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The Upper Paleolithic in the Bistriţa Valley (Northeastern Romania): a preliminary review

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Abstract: The paper deals with the Upper Palaeolithic in the Bistriţa Valley (northeastern Romania). In spite of the richness of the Palaeolithic sites from this Carpathian area, the Palaeolithic record has remained largely ignored by Western studies. Apart from the most obvious reason, the language barrier, another particularly important motive for this cautious attitude seems to have been the chrono-cultural framework proposed by Romanian archaeologists, which hardly fitted the accepted European evolutionary model for the Aurignacian and Gravettian technocomplexes. According to the first excavators, the Upper Palaeolithic industries in the Bistriţa Valley display some original features, such as atypical techno-typological structure and the late chronology for the so-called Aurignacian assemblages, and the apparent geological contemporaneity between the two technocomplexes.

However, a closer and critical look at the most important feature of the Upper Palaeolithic from this Carpathian area reveals quite a different picture. The Gravettian layers always overly the so-called Aurignacian industries and therefore there are no in situ stratigraphic grounds to sustain an argument of contemporaneity between the two technocomplexes, despite similar radiocarbon chronology between sites. On the other hand, the description and the published references of the Aurignacian assemblages strongly suggest that the original attribution was wrong. Most if not all of these industries belong rather to the Gravettian, which may also explain their late radiocarbon chronology (25,000-21,000 uncal. BP). The authors stress the need for a systematic re-evaluation of all the old collections, even more imperative given the recent results from Mitoc-Malul Galben and Poiana Cireşului, which challenge once again the acknowledged cultural framework for the Upper Palaeolithic in the Bistriţa Valley.

1. Brief history of research

The dense network of Palaeolithic sites in the Bistriţa Valley became known due to a vast rescue project initiated in the 1950s. The huge dam from Izvorul Muntelui was about to submerge more than 60 km and about 30 villages in the area. 16 Upper Palaeolithic sites were identified on that occasion, mostly situated in the Răpciuni Basin, where Bistriţa

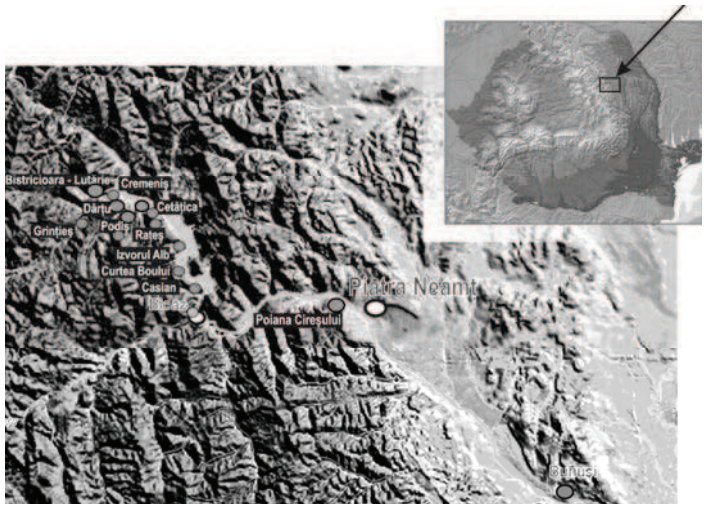

***Fig. 1* – Location of the Upper Palaeolithic sites from the Bistriţa Valley**

gathers the waters of four smaller tributaries (see map, *Fig. 1*). Between 1955 and 1958, a series of large archaeological excavations took place in the area (C. S. Nicolăescu-Plopşor, 1959; C. S. Nicolăescu-Plopşor *et al,* 1961; M. Drăgotescu, 1968). C.S. Nicolăescu-Plopşor, the leader of Romanian Palaeolithic research of that time, conducted the large, interdisciplinary research team. The main results of the first stage of research were subsequently published in a monographic study (C. S. Nicolăescu-Plopşor *et al,* 1966).

A number of sites actually survived the flood; therefore, new research campaigns took place during the following decades. Only a few other sites were identified further south: Izvorul Alb, Lespezi, Buda, and Poiana Cireşului (M. Bitiri, 1963, 1972; V. Căpitanu, 1967, 1968, 1969; F. Mogoşanu, M. Matei, 1981, 1983; C. Scorpan, 1976). They were also extensively excavated from the 1950s to the 1980s, except for Poiana Cireşului, where our team has been carrying out systematic excavations since 1998 (M. Cârciumaru *et al,* 2006).

2. Geography and geology

In the Eastern Carpathians, Bistriţa cuts a narrow and almost straight corridor, roughly oriented northwest to southeast. This slanting corridor cuts through different geological structural units. The most important of these is the Cretaceous and Paleogenic flysch, mostly composed of marl and sandstone. This easily eroded lithological substratum led to the particular shape of the landscape: low altitudes, large valleys, gentle slopes - all affected by various erosion processes such as landslides. The vast majority of Upper Palaeolithic settlements are located on the right side of the river. This situation was at least partially imposed by the landscape: the left shore is steeper, while the right one is lower, with gentle slopes, a dense hydrographic network and many open basins a few kilometers wide (I. Petrescu-Burloi, 2003).

Quaternary deposits are found on terraces and in riverbeds. Given the different lithological substratum, and the intense erosion processes, Bistriţa has developed a large series of terraces, sometimes up to nine or ten. The Quaternary deposits are mostly found as loessic sequences, which, as geologists have noted, are very homogenous and usually lack fossil soils. This suggests that the paleoclimatic features of the stadial and interstadial periods were not sharply contrasting in this mountainous area. Moreover, most of the sedimentary sequences constantly mix truly loess layers with diluvial and colluvial deposits.

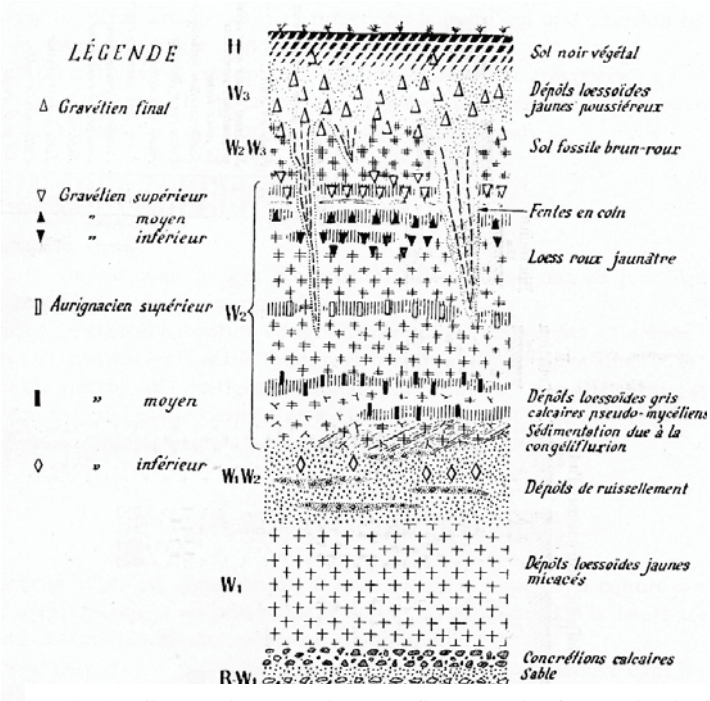

***Fig. 2* – Synthetic geological profile deposits from Bistriţa's middle terrace and the cultural framework (after Nicolăescu-Plopşor *et al.* 1966: 17)**

According to the original descriptions, the stratigraphical succession seems quite homogenous on all terraces and the most complete sequence seems to have been preserved on the middle Riss-aged terrace (40-45 m or 55-65 m high), where most of the Palaeolithic settlements were also found. The sheer

uniformity of the deposits encouraged the first researchers to propose a synthetic geological profile (C. S. Nicolăescu-Plopşor *et al,* 1966), inspired by the classical Alpine geochronology *(Fig. 2)*. This comprehensive sequence was actually considered at the time to represent a quite complete chronicle of the last glaciation.

3. Archaeology: the classical framework

The cultural evolution – divided into three Aurignacian and four Gravettian stages – was framed between the "Würm I-II interstadial" and the Tardiglacial. The authors were clearly suggesting a long and quite continuous human presence in the area, particularly during the "Würm II stadial", with a clear break during the "Würm II-III" interstadial and a massive comeback of the final Gravettians during the Tardiglacial. Despite the lack of any "transitional" industry in the area, Nicolăescu-Plopşor also advocated the local origin of the Aurignacian industries. In contrast, the Gravettian (initially designated as Kostenkian) was attributed to a migratory movement from the Eastern area, as documented by the presence of Cretaceous flint from the Prut Valley in all Gravettian assemblages.

3.1. The Aurignacian

The Aurignacian was only identified at four sites (Cetățica I, Ceahlău-Dârțu, Ceahlău-Podiş and Bistricioara-Lutărie), concentrated in an area of less than 10 km. The most significant features of the Aurignacian layers seem to have been the stratigraphic position, always at the base of the archaeological deposits, in the lower part of the "W II stadial", the substantial use of local, poor-quality raw material, the macrolithic character of the industry, the presence of scalar retouch and some Aurignacian forms such as carinated endscrapers. The very few faunal remains belong to *Bos/Bison* and horse. Only simple habitat structures were identified (i.e., simple, shallow hearths).

Three stages were defined inside the local Aurignacian, using intra- and inter-site stratigraphic superposition and the changing techno-typological structure of the assemblages.

*The Lower Aurignacian***,** found only at Cetățica I, going back to "Würm I-II", and therefore the oldest assemblage from the entire valley, was considered to display a mixture of laminar and flake technology (*Fig. 3*). Three foliate pieces were also found in this small toolkit (147 items), which could explain the early "Szeleto-Aurignacian" definition, later replaced by the Aurignacian (C. S. Nicolăescu-Plopşor *et al,* 1966).

The Middle Aurignacian found at Dârțu (levels 1 and 2, 1,596 items in total) and Bistricioara-Lutărie (level 1, 1,049 items) apparently displays the same characteristics, such as the use of local raw materials, "combined" laminar and flake technology (*Fig. 4*), few carinated end-scrapers and dihedral burins and the bovid fauna (C. S. Nicolăescu-Plopşor *et al,* 1966).

The Upper or Pre-Gravettian Aurignacian from Bistricioara (level 2, 1,038 items) and Podiş (level 1, 357 items) is already different *(Fig. 5)*; in addition to the sudden increase in exotic raw material (Prut flint up to 31% at Bistricioara-Lutărie), a few conical cores appear together with steep retouch and two backed bladelets (Podiş). The fauna consisted of some poorly preserved horse, bovids and mammoth remains (C. S. Nicolăescu-Plopşor *et al,* 1966).

3.2. The Gravettian

According to the original description, the Gravettian assemblages were notably different from the Aurignacian ones. First, they always overlay the Aurignacian layers, although within the same thick loessic "Würm II" deposit. They also display the regular use of a better raw material, either local menilith or imported Prut flint, a careful and economical technology (intensive exploitation of small conical or cylindrical cores) and an obvious tendency towards smaller and regular laminar supports. These features were associated with some larger typological series, which always include backed implements, and with faunal assemblages dominated by reindeer. The habitat traces were simple: rounded, shallow, hearths and discrete traces of circular huts or tents. The evolution of the local Gravettian was divided into four main stages, on the same grounds as for the Aurignacian, namely the stratigraphical succession and the typological structure (C. S. Nicolăescu-Plopşor *et al,* 1966).

The Lower Gravettian shows a broad typological spectrum, with backed implements varying from 1 to 5% (*Fig. 6*); exotic raw materials reach up to 50% in some assemblages (Bistricioara-Lutărie), while fauna remains unchanged in comparison with the preceding Upper Aurignacian (horse, reindeer, bovids).

The Middle Gravettian is characterized only by the increase in the frequency of burins and micrograveттes (*Fig. 7*), while retaining the same important categories of raw material and the *Equus* fauna.

The Upper Gravettian seems hardly different from the Middle Gravettian, except for an increase in the frequency of backed implements and the relative decrease in other tool types (*Fig. 8*)**.** Raw material use and the faunal list show no major differences.

The Final Gravettian, placed within the "Würm III stadial", evidences the most intensive human presence in the valley, although no hearths or fauna have been preserved. The techno-typological features were apparently only slightly different from the previous Gravettian layers (*Fig. 9*): a few truncated pieces, some atypical shouldered points, and small circular and trapezoidal endscrapers. The exotic Prut flint and local menilith still dominate the raw material related choices.

The Final Gravettian ended the initial framework designed by Nicolăescu-Plopşor, which provided the main reference for the Upper Palaeolithic in Eastern Romania for the years to come.

4. New data, different opinions

Although designed as a simple evolutionary sketch, Plopşor's proposal was broad enough in order to methodically integrate all of the new finds in Romanian Moldavia (see M. Bitiri, 1981; M. Brudiu, 1974; V. Chirica, 1989). Nonetheless**,** during the following decades, other specialists took issue against the initial geochronological and cultural scheme.

The first major attack on the old framework addressed the geochronology of the deposits from the middle terraces of Bistriţa Valley at Dârţu and Bistricioara-Lutărie, radically changed by M. Cârciumaru (A. Păunescu *et al,* 1977). His pollen-based proposal, correlated with new sedimentary analysis, contradicted the old Alpine scheme of Plopşor. It practically reversed the climatic meaning and changed the chronology of these deposits: the "Würm I-II" interstadial became a cold stadial episode, the "Würm II stadial" was associated with the Ohaba Interstadial complex (Arcy-Stillfried B) because of the important presence of forest elements, while the reddish "Würm II-III" layer, initially thought to be a fossil soil, was re-interpreted as a cold stadial episode. The new geochronology severely reduced the chronological range of the Pleistocene deposits in the Bistriţa Valley, limited to the last Pleniglacial and the Tardiglacial. Moreover, Cârciumaru overtly suggested at least geological contemporaneity between the Aurignacian and some of the older Gravettian layers during his Herculane I-Tursac warm episode. It is worth noticing, however, that as a palynologist, he

never meant to take issue against the cultural attribution of those particular layers. In this respect, he followed the acknowledged "cultural" interpretation.

Another proposal belongs to Mogoşanu (F. Mogoşanu, 1986) who emphasized a clear cultural break between the Aurignacian and the Gravettian and dismissed the Gravettian subdivision initially proposed. To him, only two important Gravettian cycles were worth mentioning: the "Würm II" Gravettian of Plopşor and the late Tardiglacial Epigravettian initially called Final Gravettian. Mogoşanu also highlighted the strictly stratigraphical meaning of Plopşor's divisions, which should not be correlated to the general European framework.

Păunescu (A. Păunescu, 1998) proposed a more recent and definitely more complicated scheme. Using the stratigraphical position, the few radiocarbon dates available and the typological structure of each layer, he tried to establish a coherent and detailed cultural evolution. Unfortunately, his framework, based on the burin/endscraper ratio, turned out to be blurry and obviously contradictory. However, no one should be surprised by these inconsistencies, which have been at least partially generated by the radiocarbon results (*Table 1*). In fact, the radiocarbon chronology brought fresh problems: apart from the obvious poor quality of some of these results, the dates also show that, despite the stratigraphical evidence, the Aurignacian and the Gravettian were contemporary in the valley at least between 23,000 and 21,000 BP. No particular differences can be noted between the absolute chronology of the Upper Aurignacian and the Lower Gravettian, while the Upper Gravettian is apparently older that the Middle Gravettian! This fuzzy situation, which blatantly contradicts the acknowledged cultural landscape in the neighboring areas, suggests that the problems of the Upper Palaeolithic in the Bistriţa Valley are still in great number. A completely different approach and a new methodological stance are needed in order to solve some of these problems. In the following lines, we will attempt to draw a first sketch of this much-needed reassessment.

5. A critical reappraisal of the old evidence

In our opinion, most of the problems in the understanding of the Upper Palaeolithic in the Bistrita Valley originated at the very beginning of research here. In this respect, one may first consider the simplicity of the evolutionary scheme initially proposed, which only took into account the layers' succession on some complete profiles and selected the "typical" materials for the cultural evolution. The latter use of the Bordesian type-list only played inside the already defined cultural units. Given the rhythm, but also the huge excavated surfaces (between 100 and 800 square meters in every site) without unitary topographic recording, incorrect definition of the cultural layers is very likely to have happened. Errors in sampling could also be responsible for some of the radiocarbon results. We may also point to the lack of proper archaeozoological studies and the empirical definition of raw materials. All these serious shortcomings may explain not only the blurry cultural framework, but also the relative isolation of the Upper Palaeolithic in this area, which challenges most of the results obtained in the last decades in Eastern Romania.

The best example stands in the paleoclimatic reconstruction and the AMS chronology recently proposed for the long loessic sequence from Mitoc-Malul Galben, in the Prut Valley (only 150 km NE as the crow flies from the Bistriţa Valley sites) (P. Haesaerts *et al,* 2003), actually the most complete and well-dated Upper Pleistocene site in Romania. In the first instance, one may note the rapid succession of different climatic episodes that characterized the Upper Pleniglacial, at best only roughly documented in the Bistriţa terraces. Furthermore, not only do the Aurignacian layers from Mitoc display a "normal" chronology (between 32,000 and 28,000 BP), but the Gravettian layers also comfortably fit the generally accepted

chronology for the Gravettian technocomplex (27,000-21,000 BP). The contrast becomes even sharper if one takes into account the generous presence of Cretaceous flint (very likely coming precisely from the Mitoc sources), at least in the Gravettian layers in the Bistriţa Valley, but also the reverse, transfer, although minimal, of Carpathian raw materials (menilith, black schist) towards eastern sites, Mitoc included (P. Noiret, 2004). The constant connection between these two areas is therefore certain, although its specific nature is admittedly unclear so far. However, the classical framework from the Bistriţa Valley allows no true correlation between the two areas.

The same contrast with the old framework is provided by the recent results obtained in the single site under current excavation in the Bistriţa Valley: Poiana Cireşului-Piatra Neamţ (M. Cârciumaru *et al*, 2006). The deposits in Poiana Cireşului not only seem to preserve the deepest (and longest?) geological sequence among the Palaeolithic sites in the area, but have also yielded the first AMS date for the Gravettian II layer (26,000 BP), therefore older than most of the "Aurignacian" layers and definitely the oldest Gravettian age in the Bistriţa Valley. While contrasting with the Bistriţa Valley classical framework, the new age for the Gravettian easily fits the time range documented for the Gravettian in Mitoc-Malul Galben. In addition, much like everywhere in the valley, the Poiana Cireşului cultural succession encompasses two Gravettian layers, one post-LGM Early Epigravettian and a late, Tardiglacial Epigravettian. The last two seem to share the same structure and the same stratigraphic position with the "Upper" and "Final" Gravettian defined by Nicolăescu-Plopşor. If these similarities are confirmed by the ongoing re-evaluation of the old collections, an entirely new internal division of the Gravettian must be admitted.

The new information from Poiana Ciresului and Mitoc-Malul Galben offered a serious motivation for our ongoing re-evaluation of the entire Upper Palaeolithic sequence in the Bistrita Valley, which includes excavations in the classical sites, new AMS series, raw material studies and fresh techno-typological studies of the ancient collections. In the following lines, we will only frame the preliminary observations made so far.

Lithic raw material sources in the Bistrita Valley

Previous archaeological researches concerning the Upper Palaeolithic on the Bistrita Valley identified several types of rocks used as raw material in lithic production: local menilith, black schist, siliceous sandstone, quartzite, yellow marl, dark-grey coarse-grained sandstone and imported Cretaceous flint, radiolarite, jasper (A. Păunescu, 1998). Leaving aside archaeologically driven reflections on the matter, geological studies provide us with a different, considerably broader spectrum of possible local sources of good-quality raw material. A brief presentation of this potentially large spectrum of choices regarding lithic raw material appears more than appropriate. The following considerations do not ignore the fact that identifying a contemporary source of raw material does not necessarily imply its actual use in Palaeolithic times, which is a very different matter.

The menilith outcrops appear in the hills around the city of Piatra Neamţ – Cernegura, doamnei, Pietricica, Cozla, in the Tarcău basin (L. Ionesi 1962), but also downstream from Piatra Neamţ, near the villages of Strungari, Sărata, Galbeni (L. Mrazec, I. Popescu-Voiteşti, 1914; D. M. Preda, 1917).

The black schist is much more spread than the menilith in the Bistrita basin, due to the presence of a clay black schist band, several hundred meters wide, in the Chişirig-Bicaz area, up to Hangu-Audia and Straja-Buhalniţa (M. G. Filipescu *et al*, 1952; N. Oncescu, 1965). There are black, grey and green clay schists found in Valanginian-Hauterivian-Barremian, Lower Aptian-Albian or Upper Albian - Cenomanian deposits. The black schists appear quite

spread in the Audia strata, between Bistricioara and Pângărați (G. Cernea, 1952). Several geological studies mention the black clay schist on Largu Valley and on the valleys of its tributaries, southeast of Muntişoru Peak, at the source of some of Hangu's tributaries and at the confluence between Hangu and Bistrița, in the Cârnu-Potoci area and on the Secu Valley, or in the Tarcău basin.

The siliceous sandstone belongs to the Upper Albian – Cenomanian deposits, between Largu Valley and Pângărați, on the valleys of tributaries of Tarcău, like Bolovăniş, Rădvanu, Ața and also on the Izvorului Valley, a tributary of Bicaz (I. Atanasiu, 1929; I. Băncilă, 1958; I. Băncilă, V. C. Papiu, 1962; G. Alexandrescu, P. Şoigan, 1963).

The flint appears in deposits located upstream from Piatra Neamț, on the valleys of several tributaries of Bistrița – Cuejdiu, Pângărăcior, Horăița, Cracău, sometimes in form of thin bands or lens, up to 20 cm thick, in a calcareous stratum known as Pasieczna/Doamna (C. Olteanu, 1952, 1953; O. Mirăuță, 1962). Other thinner – 5-6 cm, and sometimes-thicker strata – 30-40 cm – of *chaille*-type rocks come into sight between Cuejdiu, Horăicioara and Horăița Valleys, together with a variety of black, very hard, conchoidal type of flint and green or striped radiolarite (O. Mirăuță, E. Mirăuță, 1964). Flint or *chaille*-type rocks are present on the Tociloasa Valley, on the left shore of Cracău, on the Bicaz shores and around Lacu Roşu (I. Băncilă, 1941; T. Joja, 1952, 1959; M. Săndulescu, 1975).

The radiolarites are not missing in the Ceahlău area, especially around Tulgheş, in Calovian-Oxfordian deposits, under the form of over 25 cm thick red colored, sometimes grayish-green spotted strata. There are also radiolarite outcrops on the Suhard Valley, the western slopes of Cupaş and the northern slopes of Păltiniş and black, grey, red, brown or green radiolarites in the Bardoş and Suhardul Mare Mountains, on the Lapoş, Hăghimaş, Cupaşu, Stânei Valleys. Also, the 2, 5 km long and 50 m wide radiolarite deposits on the western slopes of Hăghimaş are indeed spectacular (I. Băncilă, 1941).

The jasper comes into view in conglomerate deposits located in Piatra Comarnicului, Hăghieş, Chicerei Mountains, on the Strejii, Piciorului, Strungii or Cremenea Valleys and in the heights between Dămuc and Bukvaş (I. Băncilă, 1958; C. Grasu, 1972-1973). In the Criminiş Mountain and on the western slopes of Ocem Mountain appear different colored jasper and pure radiolarites, alongside bands of flint on the slopes of Criminiş Mountains, in Landinian deposits (M. Săndulescu, 1974, 1975). In addition, in the Callovian-Oxfordian deposits in the Suhardul Mic Mountains and at the confluence of Zgomotos and Hăghimaş there are 1 m thick jasper deposits, and even radiolarites (I. Băncilă, 1952; I. Preda, M. Pelin, 1963; M. Pelin, 1976).

This brief review of contemporary outcrops susceptible of having being used in Palaeolithic times highlights the direct opportunities of collecting such types of rock from Bistrita's alluvial material enriched through erosion processes. As already mentioned, the presence of such outcrops does not automatically imply their exploitation by the Palaeolithic men. Still, one can recommend on this basis the future necessary upgrading of studies pertaining to lithic raw material. In what the Cretaceous flint is concerned, its provenience from the Prut Valley became a scarcely verified, open postulate. There is no doubt, that *certain varieties* of flint from sites on Bistrita Valley bear an obvious macroscopically resemblance to those on the Prut Valley, but this empirical fact must be properly verified through petrography oriented studies, as is also the case with certain flint outcrops in the Bistrita basin. Given the particular importance assigned to sources of lithic raw material supplies in the larger framework of Palaeolithic territoriality and exchange systems, those cautions appear more than appropriate.

Some preliminary techno-typological observations: Ceahlău-Dârțu, Bistricioara-Lutărie

So far, most of the Romanian Palaeolithic research have chosen to emphasize mainly the typological aspects in the lithic samples discovered, therefore ignoring a great deal of technological variability. This methodological position has often leaded to historicist, shallow, certainly misleading interpretations. This is why, in our opinion, a re-evaluation of lithic samples from the perspective of a more encompassing techno-typological analysis is required. The first results of this approach include only data provided by the lithic collections from Dârțu and Bistricioara-Lutărie sites (upstream Bistrita Valley) found in the deposits of the Archaeological Institute from Bucharest.

The following comments will only sketch a preliminary set of observations regarding the globally defined "Aurignacian" and "Gravettian" lithic samples. A less coarse definition, although advantageous, would have been very difficult, if not impossible, due to the limited size of some samples, but also to some serious uncertainties concerning their cultural definition at the time of their discovery. Both Dârțu, as well as Bistricioara lithic samples display a certain selection of the material, either intentional or involuntary, occurred during the improperly conducted excavations of the 50s and 80s. Therefore, any attempt at reconstructing the entire operational sequences is severely restricted and our following remarks will only signal some of their characteristics.

The "Aurignacian" toolkits:

Mostly black schist and siliceous sandstone dominate the raw material spectrum, while the allogenous Prut flint and the local menilith appear in small quantities.

The laminar production provides regular blanks – 25-38 mm wide and 40-63 mm long blades, and a small number of bladelets, which are not transformed into tools (debitage by-products?). The cores show one or two opposite/convergent striking platforms. The quality of the debitage, as well as its restriction to one frontal surface of the core is greatly indebted to the numerous natural accidents encountered inside the blocks.

There are two main types of tools: retouched blades (pointed or notched), and endscrapers on the distal edge of marginally retouched blades. The type of retouch seems to depend largely on the thickness of one specific portion of the blank: direct, almost steep, scalar retouch, located in the proximal third of the blade; direct, marginal, extremely fine retouch, and located in the distal third of the blade. There are also few blades with an intentional or accidental burin spall-like detachment. One can assume their use as burins, but without the certainty of a clear intention for obtaining such a tool. If those pieces are deliberately obtained burins, there are no evidences of their production or rejuvenation at the site, since the burin spalls are missing.

The "Gravettian" toolkits:

The main types of raw material are precisely those, which were almost lacking in the antecedent layers: "Prut" flint, good quality menilith. The black schist and the siliceous sandstone are barely used. Some new types of rocks are also exploited, in small quantities: green or red jasper, radiolarite, opal, and quartzite.

The core exploitation is far more intense, the abandonment emerges after the detachment of narrow (less than 5 mm wide) bladelets, from a slightly curved, some 13 mm wide and 33-43 mm long detachment surface.

The typological spectrum includes endscrapers on the distal end of marginally retouched blades, dihedral/truncation burins, burins on a break, one borer, notched/pointed/truncated blades, backed bladelets, and Gravette points. Apparently, all the pieces previously defined as Gravette points seem to fall more in the range of *micrograveттes,* since their blanks are mostly bladelets, less than 10 mm wide. This occurs even when largely

available sources of raw material like menilith and sandstone are involved, so it does not seem to be an option related to the scarcity of good-quality raw material, like flint or jasper. Instead, it seems to be more of a functional choice, depending on factors like the prey choice or the hafting system.

The main conclusion we draw from these observations is that *none* of the differences noticed between the two sets of toolkits (raw material, core exploitation, blank production) may be securely attributed to *cultural* choices. Some other factors, such as the quality of the available (i.e., known) raw material, the length of the occupation and/or functional purposes may account for these dissimilarities. However, our observations support a rough division between the "Aurignacian" and the "Gravettian" (Gravettian, Epigravettian) assemblages. Even if such a division – which may well be the result of some arbitrary selection –, will be confirmed by our further systematic studies, it will be still far from any secure cultural attribution, given the small size and the unclear stratigraphical position of some of the toolkits.

6. Discussion and conclusions

Although the observations we made are obviously insufficient, they are nevertheless enough to trace at least the main fields of inquiry for the future studies. Thus, while the evolution of the Gravettian technocomplex in this area is largely a matter of *internal chronology* and careful definition of *stages*, things seem quite complicated when dealing with the so-called Aurignacian layers in the Bistrița Valley. Both the published items and their descriptions, and our own analysis of the old collections (M.A., L.N.) provide no solid grounds for any clear attribution. On the contrary, the most striking features of these assemblages are precisely the *absence* of carinated forms and systematic bladelet production. One may also notice the lack of other Aurignacian "type-fossils" and of scalar retouch, correlated with the presence of marginally retouched large blades. To our current state of knowledge, some if not all of the Aurignacian layers in the Bistrița Valley rather belong to some (presumably, but not necessarily, older) Gravettian stages. If so, their occasionally late chronology is less surprising (see Table I). There are also some exceptions, such as the small and original "Lower Aurignacian" assemblage from Cetățica I. This toolkit with blades, foliate points, discoid cores and bifacially retouched items is too small to allow any solid interpretation, but it is clear that it does not belong to the Aurignacian tradition in its *classical* meaning.

It is definitely not the place to insist here upon the very meaning of the Aurignacian concept. Its now admitted extensive variability (see G. Lucas, 2006) may well encompass some of the "Aurignacian" layers in the Ceahlău area, particularly if a new chronology will confirm the already obvious stratigraphical reality (always *below* the Gravettian assemblages). We simply point out that there are basically no reasons to consider most of the Bistrița toolkits as belonging to the Aurignacian, *at least on the grounds considered by the first excavators*. Moreover, there is little doubt that at least the "Upper Pre-Gravettian Aurignacian" toolkit in Bistricioara is simply Gravettian. One may expect a similar situation in Podiş, given the inherent ambiguity of the typological approach previously used in the study of both collections. A systematic examination of the collections will hopefully give more substance to our expectations.

To conclude, it seems quite clear that, despite the density of sites and the impressive richness of the archaeological record, knowledge of the Upper Palaeolithic in the Eastern Carpathians is much more ambiguous than Romanian Palaeolithic researchers have generally admitted. Although most of the old information must be critically evaluated before using it as

positive knowledge for future research, there are enough reasons to consider that a fruitful re-evaluation is possible and indeed constructive.

In the first instance, the concentration of sites obviously suggests that the valley represented an important location of (seasonal?) activity for various Upper Palaeolithic communities, which repeatedly occupied this area, particularly during the Last Pleniglacial and the Tardiglacial. We suspect that the true occupational density was far more important than what we observe today. The sites are stratified and usually well preserved. As the *in situ* habitat structures suggest, post-depositional movement seriously affected very few sites.

The radiocarbon dates, while confusing, nonetheless seem to cluster in a few stages: 26-27,000 BP, 23-24,000 BP, around 21,000 BP, 16-19,000 BP, and probably a late Tardiglacial occupation around 12,000 BP. Whatever the cultural content of the respective layers may be, the current chronology definitely suggests some cycles of human presence in the area. At present, there are enough reasons to accept an Eastern origin of these cultural groups, as documented by the raw material transfer. While the first stages of occupation, previously attributed to the Aurignacian, are equally poorly known and badly dated, most of the related assemblages share many common features in the use of raw material and in the general technological structure. This observation holds true as well for the Gravettian and Epigravettian assemblages, which generally follow the lines of development already defined at Mitoc, Molodova or Cosăuți (M. Otte *et al*, 1996; P. Haesaerts *et al*, 2003; P. Noiret, 2004, 2005; M. Otte, P. Noiret, 2004). Whenever the organic material is preserved, these similarities are even more visible (e.g., massive reindeer hunting, bone and antler objects, etc.). However, the concrete settlement systems in which these mountain sites were integrated during each particular stage is far from clear. Apart from the analysis of the old collections already initiated by our team, a much more accurate chronology is needed. Hopefully, the international project currently running in Poiana Cireşului and in the Ceahlău Basin will yield new information concerning these topics.

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Table 1 – Palaeolithic sites from the Bistrița Valley: uncalibrated radiocarbon dates and cultural designations				
Settlements	**C14 Dates**	**Cultural/Stratigraphical Units**		
		C. S. Nicolăescu-Plopșor *et al*, 1966	**F. Mogoșanu, 1986, p. 47**	**A. Păunescu, 1998**
Cetățica I, level 3	19.760+/-470 BP (GrN-14631)	Upper Gravettian	*There is no valid reason in dividing the Gravettian on the Bistrita's terraces into separate cultural phases, since the techno-typological, geological and morphological features indicate quite clear a single cultural phenomenon, with different occupational layers.*	2nd Gravettian phase
Podiș, level 3	16.970+/-360 BP (GrN-14640)	Middle Gravettian		4th Gravettian phase
Dârțu, level 3	17.860+/-190 BP (GrN-12672)			3rd Gravettian phase
Bistricioara-Lutărie, level 4	16.150+/-350 BP (GrN-10528) 19.055+/-925 BP (Gx-8730)			5th Gravettian phase
Lespezi, level 2	17.620+/-320 BP (Bln-805)			4th Gravettian phase
Lespezi, level 3	18.110+/-300 (Bln-806)			3rd Gravettian phase
Lespezi, level 5	18.020+/-350 BP (Bln-808)			2nd Gravettian phase
Bistricioara-Lutărie, level 3	20.995+/-875 BP (Gx-8729) 18.800+/-1200 BP (Gx-8728)	Lower Gravettian		3rd Gravettian phase
Cetățica I, level 2	23.890+/-290 BP (GrN-14630)			4th Aurignacian phase
Buda, level 1	23.810+/-190 BP (GrN-23072)			4th Gravettian phase
Bistricioara-Lutărie, level 2	18.330+/-300 BP (GrN-12670) 20.310+/-150 BP (GrN-16982) 20.300+/-1300 BP (Gx-8726) 23.450+2000/-1450 BP (Gx-8727)	Upper „Pre-Gravettian" Aurignacian	Aurignacian	1st Gravettian phase
Cetățica II, level 2	21.050+/-650 BP (GrN-14632)	Middle Aurignacian		5th Aurignacian phase
Dârțu, level 2	21.100+490/-460 BP (GrN-16985)			
Dârțu, level 1	24.390+/-180 BP (GrN-12673) 25.450+4450/-2850 BP (Gx-9415)			3rd Aurignacian phase
Bistricioara-Lutărie, level 1	23.560+1150/-980 BP (Gx-8845) 24.100+/-1300 BP (GrN-10529) 24.760+/-170 BP (GrN-11586) 27.350+2100/-1500 BP (Gx-8844)			
Cetățica II, level 1	26.700+/- 1100 BP	Lower		2nd Aurignacian

	(GrN-14633)	Aurignacian		phase
Cetățica I, level 1	>24.000 BP (GrN-14629)			Aurignacian Ib – IIa (the first Aurignacian phase identified at Ripiceni-Izvor)

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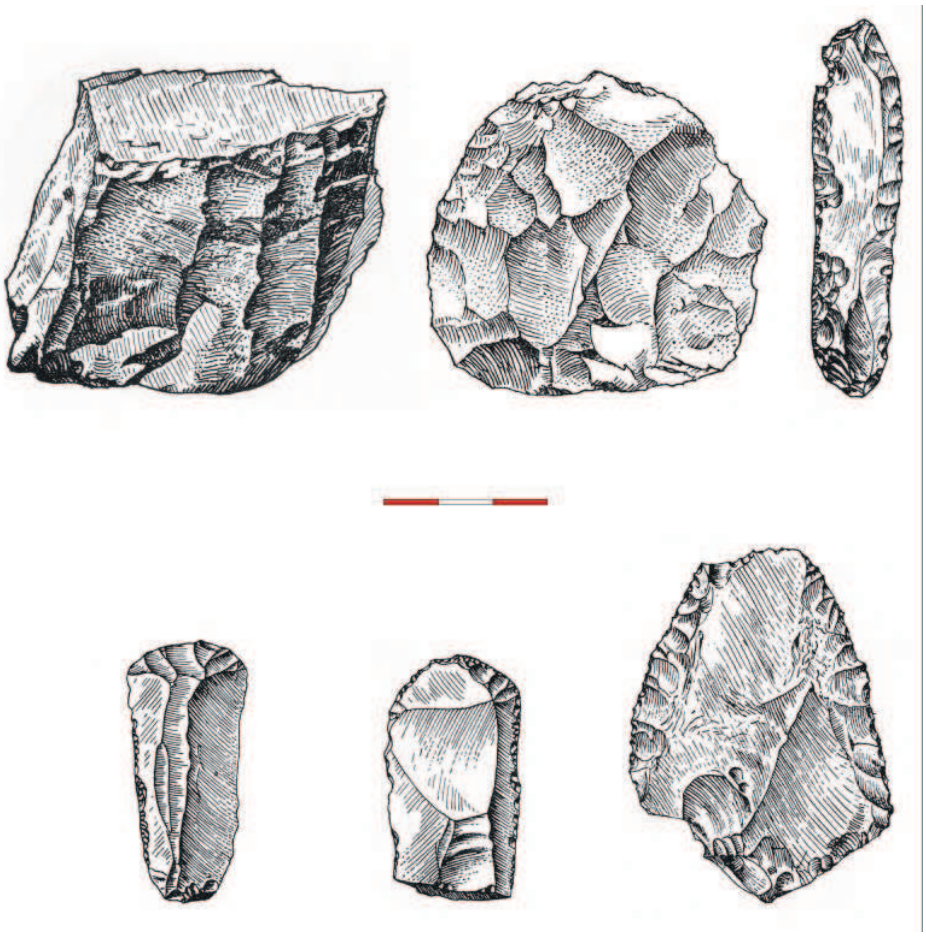

Fig. 3 **– Lithics from the „Lower Aurignacian" level, Cetățica I (selected from Nicolăescu-Plopşor *et al.* 1966: 67-68)**

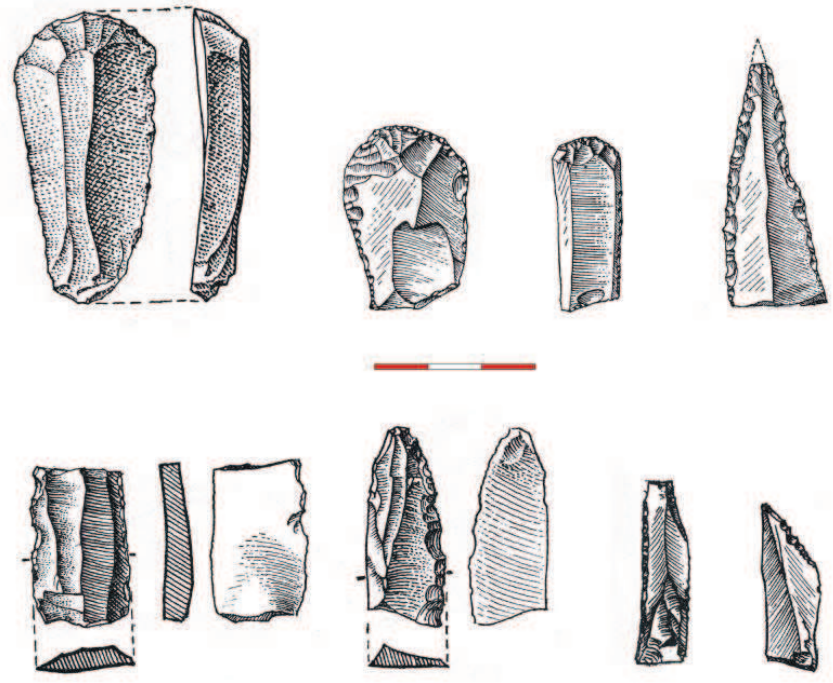

Fig. 4 **– Lithics from the „Middle Aurignacian" levels, Dârțu (selected from Nicolăescu-Plopşor *et al* 1966: 77-79)**

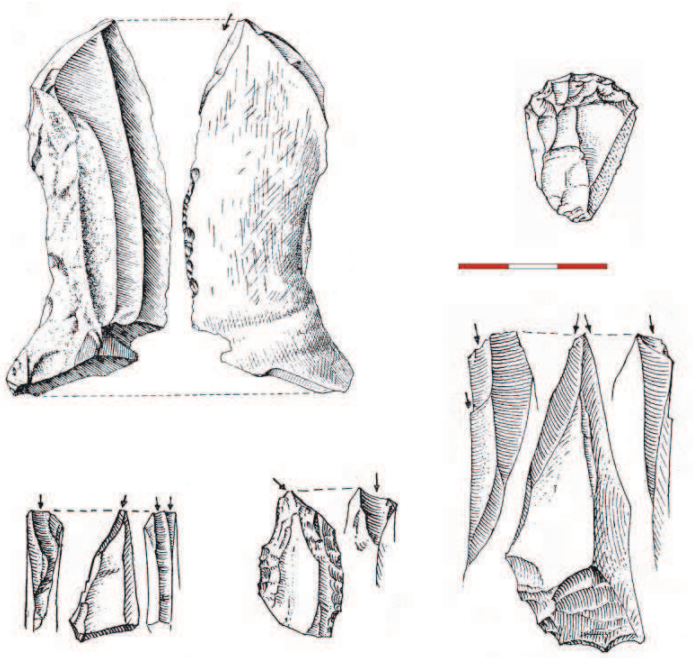

Fig. 5 **– Lithics from the „Upper/Pre-Gravettian Aurignacian" level, Podiş (selected from Nicolăescu-Plopşor *et al* 1966: 91-92)**

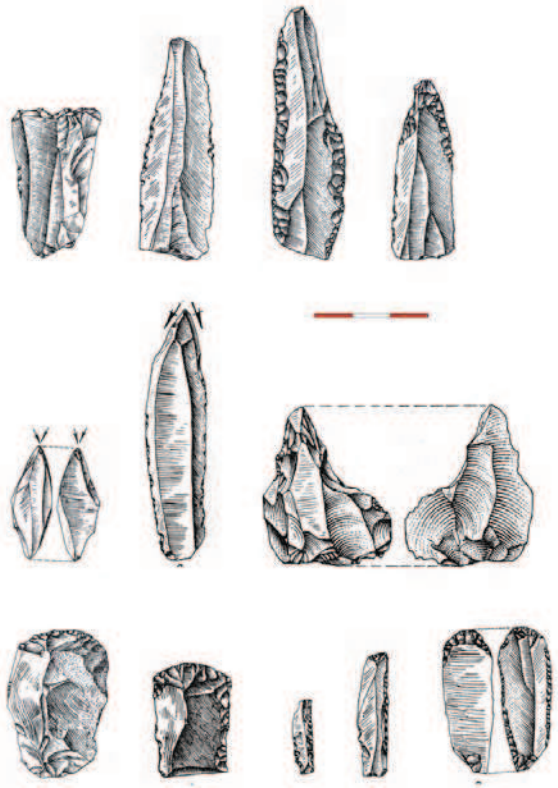

Fig. 6**– Lithics from the „Lower Gravettian" levels, Bistricioara-Lutărie and Cetățica I (selected from Nicolăescu-Plopşor *et al* 1966: 41, 69)**

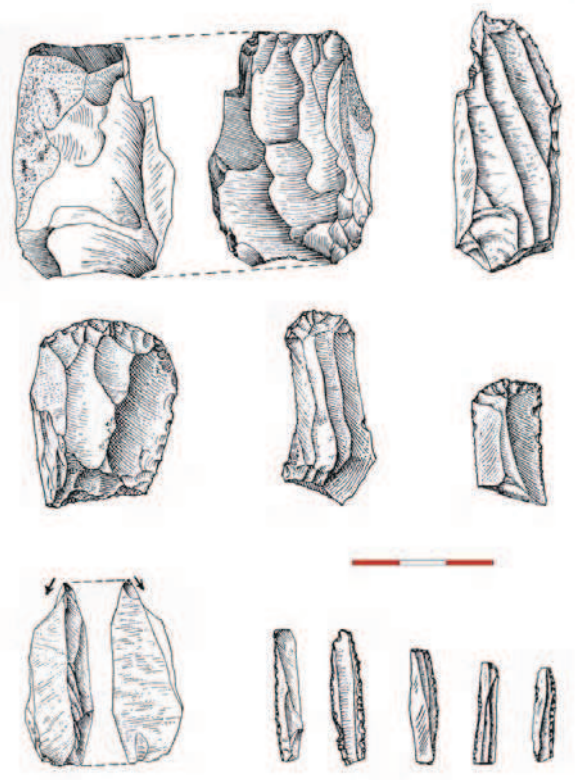

Fig. 7 **– Lithics from the „Middle Gravettian" levels, Bistricioara-Lutărie and Podiş (selected from Nicolăescu-Plopşor *et al* 1966: 44, 93)**

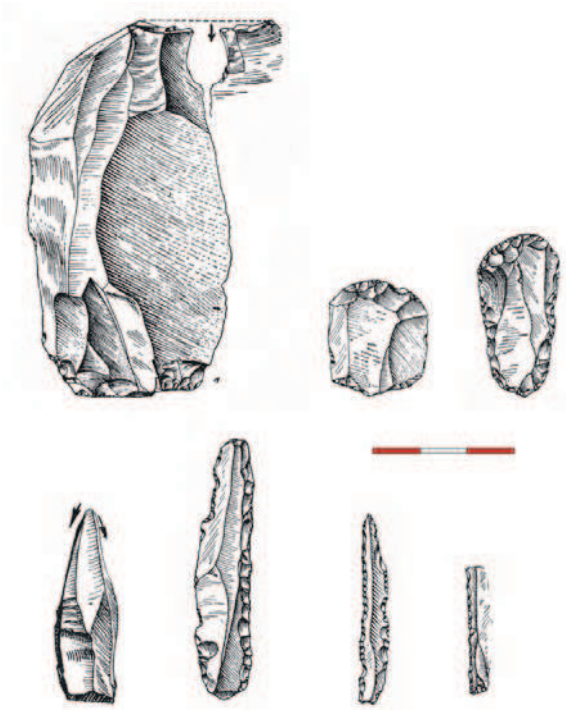

Fig. 8 **– Lihics from the „Upper Gravettian" levels, Dârţu and Podiş (selected from Nicolăescu-Plopşor *et al* 1966: 80, 96)**

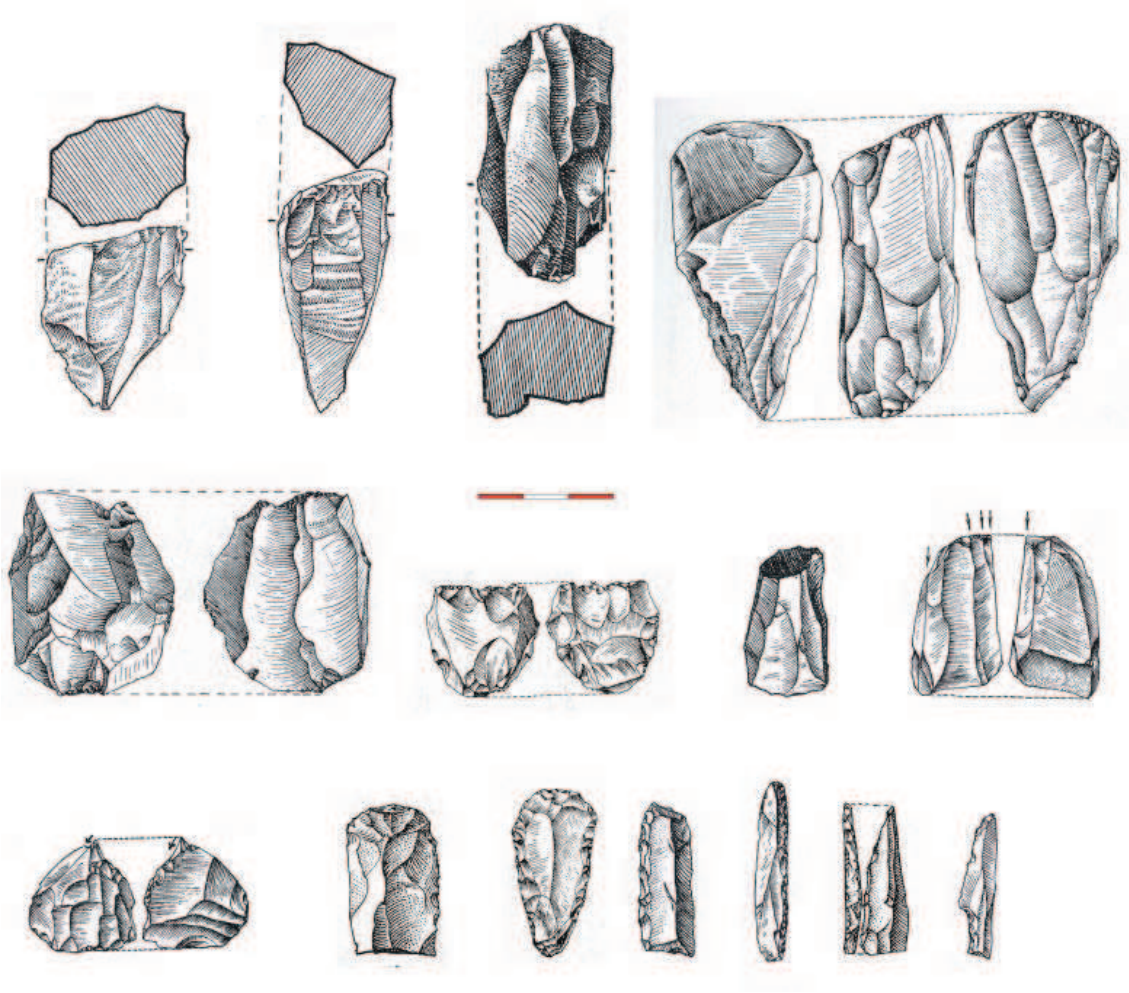

Fig. 9 **– Lithics from the „Final Gravettian" levels, Bistricioara-Lutărie, Dârțu and Podiș (selected from Nicolăescu-Plopșor *et al* 1966: 50, 81, 97-100)**