

GENESIS AND EVOLUTION OF THE CULTURAL LANDSCAPE IN METALIFERI MOUNTAINS

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ABSTRACT. – **Genesis and Evolution of the Cultural Landscape in Metaliferi Mountains.** Analyzing the historical development of the Metaliferi Mountains area (situated in southern Apuseni Mountains, between the limits marked by Crişul Alb, Abrud, Arieş and Mureş valleys), there is a clear continuity of habitation from prehistory to the present. Archaeological artifacts and written documents prove this fact. Its impact on the landscape and culture cannot be overlooked: in a discontinuous populated area, nature has time to return to its previous forms (before human habitation), while a permanent inhabited area is constantly changing, both through human intervention and by adapting to this intervention. Behind this continuous habitation are the rich soil and subsoil resources, which have historically attracted entire communities and generated complex demographic processes. The wealth of minerals, along with the climate, conditioned the industrial profile, focusing it on extractive industry (forms adapted to different historical moments), on wood exploitation and finally on agriculture. The environment reorganization, natural forces (water) usage, the communication development (roads) are the results of the process through which man has capitalized nature. If by mid-twentieth-century the cultural landscape of the Metaliferi Mountains experienced a gradual anthropogenic modeling closely related to the advance of mining techniques, since 1948, an ideological component was added to technological modernization, which forced the industrial development of an area which would have needed economic balance and social well-defined policies. Because of this, imbalance and abuse occurred, which, without the intervention of regulating factors, threaten to lead to the irreversible destruction of the local cultural heritage.

Keywords: *Metaliferi Mountains, cultural landscape, mining industry, agriculture, tourism.*

1. INTRODUCTION

The cultural landscape of the Metaliferi Mountains has emerged through the material manifestation of human intervention. The transformation of the natural landscape took place gradually, as a result of: human actions taken to meet basic needs, population growth, technological and scientific progress, and lately, new needs, trends (adopted by the natives from other people), fashion etc. Landscape transformation involved structural transformation (thereof, through the removal of natural elements and/or the

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introduction of cultural elements), as well as functional transformation (transformed landscape getting new and different functions). Thus, due to rich and varied deposits (gold and silver, minerals and a number of other metallic and nonmetallic resources), Metaliferi Mountains area (fig. 1) has been inhabited since prehistoric times, as archaeological discoveries stress upon.

The development of human settlements in the region was marked by the first attempts of adapting to environment, achieved through folding the activities according to it, but also through the relief transformation and its final adjustment to human needs. It remains remarkable that, although the area is not very populated today, as only about 1.7% of the Romanian population lives here (Plăiaș I. 1994), habitation was consistent and unequivocal during all historical periods. This, undoubtedly, is due to the rich natural resources, especially gold and silver deposits.



Fig. 1. Location of Metaliferi Mountains.

2. ANCIENT PERIOD

The whole history of human habitation in these mountains is linked to the need of adaptation to the morphological and climatic conditions and to the desire to exploit resources and to change the face of the region. Chronologically, the first traces of human habitation date from the Paleolithic and are related to specific landforms.

Traces of Paleolithic habitation have been found in caves – Șura de Jos and Gura Lupului – the latter sheltering some processed manually bones of *Ursus spelaeus* and some quartzite chips (Andrițoiu I., 1978). On Cremenos Hill near Basarabasa village (Vața de Jos commune) anthropomorphic traces dating from the Middle and Upper Paleolithic were also identified, but this time we are not dealing with cave habitation, but with the exploitation of the main natural resources, namely the opal. Another very early opal exploitation (but this time associated with the obsidian) is attested in the village of Valea Brad (Rișcuță C., 1995-1996).

For the next prehistoric periods, fortuitous discoveries are much more numerous, consisting from a wide range of disparate artifacts. However, traces of occupation are more difficult to identify, as actual excavations took place only in few prehistoric sites. Without doubt, we can imagine that human settlements were much more widespread than the few we have clearly documented. These periods, before man entered history (in the periods when he became producer of written sources) are characterized by a massive numerical growth of human population and socio-economic development of all aspects that led ultimately to the ancient societies substantiation.

With this demographic growth, during the Neolithic and Bronze Age, habitation on Metaliferi Mountains continued uninterruptedly. This fact is identifiable through the artifacts and by residential areas, such as Almaș-Săliște, located in section "În Săcări" on a steep hill that rises about 60 m above the altitude of the present village (Popa C. I., 2004).

For the Dacian period, archaeological traces of alluvial gold exploitations were scarcely found and those that have been preserved, such as some alluvial sand mounds on river floodplains (arisen from these techniques to obtain gold), cannot be dated.

The existence of galleries for ore exploitation, especially gold, was assumed for the Dacian Era; by assimilating them into the more sustainable and more developed galleries of the Roman period, they become invisible (according to *2000 trepte...*, 1979). We can say that most of the Roman mines were built on existing shafts. The material evidence of the Dacian presence is not rich, its overall image being formed from several disparate findings, such as: the coin found in Poiana village – Balșa commune, the furrower from Crăciunești village - Băița commune (Glodariu I., Iaroslavschi E., 1979). Many indirect evidences (spread over these mountains) show Dacian gold and silver exploitation, including the huge amount of precious metals captured by the Romans after the conquest.

After Dacia was transformed into a province by the Romans, they brought unprecedented urbanization and habitation of the area and intense systematic exploitation of its natural resources. Of course, the most spectacular are those of the gold mines, but they were not the only ones. The mining area's defense (integrated into Dacia Superior) was one of the Roman's army strategic priorities in Dacia, which influenced the location of the troops and thus the cultural landscape of the whole province. On the other hand, the region itself will be affected by massive colonization of the Illyrian miners groups (Bărbulescu M. *et al.*, 1998). The headquarters of the *procurator aurarium*, an official appointed by the emperor and in charge with overseeing the mines (especially gold mines, as its name says), was at Zlatna (Ampelum), the administrative center of the Apuseni Mountains. If the Ampelum area was the Roman center of the gold area, Alburnus Maior (Roșia Montană) is certainly the best known settlement in Metaliferi Mountains. Roșia Montană became famous because of its tens of kilometers of Roman gallery available today and because of the waxed tablets progressively brought out to the light (*tabulae*

ceratae). Through the waxed tablets, intimate details of life in the Alburnus mining community are known, such as: the initial organization and difficulties of the *collegia* (professional and religious associations), slaves and real estate prices, how work was "rented", usurious loans mechanisms (the purchase of technical equipment, necessary for mining exploitation) etc. (*Inscriptiile Daciei romane*, I., 1975).

Gold veins were exploited (trapped in very hard volcanic rock) at Roșia Montană. Their removal was made by galleries (*cuniculi*) and pits (*cutei*). In structure and strength, they are no less than the modern ones. The extraction galleries were often branched or arranged in tiers, being carved with the chisel and pickaxe. Ore exploitation was done "by fire (fire + water = sudden cooling and crushing), by chisel, by holes filled with water and plugged with wood stoppers, which, by striking, developed pressure and causing rock cracking" (Duma S., 1998, p. 33).

As Plinius explains in *Naturalis Historia*, the Romans also knew the amalgamation process: the gold was mixed with mercury and then the mixture was shaken and poured over a leather thus, through the pores that mercury was leaking, but not the gold. Also, gold could be, according to the same source, fried together with lead. Native gold, unpurified, was mixed with large amounts of silver. It was pale and it was called *electron*.

With the Roman conquest of Dacia and the setting up of Dacia province, superior systematization and a perfect adaptation of human settlements to the geographic requirements was evident. Except for the surface mines and tens of kilometers of underground galleries, the Romans changed demographically the region, by colonizing a large number of Dalmatian Illyrians (traditionally specialized miners). The Roman era brought the beginnings of the area's urbanization and its consistent demographic growth. It foreshadowed the major mining which will find its equivalent only during modern times. It is a shame that the road network was only partially preserved, but from the historical continuity principle, applicable to this mountain area, we can assume that it was largely superimposed by the medieval roads and further by the modern and contemporary roads.

3. FROM MIDDLE AGE TO CONTEMPORANEITY

The ethnogenesis process, which took place between the 4th and 9th centuries AD, gave birth to the Romanian people and Romanian language, as a result of the migrations' addition (especially Slavic) to the Dacian-Roman population and to the provincial language (Bărbulescu M. *et al.*, 1998). The mining evolution in this period is unknown, but the continuity of production by means and techniques of the Roman period can be assumed. In terms of gold mining, it experiences a decrease of gold exploitation in mining galleries and an increase of gold exploitation from alluvial sand. "In the settlements, archaeological excavations in Metaliferi Mountains have not revealed traces for the VI-XI centuries, but it is impossible to imagine that the mining area was abandoned" (Neag R., 2004, p. 47).

In the 11th century, when the Hungarian kings seized all of Transylvania, Metaliferi Mountains resources were a major attraction, both for gold and iron reserves. Initially, in 1035, King Stephen of Hungary established by a diploma that the entire region (where gold was exploited) was to become royal property and its inhabitants became serfs of the crown. To increase the exploitation he turned to German, Slovaks and Hungarians miners and colonized them in compact groups in this region (Sîntimbrean A., Bedeleian H., 170

2004). In this world of the early Middle Age, the transport routes were mostly the poorly restored Roman roads and the central power could not always locally impose itself. These facts specifically affected the Metaliferi Mountains area. The state was not able to invest in the mining infrastructure, so mining continued to decline in favor of gold exploitation from alluvial sand, as evidenced by documents that have been preserved. Anthropogenic traces of this activity are sinkholes of sand, sifted in search of gold dust (Morariu T., Onișor T., 1971). The church is an important element which first appeared in the cultural landscape of the Middle Ages. Initially, churches must have been made almost exclusively of wood both for practical (the most available material) and spiritual reasons (Jesus was a carpenter). Religious buildings of stone, especially cathedrals, were specific to cities alone. The oldest preserved wooden churches are dated during the 14th century, but certainly their origins are much earlier. The wooden church from Lupșa Monastery (1429 AD), situated at the Metaliferi Mountains border (Lupșa commune), is a good example. It is also an evidence for the permanence of wooden architecture here. Other similar buildings with special architectural value are situated in Ponorel, Gârda de Sus and Vidra villages. The small size of the churches is an important demographic indicator to determine the human potential that is served. It should also be noted that it is possible that wooden churches changed their place over time, moving as villages grew, or even sold to get the money for raising a new and larger church – proof of the community expansion (Ciangă N., 2007).

“Most people in this area were Romanians. In the 18th century, local gypsy goldsmiths received special privileges...” (Morariu T., Onișor T., 1971, p. 21), along with German, Slovaks, Czechs and Hungarians colonists. The importance and size of their communities increased after the 16th-17th centuries, when local gold resources have entered into the European economic circulation. *“An important role in this respect had the start of mercury exploitation from Zlatna and Abrud”* (Matley I.M., 1971, p. 119). But in terms of historical geography, between the early Middle Age and the beginning of the Modern Age, the regional cultural landscape suffered minor changes. However, cultural landscape was continuously modeled by anthropogenic factors. Major anthropogenic structures did not exist between the 11th and the 17th centuries.

The main cultural elements which people produced over the medieval period are largely identical to those of the ancient times: human settlements, inns, roads, mills, mines, sheepfolds, deposits of mining tailings and alluvial sand deposits, all these marking the types of activities undertook to meet people’s needs. As an exotic cultural element, the hangings can be mentioned. They were placed on highest surfaces, close to road junctions, evidently for warning potential criminals (*Az első katonai felmérés...*, 2004). Churches also have replaced the ancient temples.

In our days, the typical rural settlements for Metaliferi Mountains area are the scattered ones, the dispersion model being used since the pre-modern era. Instead, *„rural settlements density places this area on top in Romania (29 villages/km²), because the number of households that are included in a village is very low –can reach about 6 households-”* (Boțan C. N., 2008, p. 54-55). In their case, it is not just about modeling the landscape, but also the reverse process: an adaptation to natural conditions, because high relief makes the existence of extended and compact forms of habitat impossible. As a consequence, these settlements extend on tens of square kilometers.

The lack of homogeneity, a specific mark of rural settlements, is presented in our area of interest in its most radical form and of course, following the argumentative logic of the sociologist George M. Marica, it is assumed that its psychosocial influences on Metaliferi Mountain population are intense (Marica, M. G., 2004). No wonder "moșii" were always considered special people and were invested with some qualities and faults, hyperbolic in comparison with those of most Romanians in Transylvania (most honest and hardworking, but fierce and easily irritable).

Capital accumulation and the need to increase safety led to the development of stone and brick buildings, of multiple level homes and of churches from the same materials as other contemporary buildings. But even these cities - boroughs in fact - ("*opiduri*") brought little changes in the regional cultural landscape, compared with those brought by the modern epoch, because people, at that time, did not benefit from drinking water adduction systems, manure and waste disposal systems, public sanitation systems etc. (Neag R., 2004, p. 83-85). During the 18th century, the first regulations concerning deforestations, imposed by the Austrians, began to appear, out of economic reasons: population growth and unregulated usage of resources determined the decrease of the forest area at the expense of the state (Matley I. M., 1971).

In the pre-modern era (17-18th centuries), mines have escalated due to an invention which entered into the miners' arsenal: gunpowder to easier pierce the hard rock of the Metaliferi Mountains, with explosives based on this product. For the cultural landscape, the introduction of gunpowder meant the beginning of an era that has continued until today, characterized by anthropogenic changes made with industrial elements (chemical, mechanical), unlike the manual ones employed before (Sîntimbrean A., Bedeleian H., 2004).

Around mines or administrative offices, urban centers emerged. Basically, cities imposed themselves in the cultural landscape of the studied area by a compact aspect and by some related industrial facilities: ore washing troughs, mines, mills etc. Thus, the higher the industrialization level was, more changes the town produced, such as: the deforestation, the appearance of ponds etc.

Although, thanks to innovations in mining of craftsmen - new models of sluice boxes (Duma S., 1998), new techniques have emerged, that facilitated the effort to extract ore. Gold extraction from alluvial sands continued until the interwar period, but at an increasingly lower pace, because the quantities extracted by a man (on average 1 to 1.5 gr./day) did not cover the necessities of life (Morariu T., Onișor T., 1971). By default, the specific of the area generated the development of building materials industry, either stone clay or wood. In present days, we can talk about the building materials industry in the Metaliferi Mountains for limestone quarries (Cocean P., Filip S., 2008), although, in the past, wood represented a resource at least as important.

In the course of time, wood abundance and the constancy of its usage have made work in the industry to become a true art, documented by numerous examples, from architectural achievements to common household objects, transformed into artworks (Petrescu P., Stoica, G, 1981).

Insignificant changes were observed in agriculture. The specificity of mountain agriculture, based on livestock and the growing of a few plants adapted to the microclimate, has not changed until after 1948, with the first attempts to collectivization.

The agriculture practiced in Metaliferi Mountains did not lead to major changes in the cultural landscape of this area, but rather was influenced by the other anthropogenic changes. Livestock production has always been a main occupation, while cultivation focused on certain plant varieties, resistant to specific climatic and soil conditions. *“Today, more than 70% of the Metaliferi Mountains surface consists of pasture and hayfield”* (Gavra Camelia, 2012, p. 104) (fig. 2), although this percentage was higher in the past, caused by the predominance of livestock. In the present times, the wheat, the potatoes and less the corn are almost equally widespread (Plăiaș I., 1994).

The religious factor always played a role in the anthropogenic shaping of the landscape. Its presence is physically identifiable through places of worship. Those are some cultural elements, whose construction seemed to "explode" after 1850. There is no exact repertoire of these places of worship in the studied area, but exhaustive studies, focused on the Orthodox wooden churches of Alba and Hunedoara, leave a relatively clear picture of this process (Cristache-Panait Ioana, 1987; Jianu N., Lapteș M., 2004).

In the 19th century, there were two direct causes for the construction of new churches: the replacement of old ones, or their lack in certain places. First, demographic growth led to accumulation of capital in the community (a community with a high number of poor people is still richer overall than one with fewer poor members) and forced re-sizing the places of worship. Second, the events of the years 1848-1849 led to the destruction of many Romanian churches burned by Hungarian revolutionaries. Later, after 1870, the churches built of brick or stone became increasingly more common, even in villages, many of those built around 1900 being preserved up to present. The transition from wooden architecture to stone architecture had consequences on the cultural landscape: the stone churches being higher, became landmarks easier, visible from great distances and by the height of the towers, the bells' sound propagates at greater distances.

A phenomenon which marked the end of the modern era, manifesting itself in Transylvania beginning with the last decades of the 19th century, was the demographic revolution. It was characterized by a consistently lower mortality rate, while the birth rate remained high for another two decades, dropping to the new average only after 1910. This revolution has made the transition from the old demographic regime to the new one and its effects were felt in the Metaliferi Mountains area too.

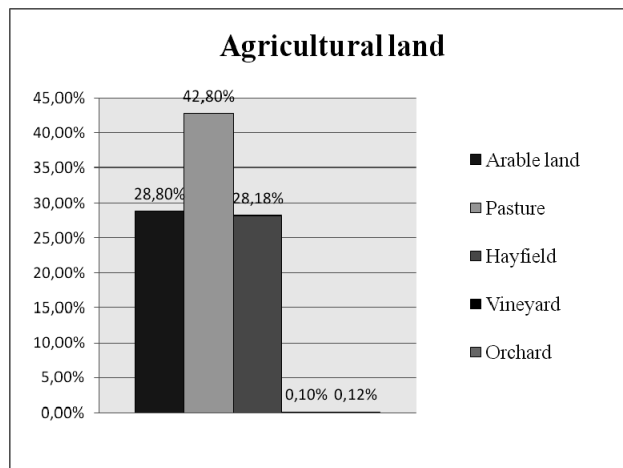


Fig. 2. Metaliferi Mountains.
The categories of agricultural land.

With regard to urban and semi-urban centers in the study area, the situation is shown below in table 1. It is necessary to specify that, for a greater relevance, the population refers to the whole administrative area of these settlements, not just the city itself and the data is exposed to the 2002 census, so one can follow the evolution in the long term (Varga E.A., 2010).

The demographic evolution of the main settlements from Metaliferi Mountains

Table 1

Settlement →	<i>Abrud</i>	<i>Zlatna</i>	<i>Roșia Montană</i>	<i>Brad</i>
Year ↓				
1850	4200	8141	5756	4031
1880	7462	7864	5640	4695
1890	7568	8098	5543	6018
1900	8318	8892	5665	7643
1910	7749	9519	5165	8163
1930	7122	9104	4362	7938
1977	5315	10027	4393	17077
1992	6729	9391	4146	18861
2002	6195	8612	3872	16482

It can be seen from the data above, that in the urban and semi-urban centers of the Metaliferi Mountains, the population grew differently during the 19th century. Thus, in Zlatna and Brad boroughs, the signs of a demographic revolution are identifiable in the period 1890-1910, after that a slight decline began. Regarding Abrud, the demographic revolution is identifiable in the decade 1890-1900. It followed the same trend as Zlatna, but with a higher ratio (about 50%). The last case, Roșia Montană commune, is illustrative for the way in which the figures can highlight only weak signs of demographic revolution. Between 1850 and 1910, the population decreased almost constantly, with a slight increase (120 individuals = 2.2%) and a maximum in 1900. Consequently, we may argue that, from 1890 to 1900, this phenomenon could be identifiable in the mining community of Roșia Montană, but without certainty of the truth, because of the high demographic fluctuation generated by migration.

One of the most important aspects that links history, geography and demography is that of transport and communication routes. In Metaliferi Mountains area, besides the old roads, in the late 19th century, a new kind of land transport appeared: railway. Initially built in mines, in order to ease the moving of carriages, rail began then to be used for people transportation, on local or regional routes.

In 1895, a narrow gauge railway from Alba Iulia to Zlatna (48.5 km) was put into use, facilitating the transport between the centre of Alba de Jos County and the mountain region. This line was functional until the years 1973-1976, when it was replaced by a standard gauge line, on a less deviated route (Bellu R., 2007). In 1912, the narrow gauge railway Turda - Câmpeni - Abrud (94 km) was also put into use. The third narrow gauge railway, linking Brad city and Crișcior village, is functional today, thanks to the efforts of the associations dealing with preservation of rail facilities. Between 1876 and 1896, the Arad - Brad railway was built, in several stages, the most spectacular achievement being the tunnel from Vârfurile (Neag R., 2004, p. 150-151).

4. CONTEMPORARY PERIOD

During the interwar period, the ore extraction went through a process of extensive modernization (pneumatic hammers, flotation installations, general ventilation installations etc.), which resulted in the rapid depletion of some old mines and the opening of new ones and of new drilling horizons. In parallel, extensive research works took place, in order to identify new veins. The "Mica" Company became the main industrial operator, investing in technology, and in the social and cultural communities of the miners, thereby constituting a real socio-economic lifting generator for the whole area (Neag R., 2004). The growth was also felt in the human component of the area, resulting in a substantial demographic increase, at least in the urban centers.

This period of time, positive on the whole, was suddenly interrupted by World War II, when resources were again directed towards the war industry. The decades that followed after 1945 brought with them major political changes, with profound implications on the social and economic level. The ideology of the new system was based on the idea of extensive industrial development and use of resources, thus impacting directly on the studied area, and acting as a pull factor. Ore exploitation was required from the USSR (the power that was controlling the communist regimes in Eastern Europe) too, because USSR had to recover "war debts".

The mining area which had the major gain from these changes was the city of Brad. The emergence of new enterprises, the new technology adopted and the expanding of old ones caused the growth in population numbers (due to migration from Moldova and Oltenia). The newcomers required new houses, which led to the building of blocks, thus deeply changing the old image of the city. Between 1948 and 1989, the larger part of the active population was working in industry and construction (R. Neag, 2004). Zlatna was also a highly industrialized city (mining and ferrous ore processing) in the communist era. Unlike Brad, a large number of employed people here consisted of commuters, not of immigrants, thus explaining the differences in population growth (Popa Maria, 2004).

Roşia Montană was not spared by the changes, especially after the nationalization laws from 1948, through which all means of production of the former operating companies became property of the state. In the years 1950-1960 a major mining process revamping took place. Later, in the 1970s, the ore exploitation on the surface (Cetate Mountain) began, increasing the production efficiency by 25-30 times. A copper processing plant was also built in Roşia-Poieni. After 1976, the implantation of other industries was attempted: in Abrud a mill factory was build and a clothing one in Baia de Arieş, but such enterprises did not change the essential character of the area – mining and ore processing. Other visible effects of the industrialization process were the concrete blocks constructions that changed the look of old towns (Sintimbrea A., 1989).

As for agriculture, the geographical specificity of these mountains did not stop the authorities from trying to impose collectivization. Its implementation led to major socio-professional changes in the countryside. After initially opposing the collectivization, peasants were forced to accept registration by various pressures, but concomitant, many have been attracted to work in mines (better remunerated). Consequently, the labor remained in agriculture was of poorer quality, which combined with low productivity and dishonest economic practices led to the failure of collective associations (Sicoie-Coroi Livia, 2009). After 1990, the industry experienced a major setback, for a time economic hopes heading to agriculture, specifically towards zootechnics – the most profitable

branch for mountain regions (Plăiaș I, 1994). But even today, after two decades, the lack of coherent programs makes the agriculture of Metaliferi Mountains an attribute of individual households and small and medium farms.

In terms of protecting the environment, the industrial decline was welcomed, especially for the ore processing plant in Zlatna. Its final closure in 2004 brought negative social effects, but had a positive effect on the residents' health and re-greening of affected areas (Popa Maria, 2004). The only economic sector that has developed, especially in the last decade, was that of tourism, due to the geographical diversity of the region, to the great tourist potential of the relief (Cocean P., 1984) and to the popular and historical traditions.

As a subdivision of the Western Carpathians (Carpații Occidentali), Metaliferi Mountains have always attracted the tourists, being suitable for development programs focused on this branch of economy. In this context, the latest cultural landscape elements have developed: the rural pensions. *"Having a relatively high density in some localities: Blăjeni, Buceș, Ribița, Bucium, Balșa, Almașu Mare, Băița, Zam"* (Costina M.I., 2003, p. 50), rural pensions are present in many villages of the mountainous area investigated. Their architecture is not uniform, depending on the owners' taste and presentation ideas: some are farmhouses adapted for tourist activities, others are new buildings constructed for this purpose. Especially the latter introduced some allochthonous elements in the local cultural landscape, through the eclectic style and chromatic, which combine local elements with Western European ones.

From this point of view, one can say that the Metaliferi Mountains area is still at an early stage in its search for a model: it remains close to traditional architecture and better integrated to local cultural landscape, but also provides the necessary facilities to attract tourists.

5. CONCLUSIONS

There is a clear continuity of habitation in these mountains, from prehistory to the present. Archaeological artifacts identified for all ages, and written documents, prove this reality, whose impact on the landscape and cultural landscape cannot be overlooked: in a discontinuously populated area, nature has time to return to its wild forms (before human habitation), while on a permanently populated area, nature suffers a constantly changing process through human intervention and adaptations.

Behind the continuity of habitation stand the rich soil and the subsoil resources, which have permanently attracted the communities and generated some specific demographic processes (difficult to reconstruct in the absence of censuses before the 18th century). The abundance of ores and the favorable microclimate conditioned the industrial profile of the region, focused on mining industry (in specific forms, adapted to different historical moments), then on the forestry and finally on agriculture.

The major changes of cultural landscape in the Metaliferi Mountains are related to extractive industry development, whether they belong to Roman, medieval or modern and contemporary epochs. The environment reorganization, the use of water force, the development of communications routes etc. are results of the processes through which man has used the nature and exploited its riches. Finally, all these premises have polished not only the physical landscape, the appearance of places, but also the "forma mentis" of people. The locals are individualized under the appellation of "moți" and recognized in the collective mentality register by their special qualities proved during historical turning points.

By mid-20th century the cultural landscape of the Metaliferi Mountains experienced a gradual but stronger anthropogenic modeling, in connection with the advance of mining techniques. Since 1948, an ideological component was added to technological modernization, which forced industrial development in an area that would have needed an economic balance and well-defined social policies. The forced collectivization experiment (which succeeded in form, but failed on the substance) put an end to traditional agriculture, creating by this a cut with the past. Its negative effects were felt after 1990, due to the lack of solid programs for mountain agriculture revival.

With the failure of major industries came the refocusing on traditional industries and agriculture, finally the tourism beginning to develop over the last decade. Although the latter represents an important generator of capital for this area, it is not yet coherently managed either from ecological or architectural perspective.

Today, Metaliferi Mountains form a geographical unit in which the nature, despite its wildness, is strongly shaped and influenced by the anthropogenic factor, in a less organized way than it would be desirable. Therefore, there are imbalances and abuses which, without the intervention of regulator factors, can lead to the irreversible destruction of local cultural heritage and landscape.

REFERENCES

1. Bărbulescu, M., Deletant, D., Hitchins, K., Papacostea, Ș., Teodor, P. (1998), *Istoria României*, Edit. Enciclopedică, București.
2. Bellu, R. (2007), *Istoria ilustrată a căilor ferate forestiere din România*, Edit. Pro-Domo, Brașov.
3. Boțan, C.N. (2008), *Țara Moșilor. Studiu de geografie regională*, Ph.D. Thesis, Universitatea Babeș-Bolyai, Facultatea de Geografie, Catedra de Geografie Regională, Cluj-Napoca.
4. Ciangă, N. (2007), *Wooden churches. A representative component in the cultural landscape of Transylvania*, in *Romanian Review of Regional Studies*, Anul III, nr. 2., Cluj-Napoca.
5. Cocean, P. (1984), *Potențialul economic al carstului din Munții Apuseni*, Edit. Academiei Republicii Socialiste România, București.
6. Cocean, P., Filip, S. (2008), *Geografia regională a României*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
7. Costina, M.I. (2003), *Ghid turistic al Munților Metaliferi*, Edit. Emia, Deva.
8. Cristache-Panait, Ioana (1987), *Biserici din lemn monumente istorice din Episcopia Albei Iuliei. Mărturie de continuitate și creație românească*, Edit. Episcopiei Ortodoxe a Albei Iuliei, Alba Iulia.
9. Duma, S. (1998), *Studiul geologic al exploatărilor miniere din zona sudică a Munților Apuseni, Munții Poiana Ruscă și Munții Sebeșului*, Edit. Dacia, Cluj-Napoca.
10. Gavra Camela-Ina (2012), *Peisaje culturale în Munții Metaliferi*, Ph.D. Thesis, Universitatea Babeș-Bolyai, Facultatea de Geografie, Catedra de Geografie Regională, Cluj-Napoca.
11. Glodariu, I., Iaroslavschi, E. (1979), *Civilizația fierului la daci (sec. II î.e.n. – I e.n.)*, Edit. Dacia, Cluj-Napoca.
12. Jianu, N., Lapteș, M. (2004), *Vechi biserici de lemn din județul Hunedoara. Repertor etnografic*, Edit. Corvin, Deva.

13. Marica, Em. G. (2004), *Satul ca structură psihică și socială*, Edit. Argonaut, Cluj-Napoca.
14. Matley, I.M. (1971), *The Human Geography of the Western Mountains of Romania*, in *Scottish Geographical Magazine*, Year 87, no. 2, New York.
15. Morariu, T., Onișor, T. (1971), *Spălarea aurului din nisipurile aluvionare în Carpații Occidentali*, in *Sargetia*, 8, Muzeul de Istorie, Deva.
16. Neag, R. (2004), *Monografia municipiului Brad*, Edit. Corvin, Deva.
17. Petrescu, P., Stoica, G. (1981), *Arta populară românească*, Edit. Meridiane, București.
18. Plăiaș, I. (1994), *Agricultura montană – societate. Un necesar contract posibil: Munții Aposeni*, Edit. Libris, Cluj-Napoca.
19. Popa, Maria (2004), *Cercetări privind determinarea gradului de poluare a mediului din zona Zlatna cu cationi metalici*, Ph.D. Thesis, Universitatea Babeș-Bolyai din Cluj-Napoca, Facultatea de Chimie și Inginerie Chimică, 2004.
20. Rîșcuță, C. (1995-1996), *Repertoriul arheologic al depresiunii Brad*, in *Sargetia*, 26, Muzeul Civilizației Dacice și Romane, Deva.
21. Sicoie-Coroi, Livia (2009), *Colectivizarea agriculturii în raionul Brad, între istorie și memorie 1949-1962*, Cluj-Napoca, Edit. Argonaut, 2009.
22. Sîntimbrean, A., Bedeleian, H. (2004), *Roșia Montană – Alburnus Maior. Cetatea de scaun a aurului românesc*, Edit. Altip, Alba Iulia.
23. Sîntimbrean, A. (1989), *Muzeul mineritului din Roșia Montană*, Edit. Sport-Turism, București, 1989.
24. Varga, E.A. (2010), *Erdély etnikai és felekezeti statisztikája adatbázis formájában. Népszámlálási adatok 1850-2002 között*, Electronic edition (.pdf) accessible on-line at: <http://www.kia.hu/konyvtar/erdely/erd2002.htm>, consulted at 17.03.2011.
25. ***, *2000 trepte în mineritul zăcăndean* (1979), Deva.
26. ***, *Az első katonai felmérés: Erdély és a Temesi Bánság (Virtuális)* (2004), Electronic resource on DVD.
27. ***, *Inscripțiile Daciei romane, I. Introducere istorică și epigrafică. Diplomele militare. Täblițele cerate* (1975), Edit. Academiei Republicii Socialiste România, București.