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Chapter 9

PALEOANTHROPOLOGICAL IMPLICATIONS OF THE PEŞTERA MUIERII

From the presentation of the Peştera Muierii, its faunal remains, its archeological traces and its human remains, it is apparent that the portion of the cave that opened into the narrow valley of the river Galbenu served as refuge for large mammals and humans at various times throughout the Late Pleistocene and the Holocene. The material excavated and recovered, and that portion of it now available for analysis, paints an incomplete picture of the sequence of events and processes that led to the accumulation of these remains within the adjacent galleries of the cave system. However, it is possible, as we have attempted to do, to pull together a variety of forms of evidence regarding the use of the cave, especially by people, from the surviving original field notes, early preliminary publications of the site and its contents, subsequent reassessments of the archeological remains, and the collections now scattered in various institutions in Romania. The portrait is partial, but there are still substantial implications for our understanding of past human presence and populations in the southern Carpathians.

The Non-human Use of the Cave

The ubiquitous presence of large Late Pleistocene cave bear remains (*Ursus spelaeus*), especially in the deeper recesses (*e.g.*, Galeria Urşilor) and upper galleries of the cave system, testifies to the use of the cave as a hibernation denning locale for these large carnivores until their extinction late in MIS 3 (Chapter 4). The relative abundance of cave bear remains in the various galleries is not known, although comments in the early publications indicate an abundance of them in at least the Galeria Urşilor. However, it is reasonable to assume, from their presence in all of the documented galleries, that they used the cave on an habitual basis for hibernation, and that their remains slowly accumulated through hibernation deaths.

Two other denning carnivores are present within the faunal lists, wolf (*Canis lupus*) in all of the galleries and spotted hyena (*Crocuta crocuta*) in all except the Gura Peşterii. Again, their relative abundances are not known, but it is to be assumed, given normal competition between denning carnivores, that they alternated their use of the cave with the cave bears, or occupied separated portions of the cave. At the same time, there is a long list of the remains of felid and mustelid carnivores scattered through various galleries or levels of those galleries. It is not clear to what extent they would have co-existed in the cave with the cave bears, wolves and hyenas, but one gets the impression of the cave as a major focus on the landscape, used alternately through the Late Pleistocene by a variety of carnivores.

These abundant and diverse carnivore remains are accompanied, to varying extents in the different galleries and levels, by virtually every medium to large sized herbivore that could have been present in the southern Carpathians during the Late Pleistocene. They vary from more closed habitat to more open habitat species, from strictly cold climate species to relatively warm or temperate ones. Given that all except giant deer (*Megaloceros*) and moose (*Alces*) are present in most of the galleries, it is not possible to sort out whether this diversity reflects climatic cycles during the Late Pleistocene or accumulation from a variety of ecozones in the greater region of Baia de Fier. It is also not known to what extent the accumulation of the herbivore remains (they are unlikely to have entered the cave of their own free will) was the result of predation by the large carnivores and/or human predation on the same species. The original descriptions, which are almost entirely concerned with species identification and presence, and the current collections, which are biased towards the more complete and taxonomically diagnostic elements, do not permit such taphonomic distinctions.

It is nonetheless likely that the herbivore faunal remains were accumulated at least in part by the human occupants of the Peştera Muierii. Not only do Middle Paleolithic sites and Neandertal stable isotopes across Europe testify to the routine hunting and processing of large herbivores by Middle Paleolithic humans, but the stable isotopes, and especially the nitrogen ($\delta^{15}N$) ones, of the Early Upper Paleolithic Muierii 1 and 2 remains indicate that they were obtaining their protein from relatively high on the food chain (Chapter 7).

Additional stable isotopic data, also generated through radiocarbon dating, for four cave bears and one cave lion reinforce the pattern that has been emerging for these Late Pleistocene European carnivores (Chapter 4). The lion has a distinctly carnivorous isotopic profile, whereas the cave bears have stable isotopic values, particularly their nitrogen ($\delta^{15}N$) ones, which

span the range from largely herbivorous to distinctly omnivorous. These data on the cave bears reinforce the pattern, evident particularly at the nearby site of Peştera cu Oase but evident across the higher quality isotopic samples for cave bears across Europe, of dietary flexibility for these large Late Pleistocene ursids.

The Pleistocene Human Use of the Peştera Muierii

Based on the abundance of Middle Paleolithic artifacts and lithic debris from the upper galleries of the Peştera Muierii (Chapter 5), it is apparent that Middle Paleolithic humans made extensive use of the cave during the Late Pleistocene.

From the composition of the Middle Paleolithic lithic assemblage, in which the overwhelming majority of the remains are made from largely local quartz and quartzite that was reduced in large part within the cave, it is apparent that those assemblages were mainly produced through lithic manufacture and discard while the social groups were at least temporarily in residence in the cave and its environs. Unfortunately, although the Middle Paleolithic lithic remains were found throughout the excavated areas of the Galeria Musteriană and the Galeria Principală and the smaller connecting portions of the cave, it is not now possible to attribute all of the available collections to locations or levels within the cave. It is also not known how the relative density of the lithic remains might have varied within the cave, and therefore whether the human activities were focused more on the areas near the openings or deeper within the cave.

At the same time, the much smaller flint assemblage from the Middle Paleolithic of the Peştera Muierii testifies to the transport of such materials from elsewhere. The original sources of the flint are not known, but the presence of only the latter stages of tool manufacture and discard in the flint portion of the assemblage indicates that they were largely made at other locations and brought to the Peştera Muierii as part of the mobility pattern on the landscape.

The Upper Paleolithic assemblage, from the Galeria Principală and the Gura Peşterii, testifies to the presence of earlier Upper Paleolithic humans using the cave. This presence is further supported by the human remains, directly dated to the Early Upper Paleolithic, which accumulated at the back of the main upper cave galleries. However, the scarcity of the Upper Paleolithic artifactual remains, noted in both the early descriptions of the excavations and the more recent assessments of the sample (Chapter 5), implies that the site was little more than an intermittent activity area during this time period. Furthermore, if indeed humans became more effective at competing for space with large cave bears within cave systems during the Upper Paleolithic, then the continued abundance of cave bear remains in the post-Middle Paleolithic levels of the Peştera Muierii further supports the minimal use of the cave by humans during the Upper Paleolithic.

Interestingly, despite the brief and unsubstantiated early mention of Late Upper Paleolithic (Magdalenian) in the Gura Peşterii (Chapter 3), there is no evidence of human use of the cave through the latter portion of MIS 3, the last glacial maximum, the remainder of MIS 2, and most of the early Holocene. If people were in the vicinity of Baia de Fier during at least the later portions of MIS 2, they apparently were not using the Peştera Muierii for shelter.

With respect to the human use of the Peştera Muierii, it needs to be emphasized that any occupation of the cave, during the Middle or Upper Paleolithic, would have had to have been coordinated with the use of the cave by the long list of denning carnivores. One gets the impression of a diversity of species, including humans, alternating use of the protection afforded by the cave system. Yet, it is also apparent that the deposits formed over many millennia, and it is impossible to ascertain the relative contemporaniety of the different species.

The Holocene Human Use of the Peştera Muierii

After a considerable gap in time, from the Early Upper Paleolithic to the Early Neolithic, human use of the cave resumed. The superficial levels of the various portions of the cave have yielded scattered remains of ceramics, metal objects, domestic animal remains, isolated human bones, a human burial, and an inscription (Chapters 6 and 8). The finds are stylistically datable to various periods from the Early Neolithic to the twentieth century, with remains referable to various phases of the Neolithic, Bronze Age, Iron Age, Roman period, Middle Ages and more recently. There were a few fireplaces in the deposits, suggesting that people used the cave as a temporary shelter or refuge, and the presence of domestic (as well as wild) animal bones (Chapter 4) indicates the processing (and possibly sheltering) of animals in the cave. The one discrete event documented in the cave is the burial of a young adult female, a rather gracile individual, during the early Bronze Age Coţofeni time period (Chapter 8).

The scattered Holocene remains in the site indicate that the upper portions of the Peştera Muierii continued to be used as a place of human activity, intermittently from the Neolithic to the present, but there is no evidence that it was used extensively or systematically during this time period.

The Pleistocene Early Modern Humans

As noted above (Chapter 3), the interest of AS and ET in reinvestigating the Peştera Muierii and its contents was stimulated by the documentation, in 2001, that the anatomically modern human remains found at the back of the Galeria Musteriană had been dated to the Early Upper Paleolithic. This was combined with the developing Paleolithic research of AD on the Middle (and Upper) Paleolithic technology of the region. Therefore, all of this discussion brings one back to the Pleistocene human remains from the cave.

The processes by which the Muierii human remains came to be interred within the deposits at the back of the Galeria Musteriană will remain unclear (Chapter 2), but it is apparent that they were redeposited from higher levels, probably ones at the back of the Galeria Principală. It is not known how the

remains came to be in the back of the cave in the first place, or why one should end up with majors portions of a skull, a scapula and a tibia, plus a temporal bone apparently of a second individual and a partial fibula from somewhere in the portions of the cave excavated in 1952. There are no carnivore marks on the bones, nor cutmarks; all of the breaks appear to be dry bone postmortem breaks. It is therefore likely that the remains were originally buried rapidly, naturally or intentionally, given the abundance of carnivores of all sizes within the cave deposits.

The principal individual, Muierii 1, is that of a relatively small, probably female individual, who lived to a moderately advanced (fourth or fifth decade) age (Chapter 7). There is little evidence of abnormalities beyond the dental changes associated with advanced occlusal attrition and a few minor dental enamel hypoplasia lesions. The Muierii 2 temporal bone is that of a larger, probably male, apparently young adult individual. Other than its suite of diagnostic characteristics (Chapter 7), there is little of note on the specimen.

Paleobiological Implications

From the limited evidence of the remains, Muierii 1 appears relatively gracile for an Early Upper Paleolithic individual, but this impression may be influenced as much by its small size as by any clear indications of gracility. The rough estimate of tibial diaphyseal robusticity places it among the more gracile of the early modern human tibiae, even for a linear individual (Chapter 7); as with the approximately contemporaneous Mladeč 27 femur, this may indicate either a gracile bone or extreme linearity of body form.

In this context, the moderately advanced dental attrition of Muierii 1 shows a pattern of even wear across the anterior versus posterior dentition, in which it has even less relative wear of the two preserved anterior teeth than is found in other early modern humans. It completely lacks the pattern seen among the Neandertals (and probably archaic *Homo* in general) of a more rapid wear of the anterior dentition, from use of the incisors and canines for more than bringing food into the mouth.

Yet, the scapula shows glenoid fossa proportions which imply less habitual powerful throwing (as of spears) than one would expect given the technology available in the Early Upper Paleolithic and documented in the Early Upper Paleolithic assemblage from the Peştera Muierii. Although this feature can be used as an element of archaic *Homo* (including Neandertal) morphology, it also has implications for the degree to which projectile throwing was employed during this time period.

Populational Implications

As noted in the discussion of the Muierii Pleistocene human remains (Chapter 7), these skeletal and dental elements present a morphological pattern that is overwhelmingly that of "anatomically modern humans." Yet, in this context, as with other Early Upper Paleolithic "modern humans," they have a minority of features that are reminiscent of the Neandertals and/or archaic *Homo* generally and are unusual relative to earlier Late Pleistocene modern humans. This is interpreted here, as elsewhere, as the product of some degree of assimilation of Neandertal populations into those of early modern humans dispersing into Europe.

These populational considerations, however, omit the most important question. They ignore the question of interest that goes beyond who was having sex with whom in the Late Pleistocene. After all, sex is a normal biological process. The question is why modern humans, after being present outside of Europe for at least 100,000 years, should have spread moderately rapidly across Europe. This question cannot be answered from the data gleaned from the Peştera Muierii and its archeological and paleontological remains alone. However, it, and not limited questions of reproduction, is the issue towards which the material excavated from the Peştera Muierii in the 1950s may contribute.

Summary

Initial explorations from the nineteenth century through the 1920s, and then excavations in the 1950s at the Peştera Muierii, Baia de Fier, Gorj County, Romania revealed an extensive occupations of the cave system by carnivores during the Late Pleistocene and by humans during the Middle Paleolithic, and then more intermittent use of the cave by people during the earlier Upper Paleolithic and the second half of the Holocene. Despite scattered reports of the explorations and excavations, the contents of the cave were never properly described. This lacuna in the paleoanthropological record was compounded by ongoing debates as to the archeological context of the early modern human remains from the Galeria Musteriană. As a result, the Peştera Muierii has remained a moderately well-known site within Romanian Paleolithic archeology, but it had failed to take its place more broadly and remained outside of human paleontology. Reanalysis of the available notes, publications and remains from the Peştera Muierii has provided a window into the use of the site during the Late Pleistocene and Holocene and furnished data and ideas for the ongoing analysis of the Middle and Early Upper Paleolithic of the southern Carpathians, Early Upper Paleolithic and Bronze Age human skeletal biology, and the later Holocene archeology of the region.