Doboş A., Soficaru A. & Trinkaus E. - *The Prehistory and Paleontology of the Peştera Muierii, Romania.*
Liège, ERAUL 124, 2010, p. 21-27.

Chapter 3

A HISTORY OF INVESTIGATIONS AT THE PEŞTERA MUIERII

Early Investigations

It is apparent from the archeological and paleontological remains in the Peştera Muierii that people have been frequenting the cave and its environs since at least the middle of the Late Pleistocene and that this pattern continued intermittently through the Holocene. It is not known for how long people have collected (what we would call) paleontological and/or archeological material from the Peştera Muierii, but by the late nineteenth century archeological interest was beginning to be focused on the cave system (see Gheorghiu *et al.* 1954; Păunescu 1987, 2000).

The first information regarding the cave as a place of prehistoric or historic relevance comes from the answers to the questionaire of Alexandru Odobescu of 1870. The questionaire was sent around by him to village mayors, priests and school teachers to determine whether there were places of archeological interest in their environs. Subsequently, in 1894, the site was visited by the local school teacher and historian from the Gorj region, Alexandru Ştefulescu. Ştefulescu, subsequently on July 21, 1894 with Iuliu Moisil, Aurel Diaconovici and P. Rola Piekarski, carried out a small excavation in the entrance of the cave. He was followed three years later by the researcher, also from the Gorj region, Teohari Antonescu, who explored the cave further and mentioned finding pottery and "bones of diluvial animals." Among the latter he mentioned in particular those of cave bears (*Ursus spelaeus*), which subsequent work documented as being abundant throughout the cave system. The following year, the cave was included in a geological map of the region, made by the renowned Romanian geologist, Gheorghe Munteanu-Murgoci, a subsequent member of the Academiei Române and the founder of the "Institutul de Studii Sud-Est Europene" in Bucharest. The site seems to have been scientifically ignored for most of the next thrity years, and it is not until 1929 that there is a record of P.A. Chappuis and A. Winkler investigating the karstic system; the former was a member of the Institutul de Speologie "Emil Racoviţă" in Cluj-Napoca and a specialist in aquatic invertebrates, including those in underground systems, whereas the latter was an entomologist.

In the meantime, a young archeologist, writer and folklorist from the region, Constantin S. Nicolăescu-Plopşor (1900-1968), carried out surveys in the area of Baia de Fier (Anon 2010). Nicolăescu-Plopşor was profoundly interested in the folklore of Oltenia and in its history. These interests led him to be deeply involved in the documentation and preservation of traditional aspects of the region. He became a member and eventually director of the Muzeul Olteniei in Craiova and was instrumental in its development. And, of interest here, encouraged by correspondance with Henri Breuil, he began archeological investigations in the region early in his career. In the period between the two World Wars, his main focus was on Oltenia. He was a contemporary of two other pioneers of Paleolithic archaeology, M. Roska in Transylvania and N. N. Moroşan in Moldova. Subsequently, his research covered all of the Paleolithic periods and all of Romania's territory (Doboş 2005).

In his initial soundings in the Peştera Muierii and the nearby Peştera Pârcălabului, he mentioned Neolithic pottery and some alleged prehistoric paintings (Nicolăescu-Plopşor 1926a,b). And then in 1929, he returned to the site and excavated a trench in the entrance to the main cave, the Gura Peşterii. The results of this excavation were briefly summarized in his doctoral thesis, published subsequently in *Dacia* (Nicolăescu-Plopşor 1935-36:64-66). In the entrance he found a stratigraphic sequence with 1) a superficial level, 2) Chalcolithic, 3) a thin sterile level followed by a level with traces of charcoal and a single blade which he attributed to the Magdalenian, and 4) a thicker sterile level, underlain by 5) a Paleolithic level with an abundance of bones of cave bear and "very rare worked pieces" which he attributed to the Mousterian. He also noted that at the end of the main long and narrow gallery (Galeria Principală), 60 m from the entrance, there was a pit about 8 m deep into which they descended with a rope (the back of the Galeria Musterianã). On the surface he noted numerous flakes in quartzite and a simple retouched piece, as well as the bones of *U. spelaeus*, *C. lupus* and other large mammals. Gheorghiu & Haas (1954) also indicated a 1929 test pit in the deeper portion of the Galeria Principală, on the left side, and Păunescu (2000:311) mentioned three small test pits made by Nicolăescu-Plopşor in 1929. However, Nicolăescu-Plopşor (1935-36) only mentioned the ones made in the Gura Peşterii. On the basis of the recovered lithic assemblage from the Gura Peşterii, Nicolăescu-Plopşor concluded that the cave

contained an evolved Mousterian, similar to the one then known from Bordu Mare (Ohaba-Ponor).

The Primary Excavations

Despite his comments regarding the potential of the region for Paleolithic remains (Nicolăescu-Plopşor 1935-36:65), it was not until 1951 that Nicolăescu-Plopşor returned to Baia de Fier to further excavate in the Peştera Muierii (fig. 10). By that time, it was well after World War II and the establishment of the Communist People's Republic of Romania in 1947. With considerable governmental support, he organized a large team to excavate in the Peştera Muierii, the expedition being seen as both Paleolithic archeological research for the region and an opportunity for the training of a younger generation of Romanian archeologists (fig. 11 and 12). Ironically, the excavations, without a formal grid system, the retention of primarily the larger or more diagnostic archeological and paleontological elements, field notes consisting principally of a daily diary, and stratigraphic attribution primarily by reference to depth below datum, would have done little to train students in the techniques then current in other European Paleolithic excavations. These other excavations included, for example, the detailed procedures of Bohuslav Klíma at Pavlov I in Moravia (Klíma 1954; see Svoboda 1994, 1997, 2005; Trinkaus *et al.* 2010), also within the Soviet-dominated bloc of the time. In addition, even though the team produced a few preliminary reports on the excavations during the subsequent years (Daicoviciu *et al.* 1953, 1960; Bombiţă 1954; Gheorghiu *et al.* 1954; Gheorghiu & Haas 1954; Haas 1956; Nicolăescu-Plopşor *et al.* 1957), plus preliminary descriptions of the human remains (Gheorghiu & Haas 1954; also Nicolăescu-Plopşor 1968) and summaries in more general publications (e.g., Nicolăescu-Plopşor 1957, 1965; Roşu 1987), it is only with the recent summaries of Păunescu (2000:310-324) and Doboş (2010) and our preliminary reanalysis of the human remains (Soficaru *et al.* 2006) that the archeological and human paleontological material has been brought together (see also Cârciumaru 1999; Cârciumaru *et al.* 2007).

In 1951, the team excavated in two portions of the Peştera Muierii (fig. 8). They placed a 4 x 2 m trench in the Gura Peşterii, oriented north-south. They excavated two long trenches connected in the middle through the Galeria Musteriană, for a total length of 8 m and an average width of 1.5 m (Sectors A and B) (dimensions estimated from the published plans). In addition, toward the southern end of Galeria Musteriană, another small surface area was excavated (Sector F, estimated dimensions of 4 x 1 m) (Gheorghiu *et al.* 1954:74, 77-79).

In 1951 they also placed soundings in two small caves in the immediate the vicinity, the Peştera Ţiganului and the Peştera Pârcălabului (Gheorghiu *et al.* 1954; Bombiţă 1954). They described the former cave as dry and oriented towards the south, and hence an ideal location for Paleolithic occupation. However, within it they identified Bronze Age (Coţofeni) ceramics and the remains of *Sus scrofa*, *Bos taurus* and *Felis silvestris* in the upper level, and in the deeper level they found principally the remains of carnivores (*U. spelaeus*, *Martes martes* and *Gulo gulo*) and two pieces of quartzite which they attributed to the Middle Paleolithic. In the latter cave, they located additional Holocene ceramics and the remains of *U. spelaeus*, *M. martes* and *F. silvestris*.

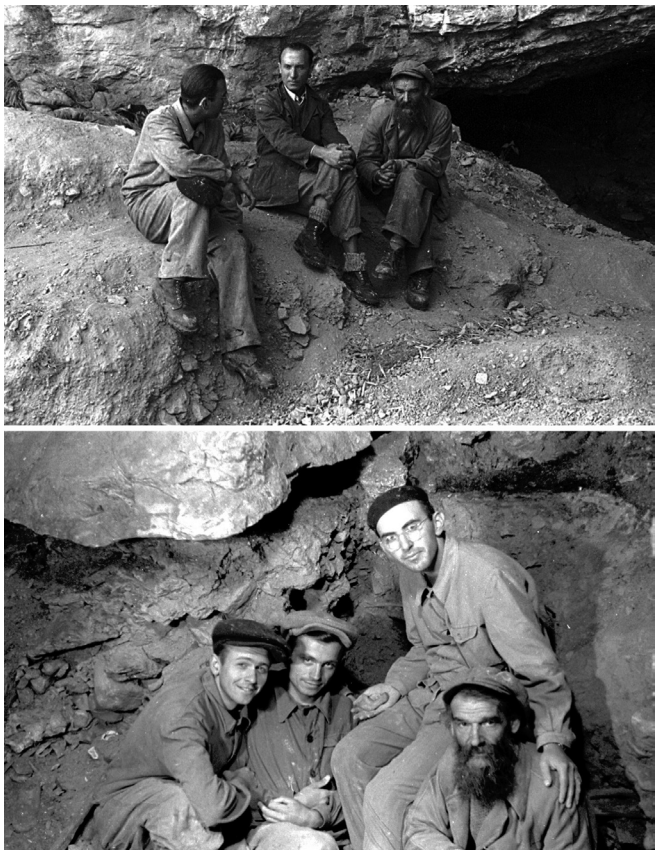

Figure 10 - Excavators at the Pestera Muierii in 1952. In each photograph, the individual on the right (with the beard) is Constantin S. Nicolăescu-Plopşor. Photo: Institutul de Arheologie "Vasile Pârvan."

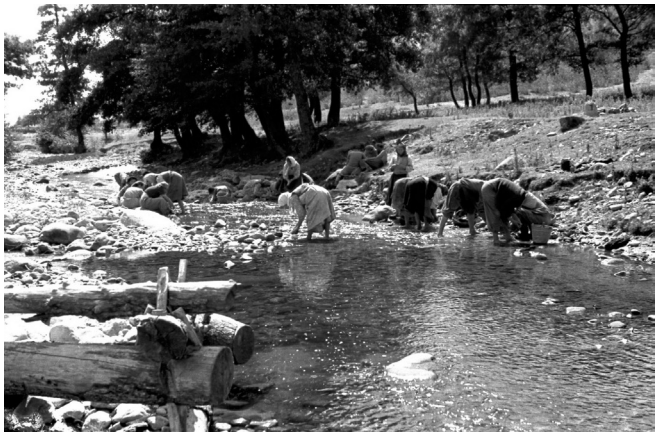

Figure 11 - Local women washing sediment and excavated remains in the river during the 1952 excavations at the Peştera Muierii. Photo: Institutul de Arheologie "Vasile Pârvan."

The primary excavation season was in 1952 (fig. 8). In the Galeria Musteriană, the previously excavated Sectors B and F were joined through a trench that comprised Sectors C, D and E. In Galeria Principală, the excavation was carried out to 2.9 m in depth in an area to the left of the entrance, adjacent to where the cave descended into the Galeria Secundară. They then continued these excavations through the Galeria Secundară ("Cot-

Figure 12 - Students and local people excavating in the Peştera Muierii during the 1952 field season. Photo: Institutul de Arheologie "Vasile Pârvan."

Figure 13 - Photograph of the right and left maxillae of Muierii 1 in the cave in August, 1952. Since the right maxilla and six teeth were discovered on August 19th and the left maxilla plus the incisor and premolar were found the next day (tabl. 19), the photograph must have been posed with the right I^2 and P^3, plus the right C_1, inserted into the maxillary alveoli for the photograph (see discussion in Chapter 7). Photo: Institutul de Arheologie "Vasile Pârvan."

lonul S," Niche S), in an attempt to connect the stratigraphies of the Galeria Principală and the Galeria Musteriană. There is no reliable information regarding the surface areas of the individual excavations.

It was during the 1952 excavations that the human remains were discovered (fig. 13 and 14). On August 5 and 6, in the Galeria Principală at a depth of 2.85 to 3.00 m, they discovered and excavated the partial skeleton of a young adult female from the Holocene deposits (Muierii 5), attributed to the Coţofeni (Bronze Age) based on associated ceramic remains (Chapters 6 and 8). Shortly thereafter on August 9 in the Galeria Principală at a depth of 3.35 m, associated with distinctive Pleistocene (MIS 3 or earlier) fauna and a fragment of burnt flint blade, they found a human molar. It was initially described as mandibular, but subsequently identified as a maxillary third molar (Daicoviciu *et al.* 1953). It is listed here as Muierii 4 (Chapter 7).

The principal Pleistocene human discoveries were made between August 12 and August 22, when the excavators discovered *in situ* at a depth of 0.30 m in Sector A of the Galeria Musteriană, the remains of Pleistocene humans. As shown in table 7 and discussed further in Chapter 7, the inventory of these Pleistocene remains from the Galeria Musteriană has evolved since their original discovery. There has also been considerable discussion since then as to whether the human remains, which have become Muierii 1 to 3, were associated with the Middle Paleolithic of the Galeria Musteriană (only Middle Paleolithic was found in the Galeria Musteriană), were displaced from Upper Paleolithic levels in the Galeria Principală, or were intrusive during the Holocene (see below). As discussed in Chapter 2, the second scenario, geological displacement in the Late Pleistocene from the Upper Paleolithic of the Galeria Principală, is the most likely one.

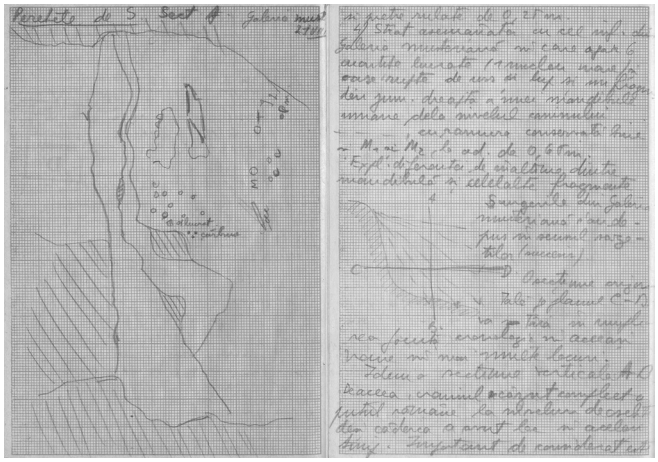

Figure 14 - Pages of the field notebook of Nicolăescu-Plopşor (1952:80 recto and verso) for August 22, 1952. The text on the right-hand page reads: "Layer 4 is similar to the lower deposit from the Galeria Musteriană; Layer 4 has yielded six quartzite pieces (among which is a big core), bear and wolf bone fragments, and a human mandible fragment (the right side), with the ramus being well preserved; the mandible was broken near the canine. M1 and M2 were at the depth of 0.65 m. Explaining the different depths of the mandible and the other fragments (the other fragments include the cranium pieces, found at 1.15 m –page 62 verso of the field notebook): the sediment of Galeria Musteriană accumulated succesively, as the arrows indicate. A horizontal section, following the C-D plan, should intersect the deposits (that accumulated sequentially) in several spots. Same is for the vertical section, following the A-C plan. Therefore, the cranium was at a different depth than the mandible, although they had slid at the same time. The variable angle of the slope deposit should be taken into account." (translation ours).

In the initial description, Daicoviciu and colleagues (1953) emphasized the Pleistocene age of the human remains. They assigned the human cranium and tibia to "*Homo sapiens fossilis*" (Pleistocene anatomically modern humans) and described the mandible and scapula as having some characteristics of "*Homo primigenius*" (Neandertals):

"Certainly the stratigraphic position and the identical fossilization stage as the mammal bones found in association with the human bones, and also the quartz tools discovered in the same level, sustain our hypothesis about these bones: they belong to a fossil human. The skull and the mandible belong to the *homo sapiens fossilis* and the mandible and tibia have characteristics

of *homo primigenius*" (Daicoviciu *et al.* 1953:1999; translation ours).

The purported Neandertal characteristics of the mandible and scapula were not specified.

Interestingly, while the cranium (and probably the tibia) is distinctly modern, the mandible and scapula do have features that align them in part with the Neandertals in a Late Pleistocene European context (Chapter 7). One of the scapular features, the narrow glenoid fossa, had been recognized by then as a Neandertal feature (Vallois 1928-46), but it is only within the past two decades that the differences between Neandertal and early modern human mandibles have become apparent (Stefan & Trinkaus 1998a,b; Rosas 2001). Yet, by 1957, Nicolăescu-Plopşor (1957:47) referred to the remains solely as belonging to "*Homo sapiens fossilis*," and any further mention of Neandertal characteristics in the Muierii human remains did not appear until our reassessment of the remains (Soficaru *et al.* 2006).

Further excavations were carried out in 1953 and in 1955. As indicated by the plan in Gheorghiu & Haas (1954; see fig. 8), the 1953 excavations involved a trench in the Galeria Principală from the Gura Peşterii to the 1952 excavation adjacent to the Galeria Secundară towards the Gura Peşterii (Sector II), plus at least two test pits in the Galeria Principală, one at the same location as the deeper one from 1929 and another in a niche on the right side of the gallery. In 1955, the excavations were conducted as follows: the Sector II was extended following the longitudinal axis of the cave, towards the entrance, in order to merge the two previously separate excavations (Galeria Principală and Gura Peşterii). A transverse trench ("Tranşeea Transversală") was dug perpendicular to Sector II, in a spot where the artifact density was elevated. Unfortunately, its position is elusive, since the plan of the excavations in figure 8 was redrawn from a publication in 1954, and the results of 1955 excavation season (Nicolăescu-Plopşor *et al.* 1957) lack an updated plan. Finally, some soundings were carried out in the Galeria Musteriană and Galeria Secundară. They were mere widenings of previous excavations, from the old excavation profiles to the cave wall (they were called "Caseta" I to IV).

For reasons that we have been unable to determine, the excavated collections from the Peştera Muierii have ended up in a diversity of institutions in Romania. The majority appear to be, as would seem appropriate, in the Muzeul Olteniei in Craiova, the institution of Nicolăescu-Plopşor and the regional center. A portion of the Pleistocene human remains (see Chapter 7) are in the Muzeul Olteniei, but the remainder of the ones which we can now locate (tabl. 7) are in the Institutul de Speologie "Emil Racoviţă" in Bucharest. Additional archeological, paleontological and/or anthropological materials are in the Institutul de Arheologie "Vasile Pârvan," the Institutul de Antropologie "Fr.J. Rainer," the Muzeul Naţional de Istorie a României and the Muzeul Militar Naţional, all in Bucharest, as well as in the Muzeul Olteniei in Craiova (Dolj County).

Curiously, although they were at one time clearly together, as indicated by old glue joins, portions of the Muierii 1 cranium have ended up divided between the Muzeul Olteniei and the Institutul de Speologie "Emil Racoviţă," with the neurocranial vault and the maxillae in the former and the zygomatic bone and the temporal bone (now considered as a separate individual but originally deemed to be part of Muierii 1) in the latter. It is not clear to what extent other, associated remains were separated between institutions. Nor it is known what has happened to the Upper Paleolithic assemblage from the Galeria Principală nor to the human remains originally inventoried but now missing.

Post-Excavation Discussions

After the excavations ended in 1955 and as the preliminary reports emerged, the Paleolithic archeological remains were gradually integrated into syntheses of Romanian (and to a lesser extent, European) Paleolithic archeology (e.g., Păunescu 1989; Hahn 1977; Chirica *et al.*, 1996; Cârciumaru 1999), culminating in Păunescu's (2000:310-324) extensive summary of the site and its contents. There was little of note regarding the Middle Paleolithic, or Upper Paleolithic, remains, and most of the authors primarily summarized the previously published information.

The discussions of the human remains were different. Nicolăescu-Plopşor (1956:30-32) firmly emphasized the association of the modern human remains with the Middle Paleolithic:

Nicolăescu–Plopşor (1952: fieldwork notes)	Daicoviciu *et al.* (1953:195–209)	Gheorghiu & Haas (1954:652)	Soficaru *et al.* (2006:17197)	Soficaru & Trinkaus (pers. observ. 2008)
1. Frontal and a piece of left parietal, occipital	1. A cranium with the maxillae	1. A fragment of mandible	1. Muierii 1: cranium (analyzed)	1. Cranium, with 7 teeth (Muierii 1)
2. Right tibia and thoracic vertebrae	2. A fragment of half of the right mandible	2. A fragment of scapula (described)	2. Muierii 1: mandible (described)	2. Partial right mandible, with 3 teeth (Muierii 1)
3. Maxillae with six teeth	3. A tibia	3. A tibial diaphysis	3. Muierii 1: scapula (described)	3. Partial scapula (Muierii 1)
4. Scapula, left temporal, maxillary left lateral incisor and premolar, thoracic vertebra	4. Scapula	4. Cranial fragments (analyzed); 8 teeth in maxillae	4. Muierii 2: left temporal (described)	4. A temporal bone (Muierii 2)
5. Right half of a mandible with first and second molar			5. Muierii 3: fibular diaphysis	5. Fibular diaphysis (Muierii 3)

Table 7 - Changing inventories of the Pleistocene human remains from the Galeria Musteriană.

"The discovery in 1952 of a cranium of *Homo sapiens fossilis*, plus a scapula and a tibia, coming from an undisturbed geological context, together with cultural remains and fauna of that time, has been overlooked. Despite the stratigraphical certainty of the discovery, the presence of *Homo sapiens fossilis* in a Mousterian context seemed doubtful to the scholars that were used to the Western European situation, where the Mousterian was solely associated with *Homo primigenius*. In order to rule out a possible stratigraphic error, fluorine and radioactive carbon analyses will be carried out" (our translation).

Despite these statements, Olga Necrasov, the doyenne of Romanian skeletal biology, was responsible for setting aside the Muierii human remains as dubiously Pleistocene in age. In a mid-1960s summary of the "stone age" populations of Romania, after discussing briefly the Middle Paleolithic phalanx from Bordu Mare (Ohaba Ponor) and the cranium from Peştera Cioclovina Uscată, Necrasov and Cristescu (1965:130) stated:

"Aside from these pieces (Cioclovina and Ohaba Ponor), well dated, one should refer to three other pieces, whose dating and morphology do not appear to us to be convincing to consider them as fossil humans. They include skeletal elements (skull, scapular fragment and tibial diaphysis) found in the cave of Baia de Fier, the frontal bone of Guirgiu and a little fragment of femur from Peştera (Braşov), presented by D. Nicolăescu-Plopşor. We hope that new research with radiocarbon, fluorine and potassium-argon will clarify the affinities of these remains" (translation ours).

Similar views were expressed by Necrasov in her subsequent overview of human evolution (1971a) and a summary of human fossil remains in Romania (1973). Equally important from a more global perspective, she was responsible for the Romanian entry in the *Catalogue of Fossil Hominids II: Europe* (Necrasov 1971b), in which she only mentioned the Cioclovina neurocranium, the Middle Paleolithic Bordu Mare phalanx [there are now three (Păunescu 2001)], and the Late Upper Paleolithic molar germ from La Adam. As a result, the Muierii human remains were not included in a summary of Aurignacian and possibly Aurignacian human remains of Churchill and Smith (2000) and were essentially unknown outside of Romania.

Ironically, although it was generally accepted as Pleistocene in age at the time, the Cioclovina neurocranium was indeed undated, something that is readily evident from the original description of the specimen and its discovery (Rainer & Simionescu 1942). Indeed, in their review of Aurignacian human remains, and prior to the direct dating of the specimen to ~29,000 ^{14}C BP (Olariu *et al.* 2001; Păunescu 2001; Soficaru *et al.* 2007; tabl. 6), Churchill & Smith (2000:101) accepted the association of the specimen with "three Aurignacian artifacts" but noted that: "without a larger cultural component or absolute dates, the Cioclovina hominid contributes little to our understanding of the nature of the Neandertal/modern human transition, but may well be an early representative of the latter group."

Despite Necrasov's statements, Dardu Nicolăescu-Plopşor (the son of the archeologist) included the remains in his presentation on Romanian fossil human remains at the 1964 International Congress of Anthropological and Ethnological Sciences (Nicolăescu-Plopşor 1968), accepting an association with the Middle Paleolithic and questioning whether this represented a late survival of the Middle Paleolithic in this region. More recently, Alexandra Bolomey (in Dumitrescu *et al.* 1983) also accepted the association of the Muierii human remains with the Middle Paleolithic of the Peştera Muierii; she attempted to explain the unusual association by proposing a late Middle Paleolithic in the region and/or the persistence outside of western Europe of a more generalized (less extreme in a Neandertal framework) human form, in concert with the "Pre-Neandertal" scenarios of the 1950s (see Vallois 1958a). The association with the Middle Paleolithic largely persisted in Cârciumaru's (1999) summary of views on the issue. However, he raised the same desire for direct radiocarbon dating of the remains, as did C.S. Nicolăescu-Plopşor (1956), Necrasov & Cristescu (1965) and D. Nicolăescu-Plopşor (1968), and further queried whether the associated lithic assemblage could in fact be Upper Paleolithic. Interestingly, in the meantime, Chirica *et al.* (1996:141) had stated that the human remains were associated with "archeological materials belonging to the Upper Paleolithic," referencing Nicolăescu-Plopşor (1956) in which it was clearly stated that they were Middle Paleolithic in age (see above).

Redating and Reassessing the Peştera Muierii

It is in this context that Agatha Olariu, Emilian Alexandrescu and colleagues obtained bone samples from the Muierii scapula and tibia in 2001, submitted them to the Lund radiocarbon facility, and obtained an age of ~30,000 ^{14}C BP (Chapter 2). At the same time, they also submitted a sample from the Cioclovina 1 cranium, which provided a slightly more recent age of ~29,000 ^{14}C BP, but in fact the two resultant ages are statistically indistinguishable (tabl. 5 and 6). When Olariu, Alexandrescu and colleagues first had the results, the late Alexandru Păunescu was in the process of finalizing his monograph on the Paleolithic and Mesolithic sites of Transylvania (Păunescu 2001), and he requested permission to include the dates with his description of the Peştera Cioclovina Uscată and the Cioclovina human cranium (A. Olariu pers. comm. 2005). At the same time, Olariu and colleagues posted the results on the web (2001), although they did not publish the dates until some time later, in non-anthropological / non-archeological venues (Olariu *et al.* 2003, 2005).

The efforts of Olariu and colleagues were therefore critical in establishing that these human remains, of questionable antiquity (at least to some), were in fact Late Pleistocene in age. The dates also raised again the question of whether the human remains were Middle or Upper Paleolithic in age, especially given the purported Aurignacian association of the Cioclovina cranium and the emerging radiocarbon dates for the Carpathian Aurignacian in the same time frame (tabl. 2). Without their efforts, and without their willingnes to let Păunescu publish the dates, they may well have remained in chronological limbo for some time to come.

Shortly after the direct dating of these human remains, a team of cavers from Timişoara (Ştefan Milota, Laurenţiu Sarcină, and Adrian Bîlgăr, and later Mircea Gherase) discovered a set of galleries within a karst system, replete with the remains of wolves,

deer, ibex and especially cave bears, and a virtually complete modern human mandible. This occurred in February 2002. They contacted Oana Moldovan of the Institutul de Speologie "Emil Racoviţă" in Cluj-Napoca, who emailed several paleoanthropologists for advice, including ET. The subsequent communication resulted in Moldovan and ET meeting in May 2002 in Budapest, the loan of the (then undated) mandible to ET, and the generation of a direct AMS ultrafiltration radiocarbon date of >35,200 ^{14}C BP for the mandible (Trinkaus *et al.* 2003a; tabl. 6). Realizing that this was the oldest securely dated modern human in Europe, ET and colleagues then undertook a short field season in 2003 and longer field seasons in 2004 and 2005 at what had become known as the Peştera cu Oase, near Anina, Caraş-Severin. The fieldwork produced most of an adolescent cranium, of matching morphology to the Oase 1 mandible but of a different individual (Rougier *et al.* 2007). It also generated an extensive series of radiocarbon, uranium-series and other absolute dates, and one of the best documented cave bear samples in Europe.

In 2003, Moldovan had provided ET with the name and email of AS in Bucharest. With the help of AD, copies of the two most relevant volumes of the Păunescu series on the Paleolithic and Mesolithic of Romania, those on Transylvania and on the region between the Danube and the Carpathians, were obtained, forwarded to Moldovan and brought to the fieldwork in Anina in 2004. In reading through these volumes, and especially the section on the already known Cioclovina human cranium, the direct dates of Olariu and colleagues became known to ET. Given the long-term interest of ET in the paleontology of early modern humans, an interest fostered by the discovery of the Oase human remains, these dates made him want to further investigate the Muierii human remains. An exchange started between AS and ET regarding these fossils, AS located the Muierii human remains scattered between Bucharest and Craiova (it was known that the Cioclovina cranium was in the Facultatea de Geologie şi Geofizică, Universitatea Bucureşti), and a project to further date these remains and to provide a modern description of the human fossils emerged. At the same time, AD was beginning his doctoral research on the Middle Paleolithic of Romania (Doboş 2010), and it was appropriate that he should be involved in the reassessment of the Peştera Muierii, site, stratigraphy, dating, human remains and archeology. Grant proposals were submitted by the end of 2004 to the National Science Foundation (USA) and the Wenner-Gren Foundation for Anthropological Rsearch, and funding was obtained by late spring of 2005.

As a result, in the fall of 2005, after AS and ET had shared the scenic pleasures of Anina and the fine accommodations of the Hotel Steier during summer fieldwork at the Peştera cu Oase, we began the re-analysis of the Peştera Muierii in Bucharest and Craiova. With the permissions of Ioan Povară of the Institutul de Speologie "Emil Racoviţă" in Bucharest and Mihai Fifor of the Muzeul Olteniei, and with the assistance of Cătălin Petrea and Emil Ştiucă at the former plus Florin Ridiche and Aurelian Popescu at the latter, ET and AS began the detailed description and analysis of the Pleistocene human remains (fig. 15). At the same time, a series of faunal remains from the Galeria Principală with indicated depths below datum were sampled for

Figure 15 - Andrei Soficaru and Erik Trinkaus working on the Muierii human remains in the Institutul de Speologie "Emil Racoviţă" in Bucharest in 2005 (above) and Adrian Doboş working on the Muierii Middle Paleolithic lithic collections in the Institutul de Arheologie "Vasile Pârvan" in Bucharest in 2009 (below).

radiocarbon dating in the Muzeul Olteniei and the Institutul de Arheologie "Vasile Pârvan" (tabl. 1). Permission was given to sample the human remains in the Institutul de Speologie "Emil Racoviţă," so samples were taken from the temporal bone, mandible, fibula and the zygomatic bone (Chapter 2). This data and sample collection was followed by the locating and beginning of the reassessment of the archeological collections, in particular the Middle Paleolithic ones, as well as the analysis of the Holocene human remains.

The results of the reanalysis and the redating of the Pleistocene human remains and the series of dates on the faunal remains resulted in a preliminary report on these fossils, integrating them into the small but growing sample of the earliest European modern humans after 50,000 BP (Soficaru *et al.* 2006). In this report, the basically modern human nature of the fossils was reiterated, but it was also noted that the mandible and the scapula in particular exhibited features that, in an European Interpleniglacial context, aligned them with the preceding Neandertals. These traits in particular included the mandibular notch shape, the mandibular notch crest position on the condyle, and the scapular glenoid fossa. As such, the Muierii remains became integral to the ongoing discussion regarding the presence of Neandertal-modern human admixture

when they met in the Late Pleistocene (Trinkaus 2007), as well as discussions of the degree of behavioral contrast between these two groups of humans.

At the same time, a reassessment of the Muierii 1 scapula, with its narrow glenoid fossa similar to those of the Neandertals, raised questions as to the degree to which these early modern humans were engaged in forceable throwing behavior (Trinkaus 2008a). As the only Early Upper Paleolithic modern human scapula known from Europe [other similarly aged ones are known from Nazlet Khater in Egypt and Tianyuan in China (Crevecoeur 2008; Shang & Trinkaus 2010)], it was combined with other upper limb data from the Mladeč sample to address these behavioral issues.

The radiocarbon dating of the human and faunal remains also produced carbon and nitrogen stable isotope data (Doboş *et al.* 2009; Trinkaus *et al.* 2009), which became integrated into analyses of both cave bear diet (Richards *et al.* 2008a) and possible shifts in human diet with the emergence of modern humans (Richards & Trinkaus 2009).

Since the left zygomatic bone of Muierii 1 was in the collections of the Institutul de Speologie "Emil Racoviţă" in Bucharest and the neurocranium and maxillae were in the Muzeul Oltenei in Craiova, the maxillae had been connected to the frontal bone with plaster through the interorbital region sometime prior to 2005. To rectify this condition and position the face as accurately as possible on the neurocranium, in 2008 ET and AS returned to Craiova with the zygomatic bone, correctly aligned the face, and obtained the desired data from the properly assembled cranium (see fig. 30 and 38). We also realized that the canine, which had been placed in maxilla (Gheorghiu & Haas 1954), was indeed mandibular and fit perfectly into the distal alveolus preserved on the right mandible.

At the same time, AD was involved in a reassessment of the Middle Paleolithic technology from the Peştera Muierii and similar Carpathian sites (fig. 15), locating and reanalyzing the available lithic collections from the different galleries of the cave.

As a result of the recent publications of the human and faunal remains from the Peştera Muierii, the site has become increasingly integrated into the paleoanthropological and vertebrate paleontology literature. With the renewed analysis of the archeological materials, the Holocene human skeletal remains and a more secure geochronological framework, it is expected that the same will happen with the other aspects of the site.