MINISTRY OF NATIONAL EDUCATION
„1 DECEMBRIE 1918" UNIVERSITY OF ALBA IULIA
FACULTY OF HISTORY AND FILOLOGY
DOCTORAL SCHOOL OF HISTORY

MOUNTAIN ARCHAEOLOGY. CASE STUDY: MARAMUREȘ MOUNTAINS

PhD ABSTRACT

PhD Coordinator:
Prof. univ. PhD. Mihai Gligor

PhD Student:
Bogdan Bobînă

Alba Iulia
2018

Contents:

Keywords: Maramureș Mountains, Rodnei Mountains, mountain archaeology, Paleolithic, Mesolithic, post Roman, Neolithic, seasonal, hunting, Prislop Pass, Știol, Borșa, mining archaeology.

I. INTRODUCTION

The interest in mountain archaeology, sprung in the 1980s Europe, was timidly transposed to our country, resulting in small, localized projects. The most systematical research to this day was the ethnoarchaeological project titled HZEP (*Highland Zone Ethnoarchaeology Project*[1]). Since it encompassed a wide area, with several mountain chains, we doubt that it managed to record and document all the activities within the alpine area, especially since the research was carried out in accordance to the understanding of pastoral calendars and the organization of sheepfolds. Although prehistoric discoveries were not neglected, they are clearly fewer considering the archaeological potential of the Carpathians. A great number of these researches were conducted at lower altitudes (300-700 m), even though the project aimed to survey the areas starting from 1.000 metres and above.

If we consider the archaeological reports from our country we quickly notice that most of the mountains appear as blank spots. Research was usually performed in connection with the Dacian discoveries (Orăștie Mountains) and several small-scale projects, with few participants and without a systematic approach of the mountain area. Several of these have chosen restricted research topics, like the study of ethnoreligion[2], mining archaeology[3] or just particular valleys[4] etc. These initiatives are commendable as the efforts implied by mountain research are considerable, and they usually involve several other fields of study like ethnography, ethnology, geography, geology etc. These projects have not neglected discoveries belonging to other periods of time but small teams with a rather chaotic spatial approach for the areas, lacking adequate method is clearly visible in the published results. In most cases the higher areas were ignored, with various reasons, some stating that the mountain is a harsh environment that was avoided by prehistoric communities, other blaming poor financing and logistics that could not imply

[1] Nandriș 1985, 256.
[2] Lazarovici *et al.* 2011.
[3] Kacsó *et al.* 2008-2009**.**
[4] Popa 2012.

interdisciplinary approaches. The lack of a good methodology combined with the almost imperceptible traces of the communities that populated and exploited the mountain environment have discouraged many researchers. It is no small thing that the exploration of a mountain range implies a certain minimal physical condition, combined to a resistance to stresses such as bad weather, harsh vegetation, wild animal presence and terrain morphology.

In the year 2012 a project titled *An archaeology of the mountains of Maramureș (O arheologie a munţilor din Maramureş)*[5] was initiated, with the main objective of systematically researching of an area encompassed by the confluence of Vișeu river with the Tisza to the west, the Vișeu valley and Rodnei Mountains to the south, and *Obcinele Bucovinei* to the east. In the first stage of the project it was decided that the northern limit should be on the border between Romania and Ukraine, with the aim of later extending the research as a joint project over the border: This will follow the processing stage of the current research, and thus allowing an adequate overview of the habitat and the further exploration of the Eastern Carpathians.

As the current literature has never approached the actual implementation of such a project we have encountered a lot of challenges in terms of logistics, research methodology and recording practices. Some of the members of our team for example have never slept in a tent and displayed symptoms of height sickness. Taking into consideration the wide subject area it also required an adapted methodology to tackle this particular type of relief.

In the following paper we aim to elaborate an implementation model for a mountain archaeology project. It involves several important steps like archival research (written records, oral information, map research and place names), establishing logistics, methodology of surface surveys, documenting and recording of anthropogenic activities, and not the least interdisciplinary research, a crucial aspect of such a project.

As a case study we have chosen the Maramureș Mountains, considering also that the project was already ongoing and that the theoretical methodology here stated needed practice in the field. Therefore, during the campaigns of 2014, 2015, 2016 and 2017 we have applied these methods in order to identify their applicability and identify any weak points. In 2015 we had the opportunity to apply the methodology as part of the team of a mountain archaeology project in the German Alps, at Karwendel, (Germany).

[5] A project initiated by the Maramureș County Museum for History and Archaeology in collaboration with the „Vasile Pârvan" Institute of Archaeology, Bucharest, later joined by the Satu Mare County Museum and the „1 Decembrie 1918" University of Alba Iulia.

This paper approaches a series of issues relating to terminology as identified by the current scientific research, such as the definition of mountain archaeology, often mixed with the archaeology of mining areas, the definition of an alpine site or the existence or not of prehistoric transhumance.

The objectives set by this paper are towards establishing a clear methodology and terminology for the research of the mountain areas, to be applied here and elsewhere in the world.

The subject of our thesis is based on the dynamics of populations in the mountain areas, with specifics for the pre- and proto-historic populations, with the note that all the other periods of history will be treated in a separate approach, as a publication of the mountain archaeology project's results for the entire Maramureș Mountains.

II. HISTORY OF RESEARCH CONCERNING MOUNTAIN ARCHAEOLOGY IN ROMANIA

Within this chapter we have reviewed the main research conducted in the high areas of the Romanian territory. We see fit to acknowledge an ample repertoire accomplished by the researches of speleologists like Tr. Orghidan and Margareta Dumitrescu[6], for the intensely inhabited area of the Perșani Mountains. Between 1957 and 1958 the two apply interdisciplinary research methods in 69 of the karst relief areas. Recently, in 2014 we have an intense project for mapping around 130 caves within the *Vârghișului* Gorges, making use of a GIS database[7].

Another ample research aimed at karst areas of the Romanian territory is that of Vasile Boroneanţ[8], including natural and man made caves, vertical caves, rock shelters, rocky outcrops, mines, clay mines and salt quarries.

We also acknowledge the research of Volker Wollman, with a systematic approach on the subject of mining and rock quarries[9].

In 2000 we see the beginning of an archaeological research concentrated on the high areas of Roşia Montană (Alba County), initiated by the National Institute for Historical

[6] Orghidan, Dumitrescu 1962-1963.
[7] Murătoreanu *et al.* 2015.
[8] Vezi Boroneanţ 2000.
[9] Vezi Wollman 1996; Wollman 2010.

Monuments and the National Union Museum of Alba Iulia. Considering the complexity of such a project the Ministry of Culture initiates the National Research Program „Alburnus Maior", under the patronage of the National History Museum of Bucharest.

In 2006 we see ample movements towards investigating surface and underground mining activities, together with the associated structures from the Maramureș County[10].

Relevant to our topics we have the project *Highland Zone Ethnoarchaeology Project* (HZEP). The main objectives of *HZEP* were to record and analyze, in terms of landscape archaeology and ethnoarchaeology, small scale sites as well as any traces of human activities within the alpine regions. It also promoted excavations to be performed within mountain area sites, belonging to various periods while also researching recently abandoned settlements, all treated using ethnographical methods with the added information provided by local oral sources.

In the year 1982 we see researches being performed in the high areas of the Banat region, by a joint Romanian and British team lead by Gh. Lazarovici and J.G. Nandriş. In the *Cerna Vâr* Massif, part of Cerna Mountains, three expeditions were organized, leading to the study and mapping of over 70 ethnoarchaeological objectives, two of them belonging to prehistoric times. Among the sites documented were sheepfold, stables and other shelters, both functional and abandoned. Record were made on the roads and border mounds, trees carved by shepherds, orchards, raw materials resources (copper), access paths and roads, springs etc[11].

III. MAIN THEORIES REGARDING THE USE OF MOUNTAIN AREAS

Up until the beginning of the 1980s, a theory claiming a slow colonization of the Alps was predominant[12], its supporters inspiring themselves from the overall cultural evolution of Europe, especially that of the Bronze Age. Therefore the research was oriented onto identifying scenarios that spoke of a progressive integration of typically Alpine socio-economic elements, like the alpine habitat and the grazing practices. Further debate sprung with the discovery of *Ötzi, the Iceman*, up on *Hauslabjoch*, at an altitude of 3.200 m, near *Similaun* glacier, within the *Alto-Adige* at the frontier between Austria and Italy. For the first time, a direct witness of the Alpine prehistory, in the strictest sense of the word, initiated a multi-disciplinary research worthy

[10] Vezi Kacsó *et al.* 2008-2009.
[11] Maxim 1988-1991, 14.
[12] Della Casa 2009, 10.

of the term *alpine archaeology*[13]. This discovery brings together a series of key factors like the existence of high alpine communications routes (here connecting two opposite valleys), a chronological date that confirms an interval between 3.300-3.200 BC, an important and emblematic period for the colonization of the Alps, together with specialized personal gear that shows a clear intent of venturing into the mountains. Following complex analyses an entire context of economical and ecological factors was determined and interpreted, for this entire alpine area.

Following this breakthrough it was necessary to establish several norms and methodologies towards approaching the alpine areas. In 1984, F. G. Fedele[14] suggested that, since the mountains are a unique landscape, they are to be specifically researched, both in theory and in method, all preferably adapted to each region. He also suggests that each alpine region should never be approached without the settlements around it, even those of a lower altitude. We should not start with the hypothesis that the mountain settlements are independent of those in the valley.

The same author proposed a definition for mountain archaeology, based on the configuration of the relief and altitude. The terms *mountain archaeology* and *high-altitude archaeology* are to be used independently as they treat different topographical mediums. Mountain archaeology is concerned with the study of landscapes showing a significantly and abrupt relief morphology, in contrast with the surrounding areas, up to the alpine ecotone (3.000 m); in turn *high-altitude archaeology* focuses on the human traces found at over 3.000 m altitude, with some exception where the topography is not necessarily abrupt (for example the Tibetan Plateau[15] or the Central Asian Steppe[16]). Due to the high altitude in which artifacts appear, this particular field of archaeology is also concerned with the study of human behavior and adaptation to its environment, taking into account the inherent psychological stress and sustenance based on limited resources.

With the global warming comes the melting of glaciers, giving rise, towards the late 1990s, to a new field of archaeological research, namely *ice patch archaeology* (for the USA) or

[13] Fleckinger 2003.
[14] Fedele 1984.
[15] Saul 2014.
[16] Frachetti, Maksudov 2014.

glacial archaeology (in Europe)[17]. It deals with the recovery of artifacts from glacier areas or those covered by permafrost. Given the spectacular finds of organic materials, numerous projects were initiated, involving interdisciplinary methods for their proper retrieval and conservation[18].

To this date there are three branches of study concerning the mountain environment, each achieving their set objectives based on specific research methodologies. Since the highest point in Romania is Moldoveanu Peak, with its 2.544 m (Făgăraş Mountains), we can only speak of *mountain archaeology*. In our opinion this branch of study deserves a more clear definition than that set by a certain minimal threshold of altitude. We propose to take into account not just the topography of the terrain, like Fedele[19] suggests, but also a change in the environmental markers such as fauna and flora, together with climate conditions. These three factors are directly influential in all human activities, imposing specific requirements for survival in that environment.

A question arises in defining the threshold: according to vegetation this is the passage to the nemoral biome between 800 – 1.250 m[20], the lower limit being considered the limit where the mountains begin[21]. This is also considered to be the altitude from which settlements become seasonal[22], unless they are organized in such a way they would allow habitation through winter.

Therefore we propose the following definition: *mountain archaeology* has the main objective of studying the traces and all human activities taking place within mountainous areas, from all periods of history, beginning with the minimum altitude of 800 m (the starting of the nemoral biome) up until the line of permanent snow, without neglecting the links between the high settlements and those in the lower valleys.

Also within this chapter we discussed the difference between *mining archaeology* and *mountain archaeology*. The issue originates with the use of the German term of *Montanarchäologie* translated as mountain archaeology (*arheologie montană*)[23], mountainous archaeology (*arheologie montanistică*)[24] or an archaeology of mountain areas (*o arheologie a*

[17] Lee *et al.* 2014.
[18] Curry 2014.
[19] Fedele 1984, 690.
[20] Tudoran 1995, 142-154.
[21] DEX 2012, 682.
[22] As noticed by the team of project *HZEP*, all the settlements over 700 m are abandoned during winter times; Maxim 1988-1991, 16.
[23] Kacsó 2011.
[24] Wollman, Ciugudean 2005.

zonelor montane). As in other languages the term is hard to transpose, therefore each country adapted it accordingly. As for the English term of *mining archaeology*, the French have *archéologie minière*, the Italiens *archeologia mineraria* etc. This particular branch of archaeology was very well defined by G. Weisgerber[25]. For the Romanian language we have the terms of *arheologia mineritului* and *arheometalurgie*[26], both well defined in purpose.

Of importance is the perception of the concept of *territory*, especially when it comes to hunter-gatherer populations. Djindjian proposes a methodology for the Upper Paleolithic of Europe in order to determine the functionality and borders of a territory used by hunter-gatherer communities[27]. The same author suggests and classifies several strategies for occupying a territory[28], the main parameters being people's mobility, the terrain, the food resources and the seasonality of activities within a year's cycle.

In connection with the dynamics of the mountain areas we have the so-called *ibex-site phenomenon* (specific sites of hunters of *Capra ibex).* The theory was launched by Straus in 1987[29], following the study of several hunter settlements that exhibits a predominance of faunal remains belonging to *Capra ibex*. By examining several aspects such as the habitat of these goats, the location and altitude of sites, the specific hunting techniques implied, the faunal remains, the lithics and the seasons, the author notices several specific traits for each habitation type.

Various terms, like those of *site* or *transhumance* should be discussed differently when applied to our research area. In the general acceptation of the Romanian archaeologist a site represents automatically an extended habitation (a settlement) or a necropolis, metal hoards and other type of depositions being treated separately. For the mountain areas there is a different approach as human activities are scarce, and the traces are consisting mainly of perishable materials therefore being hard to identify. There are situations in which a single artifact is recovered, several visits allowing for more such items to be found.

To allow a proper record of archaeological finds in the mountain areas we propose that any trace of human activities to be considered a site, being mapped, recorded and analyzed

[25] Weisgerber 1995; Weisgerber 1999, article translated in Arheologia Moldovei XXII, 1999, 241-256. Notes and translation by N. Ursulescu.
[26] Weisgerber 1999, 241, note*.
[27] Djindjian 2009.
[28] Djindjian 2012.
[29] Straus 1987.

accordingly. This definition should include also the events that do not exhibit specific material traces.

Another question that was raised by study was: Can we speak of transhumance for prehistory? This issue is still considered open to interpretations. The term has had various meanings from a region to another, both in prehistory and later on, as proven by ethnological researches. We cannot deny its existence, in the simplest interpretation of the term, that of moving towards the mountain in the summer and back to the lowlands for the winter. It still remains to be observed what type of transhumance was used to which regions. By studying carefully the discoveries relating to prehistoric shepherding in the mountains we notice several differences that relate to geographical frameworks. Until such a clear typology is established we propose the term of *prehistoc trasnhumance,* applicable to those areas in which shifting between mountains and valleys can be proven as well as to those that provide finds related to grazing in the mountains, even without clear connections to the settlements of the valleys below.

IV. IMPLEMENTING A MOUNTAIN ARCHAEOLOGY PROJECT

Within this chapter we present the main steps to follow in implementing a mountain archaeology project. One example is archival research, a stage that diminishes the chance of being taken by surprise during actual fieldwork. It allows the establishments of concrete objectives of research, like the study of passages, hunter-gatherer habits, satellite or seasonal settlements, raw material resources, mining and open quarrying areas, medieval records of activities etc. By stating these objectives early on we can prepare for a proper documentation, resulting in a more productive fieldwork. The research of written documents follows, including written accounts and sources relevant to the area of study. Journals from travelers across the mountains can be found throughout the Middle Ages, being highly relevant in identifying ancient roads, some that are no longer in use today. All records regarding mining, stone and salt quarrying, as well as any information about traditions and customs specific to the mountain areas, especially associated to grazing activities are to be accounted. Also crucial is the study of old maps next to recent satellite imagery, with a great importance given to the place names, an important clue towards the usage of an area for human activities, some with social and historical significance.

Following the desk-based assessment we have the most important and hardest stage of research, that of the actual fieldwork. It requires rigorous preparation, careful planning and choice of period, team members, logistics and also of the current area of research. Often overlooked in specialized articles, logistics is an important aspect for any project in the mountain areas. Firstly a base camp needs to be established, also the place in witch all the gear necessary will be carried to. This is to be located nearby a road that is easily accessible to a normal road vehicle, considering also that to this camp we must ensure a quick access in case of any accidents occur (sickness, fractures, snake bites).

Movement between the base camps to the area proposed for investigation necessitate, in many cases time, time that could otherwise be used for actual research. Our recommendation is to establish advanced camps (a term borrowed from alpine climbing practices) or temporary camps, with one or two teams to head out with minimal gear and logistics. Making use of tents for camping, they allow for quick access to the proposed area of research, without having to return to the base camp each evening. In order to power up some of the equipment required for recording and documentation solar panels can be used. Following a period of at least two days in the field the team from the advanced camp may return to the base for data processing and rest. Another team will take its place, in some cases another advanced camp being established.

Concerning the methods for researching the surface we can apply two strategies, systematic research and intensive survey. Systematic research is usually started taking into consideration areas with archaeological potential, like passes, a plateau, karst areas known sites and places with isolated finds. From this starting point an area / direction of research is established for the field team. If one or several artifacts are discovered the area must undergo an intensive survey, with a numerous team scouring the target area. For example lithics are hard to identify in the field especially since mountain paths are filled with similar looking rocks. This is one reason why the team needs to consist of several people. The area will need to be carefully described and a topographical survey will have to take place. This will be followed by interdisciplinary methods, and eventually a systematic excavation will follow.

Systematic excavations will have to be performed by a separate team, while surface surveys continue, as such an endeavor requires well planned logistics to take place in the high areas of the mountain, often in a different time of the year.

The logistics, research and documentation methods necessary in mountain archaeology projects are different then the ones we are accustomed to, and are, of course, specific to every project, taking into consideration the topography, the financial aspects and not the last, the experience of the team members.

V. MOUNTAIN ARCHAEOLOGY IN THE MARAMUREȘ MOUNTAINS. A CASE STUDY

Before showing of the results of our project we have made a small presentation of the research campaigns.

Our project was initiated in 2012 by the Maramure; County Museum of History and Archaeology, in collaboration with the „Vasile Pârvan" Institute of Archaeology of Bucharest, later joined by members from the Satu Mare County Museum, the „1 Decembrie 1918" University of Alba Iulia and the „Ioan Raica" Municipal Museum of Sebeș[30].

The project's objectives were, according to the coordinators, *to identify record and analyze any material traces from the distant past, also taking into account recent and contemporary finds, in order to understand the importance and the ecosystem of the Maramureș Mountains in the various periods of human history*[31]. In 2012 the premises to our research were stated as follows. *Contrary to a modernist vision, we believe that the mountains cannot be reduced to a mere natural environment for the human habitations or to that of resource area for game and food, raw materials, construction materials or fuel, but are also spaces that carry a great deal of symbolism*[32].

Even though some of our finds from this campaign were already published[33], in our paper they are thoroughly described, with the addition of some raw materials analysis.

The six years of research, with an average of two weeks in the field each year, do not allow us to elaborate firm conclusions in regards to the Maramureș mountain area but our resultspoint us towards perspectives and directions to follow in the future.

[30] The project was initially coordinated by D. Pop and Al. Dragoman, and from 2014 I also joined in coordinating the project.
[31] Press conference,2012.
[32] Dragoman *et al.* 2012, 219.
[33] Dragoman *et al.* 2012; Dragoman *et al.* 2015; Dragoman *et al.* 2017; Dragoman *et al.* 2018; Bobînă 2015.

The sites identified in the Maramureș Mountains can be divided into three large categories: those situated in the sub-alpine step (around 1.500 m), at the upper limit of arboreal vegetation, close to the ridge roads; those found in the nemoral step (around 1.300 m), surrounded by forests and at last those associated to grazing and places of passage between regions. As the first two are clearly associated with hunting practices, the latter is more likely to be associated to animal grazing.

To the first category we assign the sites of *Pasul Prislop – pârtia de schi; Coasta Plaiului – stâna Gropşoare; Tarniţa Sălăşimuri; Vârful Ştiol; Podul Prelucilor* and *Gura Obcinii – stâna lui Dunca*. All of these can be related to seasonal hunting practices, for example the months of June to August, when game goes up towards the alpine pastures.

A second category, of those within the nemoral biome, is proof of a different approach. Both the sites at *Dealul Corobaia* and that of *Preluca Căprioarei* can be linked to forest hunting, in meadows or close to sources of water, like strong valleys. They do not link to the high ridges and most likely are used by communities during the summer months, as they followed *Valea Vişeului* upwards, in the region of nowadays Borșa locality. As the big game dissapears or retreat northward, these hunter-gatherer groups change their hunting practices. As there are no connections to the ridge paths and the distance to them is considerable we can conclude that the sites represent temporary campsites in the chase of animals towards the alpine grazing grounds.

The third category includes the sites at *Poiana Știol-Stâna Știol*, *Șaua Știol, Valea Ursului* and *Vârful Fântânele – stâna Fântânele*.

The site at *Poiana Știol-stâna Știol* is situated nearby bogs that were lakes in prehistory. The raw materials present (Prut source flint) indicates that the carriers have originated somewhere in Bukowina. The fragments found (2 fragmentary graters and a core) show that these communities carried both finite pieces and raw materials with them. The placement of the site in a remote area, close to water sources could also indicate mountain grazing practices being carried here, a hard hypothesis to support given the absence of any other artifacts, most likely of a perishable nature.

These finds together with the pottery from *Șaua Știol* can be tightly linked to a passage area, probably indicating a resting camp. Through this place passes the ridge pass descending from *Vârful Gârgălău* following *Piciorul Oncului* all the way to *Șaua Știol*, a saddle that can connect either with the high paths over *Pasul Prislop* and further to *Fântâna Stanchii*, or descend

further into the valley towards the locality of Baia Borșa, following *Valea Vișeului*. During the Austro-Hungarian Empire a *wachthaus* (guard's watch house) was located in the area, in order to control the passage from Rodnei Mountains.

The site at *Vârful Fântânele* could be linked to both passage and grazing, a more intense survey in the area being necessary to establish this with more certainty, including the use of a metal detector. The site lies on the ridge path that comes from *Piciorul Vulpii* over the *Tarnița Sălășimuri* following onwards to *Vârful Zimbroslavie*, thus linking to the *Bistriței Aurii* valley or *Moldova* valley up north.

The lithic fragment found at *Valea Ursului* could also be linked to a passage route, this time one that does not follow the ridge but a valley. Since the area was not intensely surveyed we cannot exclude the possibility of it being a hunting camp, the presence of large game being indicated by the name of this valley also, the Bear's Valley.

This proposal for the interpretation of each site's function is still preliminary, the following research could either confirm or infirm these theories.

VI. CONCLUSIONS

The Maramureș Mountains archaeology project has obtained notable results, demonstrating that the theory stating that alpine areas are natural barriers, inhospitable places and therefore lacking prehistoric settlements is false. From all these results we still cannot conclude firmly the practices involving this space but we are starting to gaze within several aspects of life in the mountains during some historical periods. To these conclusions we acknowledge the crucial contributions of modern methods of research, documentation and recording that were available to us.

The initial project proposal included an area from *Pietrosu Rodnei*, to *Pasul Prislop* and further to *Geamănu* and this needs to be extended furthermore. I the past years, with limited resources we have attempted to go further than the afore mentioned area. Following the ridge paths and taking into considerations the finds we have managed to identify more prehistoric camp sites.

In the year 2017 we also conducted fieldwork in the lower regions of the mountain, in order to identify more permanent or central settlements that could relate to the higher finds above

and give a further insight into the lives of these communities. A terrain disadvantage is obvious with the narrow *Valea Vişeului*, also most of the places that could house pre- or proto-historic settlements are now filled by modern constructions.

It is not impossible that the number of prehistoric sites at higher altitudes would have been a lot greater. A decisive factor in the human landscape alterations came with the military defensive system of the recent two world wars. Barack towns were erected in Prislop Pass and Vârful Copilașu and the entire area is covered by bunkers and trench systems. Some of these traces were also recorded and are being proposed to be included on the historical monuments list, in order to avoid being destroyed by modern constructions and amenities.

A strong impact comes also from modern sheepfolds, with all the connecting roads, water intake, forest cuttings and fire clearings for grazing, garbage dumping in the environment, all great disturbances not just towards flora and fauna but also towards cultural heritage as well. Modernity brought forward the disappearance of ancient customs and practices. Contemporary migrations towards the Occidental world impacted heavily on the localities of Maramureș, especially for Borșa area, where almost all activities are now mechanized. Traditional houses disappeared and the need for animal grazing in the mountains diminished significantly. Transportation to the sheepfold is now made by car only, therefore new roads have been cut and forests have disappeared. For the Pop Ivan massif in the Maramureș Mountains we have the example of sheepfolds being deserted near the alpine pastures just because the cars cannot reach them, even though only ten tears ago the products were carried below with the aid of horses. Some modern sheepfold have emerged, making it possible to spend the winter up in the mountain, with a few animals, one such example being the sheepfold at *Podul Prelucilor*, Borșa. It is noticeable that authentic grazing practices are disappearing, the shepherds are now hired from remote parts of the country, and therefore they do not know the landscape or the local place names and traditions. New properties have limited the grazing practices to just nearby peaks and pastures. To these we add ample mining activities, extensive and illegal deforestation, major impediments in the research of this important natural and cultural landscape of national value.

These factors, combined with logistics and financial limitations made it very hard to accomplish a more profound research in the area. Plenty of things are still needed to be accomplished, taking into account the methodology proposed by this paper. For example, an analysis of visibility within the landscape is almost impossible to achieve, even though some of

the sites are now clear of vegetation. In prehistoric times they lied most likely within the forests, as the limit of arboreal vegetation in the area is 1.700 m, therefore we do not have no finds that can be attributed to alpine pastures. All of these Paleolithic / Mesolithic camps were situated next to a water source, it remains to bee seen if they were within forest clearings or in natural open pastures. For the Mesolithic intentional clearing by fire was proposed, leading to the creation, later on, of clearing / pastures, for the keeping of herbivores.

For the sites in which numerous finds were identified we propose systematic excavations, covering wide areas. The modern human interferences as well as weathering / erosion affects the distribution of finds, and this is why the test pits at the sites of *Coasta Plaiului - Stâna Gropşoare* and *Poiana Ştiol - Stâna Ştiol* were performed according to the places of higher concentration. Rain, snow, animals and also cars could have shifted the finds for several meters therefore excavating larger areas could have better chances to identify in situ concentrations or hearths, an indicator that these camps were used for several seasons at least. No ^{14}C were acquired, as none of these test pits provided any ancient traces that could have been used in absolute dating investigations. Any faunal remains could also clarify some aspects of subsistence strategies for these populations or shed a light on pastoral practices carried over a calendar year.

All the grottoes and the caves in the area should undergo test pits, the ones so far investigated being too filled in to allow retrieval of surface finds. A separate campaign should be organized concentrating on the study and test pit sampling of the mapped karst areas[34] within Rodnei and Maramureș Mountains.

All of our discoveries were facilitated by human interventions over the land (such as roads) - with only a single find being recovered from a natural landslide, the so called *geomorphological windows*[35]. Apart from these forestry and access roads we have also investigated the touristic paths as well as the animal tracks left on the slopes.

Whenever a site is identified we must indicate the local place name, either from oral sources or the available maps and do not rely on distances from roads, sheepfolds or the center of a nearby locality. In some cases the name attributed by us was incorrect, and that was due to the few informants that still know the ancient name of these places. Roads and sheepfold references

[34] Vezi Ișstvan 2008; Ișstvan 2010.
[35] Della Casa *et al.* 2015, 4.

should be avoided because they are sometimes shifting from one year to the next, making their precise identification difficult after a while.

Another weak point of the project was the insufficient logistics available, as the Maramureș County Museum was the only financial contributor, with little resources to ensure a wider research. A great deal of the equipment and mountain gear and also food was brought into the project by the members of the team, some even providing their own cars for the purposes of the project, without any remuneration[36].

Interdisciplinary analyses were lacking, with the exception of pollen analyses (carried out as part of a different project) but this is an aspect that will be improved in the following campaigns.

As for the methodology used, it has been proven effective even if not without flaws, with plenty of room for improvements based on the experience gathered during each fieldwork campaign. All of these are to be considered a starting point for any similar project in the high regions, the forms, the GPS notebooks, all can be modified to fit any research and should not be missing from any mountain archaeology projects.

Modern times have brought with them convenience and a changed perspective towards the mountains. In order to go up a mountain you need equipment, a plan for the route according to modern marked paths and chosen camping sites. All of this perspective needs to be left behind when approaching a mountain archaeology project. The first paths on the mountain were laid by migrant animals, following the least resistance paths along the curvature of the terrain. All of these should be properly investigated in due time. The lithic material found by us were dislocated from their original deposits (no archaeological context) therefore their chronological assessment is difficult. In terms of technique and typology they were analyzed by specialists in Paleolithic lithics industries[37]. Similar finds were recovered from other Paleolithic / Mesolithic sites at high altitude[38], but it is also possible that they belong to Neolithic times. In this respect we gave the core and fragments of Prut sourced flint from the site of *Lacul Știol - stâna Știol*, in the Rodnei

[36] With this opportunity I would like to thank the coordinators and all of the volunteers that have participated to this project, D. Pop, R. Al. Dragoman and volunteers C. Șuteu, D. Conțiu, M. Ardeleanu, Sorana Ardeleanu, V. Săsăran, Z. Șomcutean, Talida Roman, Patricia Tăut, I. Codrea, R. Totoianu, Paula Mazăre, C. Astaloș, B. Pâclișan, Simone Reuß, Alina and Phillip Zander.
[37] C. Astaloș, Roxana Dobrescu and A. Tuffreau.
[38] Andronic, Niculică 2012, 268, fig. 8.

Mountains. In conclusion, it is not possible, given the current stage of research, to assume a more accurate date for these discoveries.

Translated by C. Șuteu

Selected bibliography

DEX 2012 — *Dicţionar explicativ al limbii române,* Ed. Univers Enciclopedic, Bucureşti, 2012.

Andronic, Niculică 2012 — M. Andronic, B. P. Niculică, *The Occurrence and Evolution of Human habitat in the Carpathian Area of the Southern Part of Historical Bukovine (Suceava County, Romania)*, Fortecja: zbirnyk zapovidnyka “Tustan'”, L.: Kolir PRO, Kn. 2, 2012, 254-271.

Bobînă 2015 — B. Bobînă, *Mountain Archaeology in Romania: The Status of Research*, Terra Sebus, 7, 2015, 149-164.

Boroneanţ 2000 — V. Boroneanţ, *Arheologia peşterilor şi minelor din România,* CIMEC, Bucureşti, 2000.

Curry 2014 — A. Curry, *Racing the thaw. Archaeologists Scramble to Recover Artifacts Emerging from Alpine Ice,* American Association for the Advancement of Science, vol. 346, 2014, 157-159.

Della Casa 2009 — Ph. Della Casa, *La préhistoire des Alpes : enjeux scientifiques, méthodes et perspectives de la recherché*, Le Globe, Tome 149, 2009, 7-28.

Della Casa *et al.* 2015 — Ph. Della Casa, Leandra Naef, R. Turck, *Prehistoric Copper Pyrotechnology in the Swiss Alps: Approaches to site Detection and chaîne opératoire,* Quaternary International, XXX, 2015, 26-34.

Djindjian 2009 — Fr. Dindjian, *Le concept de territoires pour les chasseurs cueilleurs du Paléolithique supérieur européen*, François Djindjian, Janusz Kozlowski, Nuno Bicho eds., *Le concept de territoires pour les chasseurs cueilleurs du Paléolithique*

supérieur européen, BAR International Series 1938, 2009, 3-25.

Djindjian 2012 — Fr. Djindjian, *Contacts et déplacements des groupes humains dans le Paléolithique supérieur européen: les adaptations aux variations climatiques des stratégies de gestion des ressources dans le territoire et dans le cycle annuel*, Modes de contacts et de déplacements au paléolithique eurasiatique: actes du Colloque International de la Commission 8 (Paléolithique supérieur) al UISPP, Liège, 2012, 643-675.

Dragoman *et al.* 2012 — Al. Dragoman, D. Pop, B. Bobînă, C. Astaloş, *O arheologie a munţilor din Maramureş, România: preliminarii*, Marmatia, 10/1, 2012, 217-235.

Dragoman *et al.* 2015 — Al. Dragoman, D. Pop, B. Bobînă, C. Astaloş, M. Ardeleanu, C. Şuteu, V. Săsăran, *O arheologie a munţilor din Maramureş, România: raport privind cercetările din anul 2014*, Marmatia, 11, 2015, 197-234.

Dragoman *et al.* 2017 — Al. Dragoman, D. Pop, B. Bobînă, M. Ardeleanu, Al. Ciornei, C. Şuteu, *O arheologie a munţilor din Maramureş, România: cercetările din anii 2016-2017*, Marmatia, 14, 2017, sub tipar.

Dragoman *et al.* 2018 — Al. Dragoman, D. Pop, B. Bobînă, M. Ardeleanu, C. Şuteu, C. Astaloş, *An Archaeology of the Mountains in Maramureș, Romania: The Beginning of a long-term Project*, *People in the Mountains. Current Approaches to the Archaeology of Mountainous Landscapes*, A. Pelisiak, M. Nowak, C. Astaloș eds., Archaeopress Archaeology, Oxford, 2018, 61-78.

Fedele 1984 — Fr. G. Fedele, *Toward a Human Ecology of Mountains*, Current Anthropology, 25, 1984, 688-691.

Fleckinger 2003 — A. Fleckinger, *Ötzi, der Mann aus dem Eis*, Folio, Wien & Bozen, 2003.

Frachetti, Maksudov 2014 — M. D. Frachetti, F. Maksudov, *The Landscape of Ancient Mobile Pastoralism in the Highlands of Southeastern Uzbekistan, 2000 B.C.–A.D. 1400*, Journal of Field

Archaeology, 39, 2014, 195-212.

Iştvan 2008 — D. Iştvan, *Parcul Munţii Maramureşului*, Acta Musei Maramorosiensis, 7, 2008, 449-459.

Iştvan 2010 — D. Iştvan, *Natural Cavities in the Piatra Rea - Ştiol Area, Gura Fântânii, Borşa (Rodna mountains) (Transylvania-Maramureş, Romania)*, Transylvanian Review of Systematical and Ecological Research, 9, 2010, 15-30.

Kacsó *et al*. 2008-2009 — C. Kacsó, D. Iştvan, Tr. Minghiraş, *Cercetări de arheologie montană la Băile Borşa*, Memoria Antiquitatis, 25-26, 2008-2009 (2010), 505-536.

Kacsó 2011 — C. Kacsó, *Repertoriul Arheologic al Judeţului Maramureş*, vol. I, II, Baia Mare, 2011.

Lazarovici *et al.* 2011 — Gh. Lazarovici, I. C. Pop, Cornelia-Magda Lazarovici, S. Angeleski, *Megalite în Carpații Răsăriteni. Căi spre sanctuarele din natură și urmele unor așezări. Studiu de etno-arheologie și etno-religie,* Arheologia Moldovei, XXXIV, 2011, 53-78.

Lee *et al.* 2014 — C. M. Lee, R. L. Kelly, Rachel Reckin, Ira L. Matt, Pei-Lin Yu, *Ice Patch Archaeology in Western North America,* The SAA Archaeological Record, 2014, 15-19.

Maxim 1988-1991 — Zoia Maxim, *Cercetările etno-arheologice din Munţii Cerna-Vâr*, Sargetia, 21-24, 1988-1991, 15-24.

Murătoreanu *et al.* 2015 — G. Murătoreanu, Roxana Cuculici, D. Vereș, M. Cosac, Al. Radu, D. L. Buzea *Potențialul arheologic al carstului din Cheile Vârghișului (Munții Perșani). Etape preliminare în realizarea unui sistem informațional geografic*, Arheovest III/2, in memoriam Florin Medeleț, S. Forțiu, A. Stavilă eds., Szeged, 2015, 591-604.

Nandriş 1985 — J. G. Nandriş, *The Stina and the Katun: Foundations of a Research Design in European Highland Zone Ethnoarchaeology*, World Archaeology, 17/2,

Ethnoarchaeology, 1985**,** 256-268.

Popa 2012 — C. I. Popa, *Contribuţii la preistoria Văii Sebeşului (I)*, Bibliotheca Musei Sabesiensis, III, Alba Iulia, 2012.

Orghidan, Dumitrescu 1962-1963 — Tr. Orghidan, Margareta Dumitrescu, *Studiul monografic al complexului carstic din defileul Vârghişului*, Lucrările Institutului de speologie Emil Racoviţă, I–II, 1962–1963, 1963, 69-178.

Saul 2014 — H. Saul, *The Himalayan exploration and Archaeological research team*, The SAA Archaeological Record, 2014, 26-30.

Straus 1987 — L.G. Straus, *Upper Palaeolithic Ibex Hunting in Southwest Europe*, Journal of Archaeological Science 14, 163-178.

Tudoran 1995 — P. Tudoran, *Geografia fizică a României*, Ed. Carpatica, Cluj-Napoca, 1995.

Weisgerber 1995 — G. Weisgerber, *Aufgaben der Montanarchäologie*, Archäologie Österreichs, 6, 1995, 23-29.

Weisgerber 1999 — G. Weisgerber, *Probleme ale arheologiei mineritului şi arheometalurgiei (Montanarchäologie)*, Arheologia Moldovei, XXII, 1999, 241-256.

Wollman 1996 — V. Wollman, *Mineritul metalifer, extragerea sării şi carierile de piatră în Dacia Romană,* Cluj-Napoca, 1996.

Wollman 2010 — V. Wollman, *Patrimoniul preindustrial şi industrial în România*, Vol. I, Sibiu-Hermannstadt, Ed. Honterus, 2010.

Wollman, Ciugudean 2005 — V. Wollman, H. I. Ciugudean, *Noi cercetări privind mineritul antic în Transilvania (I)*, Apulum, XLII, 2005, 95-116.