data are absent due to the soil formation processes.

The archaeological composition on the other hand unequivocally show the dominance of the leaf shaped tools and especially the Middle Palaeolithic types, represented by the use of the Micoquian-type shaping (WGK) and the Klausennische-type bifacial knife. The similarities of two other bifacial knives are found in the industry form Jezeřany, Moravia, and in assemblages, dated to the late period of the Micoquian circle on typological ground. the presence of the general leaf shaped tools, scrapers and thick based tools (*Stück mit breiter Schneide*) suggest the same affiliation and all are different from the tool types of the later periods. The Jerzmanovicien types, present in the Vanarc assemblages and generally considered as having chronological importance were reported from both the Micoquian and Szeletian periods too.

In spite of the fact that the given tool forms from Vanyarc have a large geographical distribution in the Late Middle Palaeolithic periods as well in assemblages identified as Early Upper Palaeolithic,

the tool-composition of the industry itself is not known for the time being. For example the absence of the Levallois technology and on the other hand the blade production too seems to be unique; finally the splintered pieces, common in the Moravian and Bavarian *Szeletian* are also lacking from our material.

As a conclusion based on the typological comparison the Vanyarc type industry was placed between the 38kys old *Szeletian* (not calibrated age) industry, dated to the period of the Hengelo interstade in one hand and the 46-45 kys old *Micoquian* assemblages in the other one. A general common point of this period, that the Middle European assemblages were collected from surface scatters or from poorly stratified open-air sites eventually yielding mixed archaeological materials. From the cave sites on the other hand only a few and practically not stratified pieces are known. In some lucky cases however, evolved, however, not *Aurignacian*-type blade industries were found (Korolevo II complex 2, Sokirnica site IA , layer 3.), beside them, the leaf-point industries like that ones, found around Vanyarc seem to be definitely archaic ones dated to a more or less same period on the quite crudely worked chronological system.

6. The refitting studies of small refit groups suggested relatively short occupations and as a consequence mobile behaviour.

The composition of the assemblages (few cores and blanks, relatively high ratio of formal tools and large number of small chips partly from the rejuvenation of the working edges partly from the bifacial shaping) suggested short, transitional occupation. The observations in the excavated trench (scarce artefact bearing level with some find concentrations and the absence of other features as fireplaces) strengthened this opinion. Together with the restricted possibilities with the reduction refits (only small groups and truncated operational chains were possible to be reconstructed) and the intense use of the extralocal raw material, imported from 95-100 kms we can conclude that the humans who left their traces on the hilltop near Vanyarc lived in according to a mobile behaviour.

7. The high mobility was compared to that ones, observed in the 18-16 kys old *Epigravettian* period.

The relatively best known period in the Carpathian basin is the *Epigravettian* age dated immediately after the second Pleniglacial. this age is characterised by the thin and scattered culture layers and intense raw material transport running along the line of the Northern Mid-mountains range (the best know, but most extreme example is Eszergom – Gyurgyalag). In this period the felsitic porphyry was used again and according to the same system as it was seen in the Late Middle Palaeolithic: in the assemblages of the hunting stations near Jászfelsőszentgyörgy the local reduction was verified by refits too. At the same time, the ratio of this rock decreased comparing to the assemblages from

the Danube Bend, on the same way as in the Middle Palaeolithic (Hont in the Ipoly/Ipel' valley and Jankovich cave near Bajót).

According to a tighter view both in the Epigravettian and the Late Middle Palaeolithic periods the depopulation of the northern part of Europe was suspected (at least since the seventies: W. Chmielewski). Even if the recently discovered or dated sites in Poland (Wrocław - Oporów, Piekary és a ul. Księcia Józefa) changed this picture in a considerable way (at least in the LMP) and the Carpathian basin can not be regarded as a refugial area, there are obvious changes in the occupational strategy of these periods.

8. As a final conclusion we state that the raw material transport observed on the Late Middle Palaeolithic period, and especially on the first well excavated site at Vanyarc, suggest that there was not a sharp change in this aspect at the time of the Middle-to-Upper Palaeolithic transition, or at the period of the neanderthals and the anatomically modern humans. According to our opinion the human mobility and the raw material transport in both the Late Middle Palaeolithic and the Epigravettian period changed as a function of the large climatic changes.

## Selected publications:

- MARKÓ A. 2005. Limnokvarcit a Cserhát hegységben. *Archeometriai Műhely* 2/4, 52-55.  
([http://www.ace.hu/am/2005\\_4/AM-2005-4-MA.pdf](http://www.ace.hu/am/2005_4/AM-2005-4-MA.pdf))
- MARKÓ, A. 2007. Preliminary report on the excavations of the Middle Palaeolithic site Vanyarc – Szlovácka-dolina. *CommArchHung*: 5-18.
- KASZTOVSZKY, ZS. – BIRÓ, K. – MARKÓ, A. – DOBOSI, V. 2008. Cold neutron Prompt Gamma Activation Analysis – a non-destructive method for characterization of high silica content raw materials. *Archaeometry* 50: 12-29.
- MARKÓ, A. 2009. Raw material circulation during the Middle Palaeolithic period in northern Hungary. In: GANCZARSKI, J. (red.): *Surowce naturalne w Karpatach oraz ich wykorzystanie w pradziejach i wczesnym średniowieczu*. Krosno: 107-119.
- MARKÓ, A. 2011. Raw material use at the Middle Palaeolithic site of Vanyarc (Northern Hungary). *Praehistoria* 9-10 (2008-2009): 183-194.
- MARKÓ, A. – KÁZMÉR, M. 2004. The use of nummulitic chert in the Middle Palaeolithic in Hungary. In: FÜLÖP, É. – CSEH, J. (eds.): *Topical issues of the research of Middle Palaeolithic period in*
- MARKÓ, A. – BIRÓ, K. – KASZTOVSZKY, ZS. 2003. Szeletian felsitic porphyry: non-destructive analysis of a classical Palaeolithic raw material. *Acta Archaeologia Hungarica* 54: 297-314.