Doboş A., Soficaru A. & Trinkaus E. - *The Prehistory and Paleontology of the Peştera Muierii, Romania.*
Liège, ERAUL 124, 2010, p. 35-41.

Chapter 5

THE PALEOLITHIC ASSEMBLAGES

From the earliest descriptions of the excavated archeological remains from the various galleries of the Peştera Muierii (Chapters 2 and 3), it is apparent that the archeological assemblages were dominated by Paleolithic remains, especially Middle Paleolithic ones. Middle Paleolithic artifacts were discovered in all of the major galleries yielding archeological remains, overlain in a couple of the galleries by smaller assemblages of (earlier) Upper Paleolithic and Holocene remains.

The earlier reports on the site listed the artifacts generally and provided illustrations of a minority of the ones considered to be more diagnostic. The total assemblages were then summarized and analyzed typologically by Păunescu (2000:314-323). The presentation of the technological remains from these assemblages here combines the observations of the previous publications on the material with a typotechnological reanalysis of the available Middle Paleolithic materials. It was not possible to relocate the Upper Paleolithic assemblage, so a summary of the description of Păunescu (2000:322-323) is provided.

The Middle Paleolithic Assemblage

The total number of Mousterian layers throughout the cave is elusive. For the Gura Peşterii and the Galeria Secundară, single layers were mentioned (Gheorghiu *et al.* 1954). For each of the Galeria Musteriană and the Galeria Principală, two Mousterian layers were reported. Those of the Galeria Musteriană were called "inferior" and "superior," respectively. In the Galeria Principală, the deeper layer was assigned to the Mousterian of Acheulian Tradition (MTA), and the more recent one to the Late Mousterian. In the area that connects the Upper and Lower floors of the cave (Cotlonul S), two other levels were reported: a deeper one, also assigned to the MTA, and a recent one that presumably corresponds to both levels of the Galeria Musteriană (Daicoviciu *et al.* 1953). Given that no reliable precision was made regarding the identity of each level and/or the stratigraphic connections between them, it is not known how many Middle Paleolithic occupations of the cave occurred. It is probable that there were at least three phases of occupation of the cave during the Middle Paleolithic, and there could have been considerably more.

Due to the afore-mentioned issues, as well as to the uncertain existence of a datum, Păunescu (2000) analyzed the Middle Paleolithic remains regardless of their stratigraphic proveniences. As for the chambers from which the material originated, the total of 4936 pieces were distributed as follows: 1068 in the Galeria Principală, 1202 in the Galeria Secundară, 2161 in Sector 2 (this sector connects the galleries Principală and Secundară), 546 in the Galeria Musteriană and 3 at the cave's entrance (Gura Peşterii). Nevertheless, the whole assemblage was analyzed as a single unit. Păunescu interpreted it as a non-Levallois industry, with many scrapers, that was assigned to a Mousterian similar with that of the site of Erd, in Hungary (Gabori-Csank 1968).

The assemblage AD could analyze consisted of 3066 pieces (tabl. 11 and 12; fig. 18 to 20). They were located in the Institutul de Arheologie "Vasile Pârvan" in Bucharest, and the Muzeul Olteniei in Craiova. There is a consistent labeling problem on the artifacts, regarding both the depth and the horizontal provenience of the lithics. In fact, the number of items labeled as "passim" and those whose labeling was unreadable adds up to almost half of the total (shatters not included).

	Quartz/ite		Flint	
	N	%	N	%
Tools	253	8.4	33	60.0
Complete flakes	382	12.7	12	21.8
Proximal flakes	153	5.1	3	5.5
Medial flakes	104	3.5	0	0.0
Distal flakes	185	6.1	5	9.1
Bifaces and biface fragments	4	0.1	0	0.0
Cores and core fragments	194	6.4	2	3.6
Hammers	2	0.1	0	0.0
Shatter	1734	57.6	0	0.0
Total	**3011**		**55**	

Table 11 - Tool and non-tool counts and frequencies for the pooled Middle Paleolithic assemblage from the Peştera Muierii, separated by raw material.

Quartz/ite		X	σ	Flint		X	σ
Complete unretouched flakes[1] (393)	Length	43.4	14.0	Complete unretouched flakes (17)	Length	46.5	15.5
	Width	32.5	11.0		Width	33.7	10.4
	Thickness	12.4	4.5		Thickness	10.3	4.6
	Weight	32.0	35.5		Weight	21.2	15.0
Scrapers (82)	Length	49.9	17.2	Scrapers (9)	Length	38.2	6.7
	Width	39.9	12.0		Width	33.3	8.1
	Thickness	14.3	6.4		Thickness	9.7	3.4
	Weight	54.3	58.8		Weight	21.1	14.8
Notches and Denticulates (58)	Length	47.6	12.9	Notches and Denticulates (5)	Length	45.2	12.1
	Width	35.7	8.7		Width	33.6	8.4
	Thickness	12.6	3.9		Thickness	11.0	2.2
	Weight	35.6	25.5		Weight	24.2	12.1
Cores (194)	Length	50.1	17.3	Cores (2)	Length	50.05	12.9
	Width	40.9	13.0		Width	43.2	18.9
	Thickness	24.7	10.1		Thickness	27.05	19.4
	Weight	98.5	137.9		Weight	110.0	118.8

[1] Including complete technological tools: Levallois flakes, pseudo-Levallois points, and naturally-backed knives.

Table 12 - Parameters for the main lithic categories for the pooled Middle Paleolithic assemblage from the Peştera Muierii, separated by raw material.

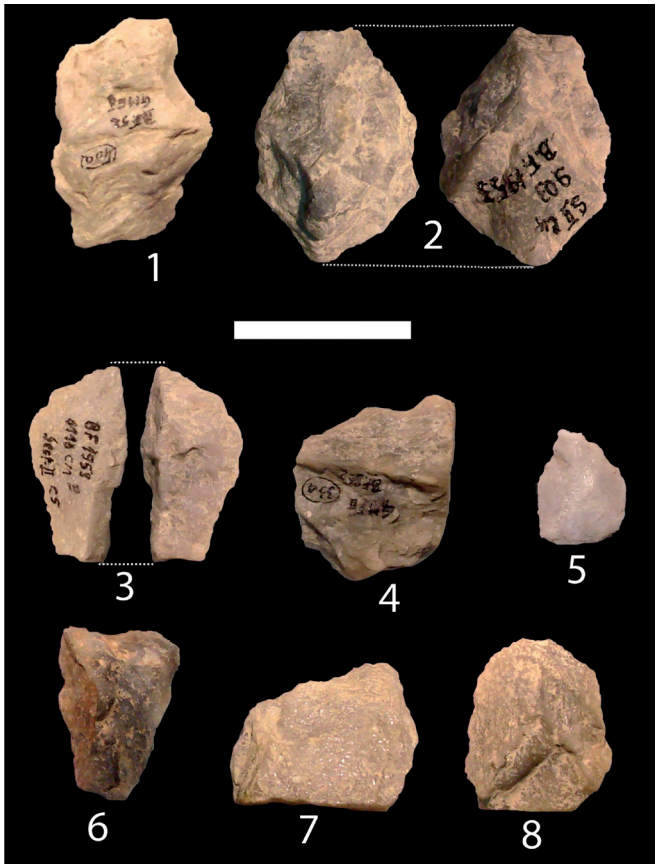

Figure 18 - Middle Paleolithic tools from the Peştera Muierii. 1: notch; 2: cordiform biface; 3: burin; 4 and 5: denticulates; 6: distal notch; 7 and 8: atypical endscrapers. Scale bar: 5 cm.

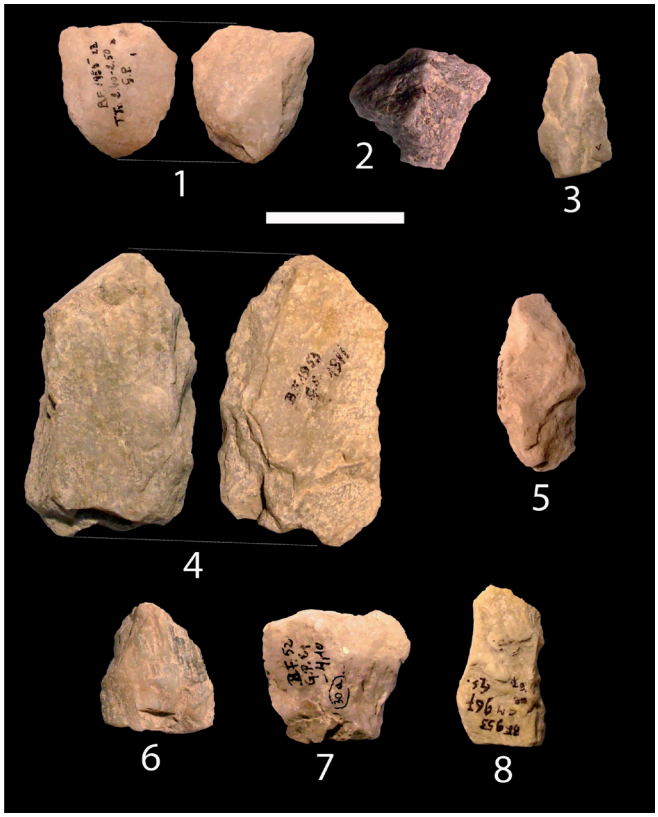

Figure 19 - Middle Paleolithic tools from the Peştera Muierii. 1: scraper on the interior; 2 and 7: convex transverse scrapers; 3: straight scraper; 4: bifacial scraper; 5 and 6: convex scrapers; 8: concave scraper. Scale bar: 5 cm.

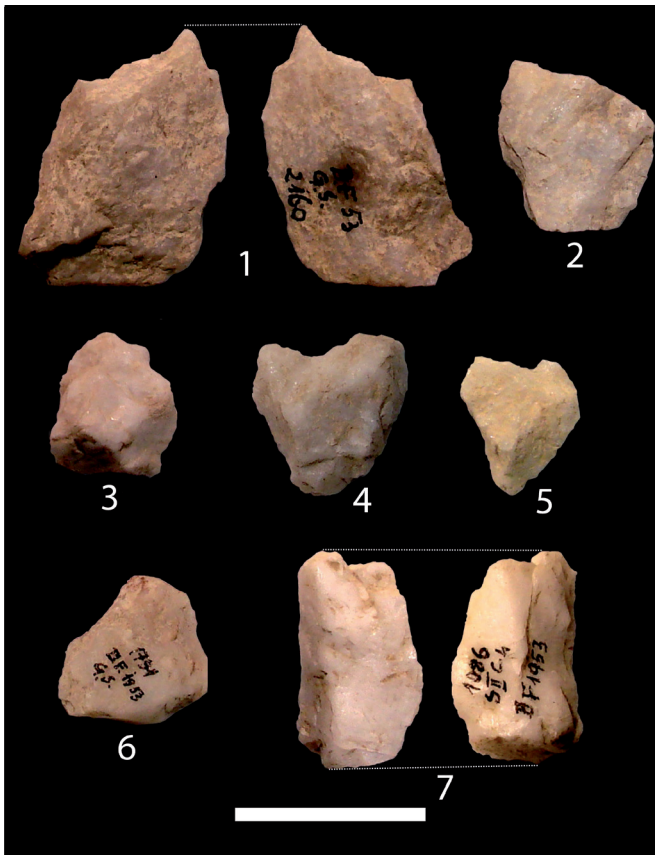

Figure 20 - Middle Paleolithic tools from the Peştera Muierii. 1: alternate bec; 2: double convex–concave scraper; 3: denticulate; 4 and 5: distal notches; 6: concave scraper; 7: scraper on the interior. Scale bar: 5 cm.

Given this situation, the assemblage was divided according to the raw material into two units: one that comprises pieces made in quartz and quartzite (plus 17 sandstone flakes), and one that comprises the flint pieces (tabl. 11). Although the flint pieces are quite rare, all of the indices were calculated for them.

Cores

The number of cores is fairly large (tabl. 12). Except for two flint cores (one pyramidal and one inform), all of the others are in quartz or quartzite. Among the latter category, the numerous inform cores (137) advocate for a non-standardized reduction. The other cores are discoid (38), pyramidal (14), preferential Levallois (2) and prismatic (2).

The cortex surface could be assessed for 168 cores (tabl. 13; fig. 21). The predominance of non-cortical and semi-cortical cores (fig. 19) shows that the first stages of the reduction sequence were carried out outside the cave, most likely near the river Galbenu. The bed of the river is very rich in quartzite gravel (Păunescu 2000:314), and that is the likely source of the raw material.

Flake to core ratio

The minimum number of flakes for the quartz/quartzite assemblage is 746, with 3.9 flakes per core. For the flint, the minimum number of flakes is 46, with 23 flakes per core. These

	Quartz(ite)	Flint
Cortex	**N**	**N**
0 %	406	20
1-10 %	30	5
10-40 %	35	2
40-60 %	18	4
60-90 %	5	2
90-99 %	7	0
100%	10	0
N/A	16	0
Total	**527**	**33**

Table 13 - Cortex distribution for complete tools and flakes for the pooled Middle Paleolithic assemblage from the Peştera Muierii, separated by raw material.

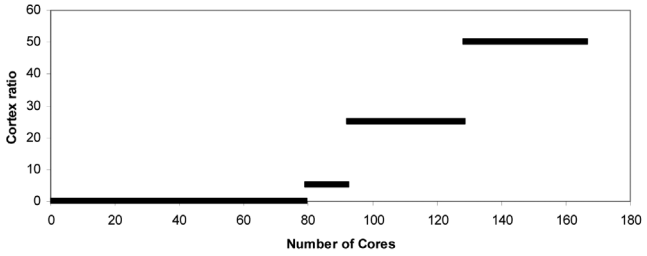

Figure 21 - The proportions of cortical surfaces on the quartzite cores.

	Quartz/ite		Flint	
	Non-diagnostic	Levallois	Non-diagnostic	Levallois
Faceted	227	5	15	6
Flat	79	2	11	0
Cortical	147	2	4	0
Punctiform	18	4	0	0
Broken	174	0	2	2
N/A	46	0	1	0

Table 14 - Platforms for the pooled Middle Paleolithic assemblage from the Peştera Muierii, separated by raw material.

	Quartz/ite	Flint
Normal	657	18
Blade	16	0
Divergent	15	0
Point	26	0
Debordant	71	2
Overshot	1	0
Wide	21	0
Core	1	0
Siret	13	0
N/A	3	0

Table 15 - Shapes of the non-diagnostic flakes for the pooled Middle Paleolithic assemblage from the Peştera Muierii, separated by raw material.

Type No.	Tool type	Quartz/ite		Flint	
		N	%	N	%
1	Typical Levallois flake	3	1.18	1	3.03
2	Atypical Levallois flake	3	1.18	1	3.03
3	Levallois point	0	0.00	1	3.03
5	Pseudo-Levallois point	3	1.18	3	9.09
9	Straight single scraper	8	3.16	2	6.06
10	Convex simple scraper	20	7.90	1	3.03
11	Concave simple scraper	7	2.76	2	6.06
13	Double straight-convex scraper	0	0.00	1	3.03
14	Double straight-concave scraper	1	0.39	0	0.00
16	Double concave scraper	1	0.39	0	0.00
17	Double convex-concave scraper	1	0.39	0	0.00
20	Concave convergent scraper	1	0.39	0	0.00
21	Déjeté scraper	3	1.18	0	0.00
22	Straight transverse scraper	2	0.79	0	0.00
23	Convex transverse scraper	6	2.37	0	0.00
24	Concave transverse scraper	5	1.97	0	0.00
25	Scraper on the interior surface	14	5.53	3	9.09
26	Abrupt scraper	3	1.18	0	0.00
27	Scraper with thinned back	1	0.39	0	0.00
28	Scraper with bifacial retouch	6	2.37	0	0..00
29	Alternate scraper	3	1.18	0	0.00
30	Typical endscraper	2	0.79	0	0.00
31	Atypical endscraper	10	3.95	1	3.03
32	Typical burin	3	1.18	0	0.00
33	Atypical burin	2	0.79	0	0.00
35	Typical percoir	2	0.79	1	3.03
38	Naturally-backed knife	8	3.16	0	0.00
39	Raclette	1	0.79	1	3.03
40	Truncation	8	3.16	1	3.03
41	Mousterian tranchet	1	0.39	0	0.00
42	Notch	40	15.81	3	9.09
43	Denticulate	13	5.13	2	6.06
44	Alternate retouched bec	2	0.79	0	0.00
45	Flake with irregular retouch on the interior	10	3.95	4	12.12
46-49	Flake with abrupt and alternating retouch	27	10.67	4	12.12
50	Bifacially retouched flake	5	1.97	0	0.00
54	End-notched flake	14	5.53	0	0.00
56	Rabot	1	0.39	1	3.03
61	Chopping-tool	8	3.16	0	0.00
62	Miscellaneous	3	1.18	0	0.00
65	Scraper on the platform	2	0.79	0	0.00
	Real count	**253**		**33**	
	Essential count	**194**		**19**	

Table 16 - Distributions of tool types for the pooled Middle Paleolithic assemblages from the Peştera Muierii, separated by raw material.

	Real Count			Essential Count	
	Quartz/ite	Flint		Quartz/ite	Flint
Typological Levallois Index	2.4	9.1			
Scraper Index	32.4	27.3	Scraper Index	42.3	47.4
Charentian Index	13.0	3.0	Charentian Index	17.0	5.3
Total Acheulean Index	1.6	0.0	Total Acheulean Index	2.1	0.0
Unifacial Acheulean Index	1.6	0.0	Unifacial Acheulean Index	2.1	0.0
Gr. I (Levallois)	2.4	9.1			
Gr. II (Mousterian)	33.6	27.3	Gr. II (Mousterian)	43.8	47.4
Gr. III (Upper Paleolithic)	10.7	9.1	Gr. III (Upper Paleolithic)	13.9	15.8
Gr. IV (Notches + Dentic.)	20.9	15.2	Gr. IV (Notches + Dentic.)	27.3	26.3

Table 17 - Typological Indices of the pooled Middle Paleolithic assemblage from the Peştera Muierii, separated by raw material.

data suggest an *in situ* reduction for the quartzite, whereas the reduction for flint was carried out elsewhere.

Platforms

The most numerous flakes, for both lithic series, have faceted platforms (tabl. 14).

Non-diagnostic Flake Shape

Of the non-diagnostic flakes, the most numerous are those with a normal shape, followed by the debordant ones (tabl. 15).

Shaped Tools

From a typological point of view, the percentages of main tool categories are quite similar, with a predominance of scrapers, followed by denticulates (tabl. 16 to 18; fig. 22 and 23).

Scrapers

Most of the quartzite scrapers (49) were heavily retouched (scalariform – 10, Quina – 9, heavy – 30); 21 scrapers exhibit medium retouch, and only 12 light retouch. Two flint scrapers exhibit heavy retouch, five medium retouch, and two, light retouch.

Notches and denticulates (including type 54)

For both raw material types, most of the notches are direct and retouched. The two flint denticulates have three notches each; almost all of the quartzite denticulates have two notches, except for one that has three and one that has four notches.

Endscrapers

Most of the flint endscrapers have medium retouch (the one in flint and six in quartz/ite). Four tools were heavily retouched, and three endscrapers have light retouch.

Bifaces

Two of the bifaces are fragmentary; the other two are subtriangular and cordiform, respectively.

	Quartz/ite	Flint
Levallois Index	1.4	17.0
Faceting Index	35.7	45.7
Blade Index	3.4	0.0
Quina Index	11.0	0.0

Table 18 - Technological Indices for the pooled Middle Paleolithic assemblage from the Peştera Muierii, separated by raw material.

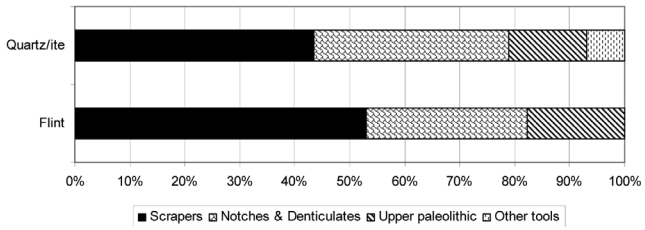

Figure 22 - The tool types for the two raw material assemblages (essential counts).

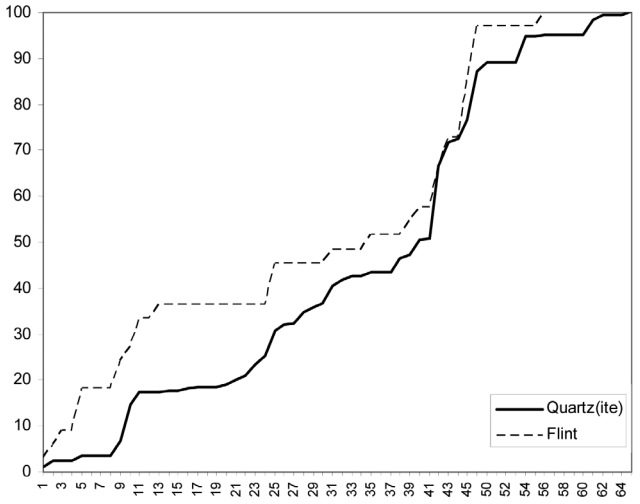

Figure 23 - Cumulative graph plots for the Peştera Muierii quartz/quartzite versus flint Middle Paleolithic assemblages.

The Upper Paleolithic Assemblage

The lithics assigned by Păunescu to the Aurignacian (fig. 24) add up to 62. The following types were encountered: unretouched blades (complete and fragmentary) – 24 (of which, nine were interpreted as having usewear); unretouched bladelets – 2; retouched blades – 9; notched blades – 4; end-scrapers: 3 (one à museau, one on a massive blade and one on a cortical flake); dihedral burins – 2; raclettes – 2; truncation – 1; sidescrapers – 3; cores: 2 (one prismatic, one inform); non-diagnostic flakes – 5; shatters – 5.

Three bone points were found. One comes from the Galeria Principală, one from the Galeria Secundară and the last, from the Gura Peşterii. The location of the bone piece from the Galeria Secundară, where no Upper Paleolithic lithics were found, could well be the result of the post-depositional processes that may also have transported the human remains from the Galeria Principală into the Galeria Musteriană.

These Upper Paleolithic remains have been attributed to the Aurignacian (Cârciumaru 1999; Păunescu 2000), and as noted in Chapter 2, their association with cave bear (*U. spelaeus*) indicates either an Aurignacian age or one in the earlier Gravettian.

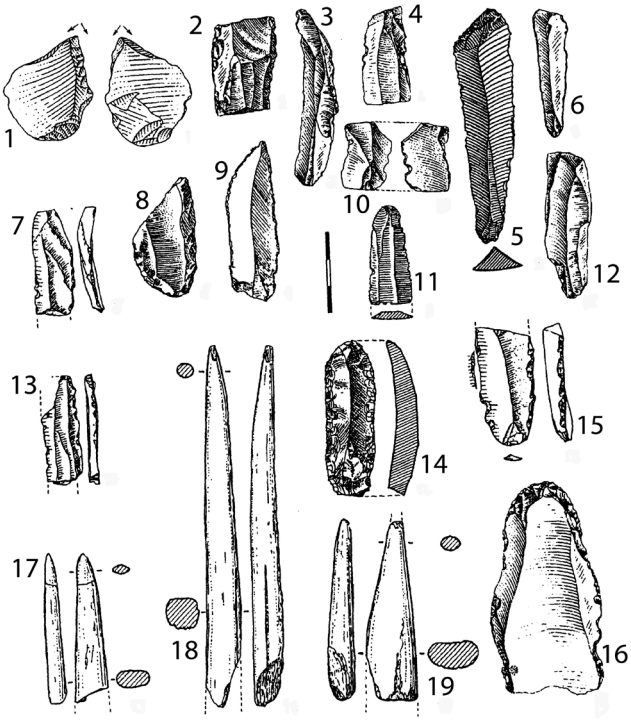

Figure 24 - Upper Paleolithic tools from the Peştera Muierii [from Păunescu (2000); pieces were identified by Păunescu]. 1: burin; 2, 10, 13 and 15: denticulate blades; 3 and 7: retouched blades; 4: notch; 5, 6, 9 and 11: blades with usewear; 8: scraper; 12: unretouched blades; 14: blade with stepped retouch; 16: endscraper; 17 to 19: bone points.

Summary and Discussion

The Peştera Muierii Paleolithic Assemblages

These data for the Middle Paleolithic pooled assemblage suggest that the flint assemblage accounts for a short-term, logistic, occupation of the cave during that time period, given the high percentage of tools, and the quasi-absence of the cores and cortical blanks. The character of the associated quartz/quartzite assemblage is more difficult to assess. The overall aspect suggests base-camp occupations, in which the nodules underwent primary decortication outside the cave. One should keep in mind, though, that it is virtually impossible to learn how many separate occupation episodes created the lithic assemblage that is analyzed here as a pooled whole. Given that there was no explicit mentioning in publications that a particular layer had very few pieces, it is fair to assume that all come for the same forms of occupations.

The rarity of the Upper Paleolithic remains, which are generally attributed to the Aurignacian, permit little more than a documentation that these human groups visited the cave during the earlier Upper Paleolithic.

The Carpathian Context

The site of Muierii, with its Middle and Upper Paleolithic assemblages and a Middle Paleolithic dominated by quartz/quartzite lithics, fits into the broader framework of the Carpathian sites.

One important issue at Muierii and elsewhere is the reliability of the stratigraphical interpretation of the multiple layers. For the Mousterian occupations of Ohaba Ponor – Bordu Mare, the allegedly separate layers were called I, II, III a – g , IV a – b; the total number of artifacts was around 2200, of which less than 200 are retouched pieces (Păunescu 2001). For Nandru – Peştera Curată, the layers were separated into I a – b, II a – d (Păunescu 2001); the assemblage consists of ~200 pieces, of which about 100 tools were reported. The five significant layers of Boroşteni – Peştera Cioarei (E, F, G, H, J) have rather few pieces, among which tools are poorly represented (layer H, the richest, has 261 pieces, of which only 12 tools) (Cârciumaru 2000). Other sites, such as Râşnov – Peştera Gura Cheii, Nandru – Peştera Curată, Moieciu – Valea Coacăzei and Peştera Mare, Băile Herculane – Peştera Hoţilor, look fairly similar to the above-mentioned sites, but have fewer pieces (Anghelinu 1998; Mogoşanu 1978; Nicolăescu-Plopşor & Păunescu 1959; Nicolăescu-Plopşor *et al.* 1961, 1962). In this context, the Peştera Muierii pooled Middle Paleolithic assemblage, with 3,066 elements but only 286 tools (9.3%) (tabl. 11), follows the pattern of these other Carpathian sites.

The Mousterian of these sites has been differently interpreted. When bifaces were present in a particular layer, they were assigned either to the Mousterian of Acheulian Tradition (MTA) or the Szeletian (Nicolăescu-Plopşor & Păunescu 1959). Subsequently, they were regarded as Eastern Charentian, due to the presence of side scrapers and naturally backed pieces (Honea 1993; Păunescu 2000, 2001). After these two *fossiles directeurs*–based interpretations, the primary criterion has shifted to the raw material; thus, the assemblages were assigned to the Quartzite Mousterian, of which the older stage was still regarded as Charentian, and the younger group, as a purportedly transitional technocomplex, was called the "Carpathian Facies" (see discussion in Chapter 2) (Cârciumaru 1999; Cârciumaru & Anghelinu 2000).

The earlier Upper Paleolithic occupations of the Carpathian sites were interpreted as Aurignacian, since in the Romanian Paleolithic framework all that was later than the Mousterian and younger than the Gravettian was called as such (Păunescu 1989). The assemblages are quite small, and they are characterized by an increased percentage of the laminar debitage and a higher proportion of end scrapers. Although Aurignacian affinities should not be excluded, the analysis of the lithics should be resumed with respect to the very complex topic of Early Upper Paleolithic (Brantingham *et al.* 2004; d'Errico & Zilhão 2003; Mellars 1999; Zilhão 2006). The small assemblage of earlier Upper Paleolithic material from the Peştera Muierii falls into the same general category, since, as mentioned above, it could be considered on the basis of the available evidence as either later Aurignacian or early Gravettian.

An alternative approach for all of this material is that the Middle and Upper Paleolithic of the Carpathian sites illustrate a behavioral continuity, imposed by the fairly similar paleoenvironmental conditions (Riel-Salvatore *et al.* 2008).

All of these issues have been further complicated by ongoing issues relating to the relative and absolute chronologies of the Paleolithic assemblages in the Carpathians (Chapter 2), related to both the validity of the stratigraphical separations by layers at several sites and the application of various radiometric dating techniques to these assemblages. The Paleolithic assemblages from the Peştera Muierii, unfortunately, share many of these same limitations. Yet, at the same time they appear to conform to the general pattern that has emerged for both the Middle and earlier Upper Paleolithic assemblages of the region.