Batumi Shota Rustaveli State University

Faculty of Humanities

Department of History, Archaeology and Ethnology

Guram Chkhatarashvili

“Regional peculiarities of final Upper Paleolithic of South Caucasus (according to Dzudzuana and Satsurblia caves)”

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The significance of the study. Georgia was distinguished by adventageous natural-geographical locations from the ancient times with diversed contributing climate conditions. It seems that this fact determined the wide settlement of a man here, as advanced by number of different kinds of habitations of stone age and other eras.

Scientist suppose that ancient man entered the Eastern Georgia (Dmanisi) from the Africa through so called Levantine corridor and Dmanisi region became one of the ancient distribution hub of a man in Eurasia. Stone processing techno-culture which was discovered in Dmanisi is belong to the most ancient and long-term period of lower Paleolithic period (Olduwian period) and is dated back to 1,7-1,8 million years.

The earliest manifestations of Georgian Upper Palaeolithic culture is from Ortvala-klde cave, dates back 38.000 BC. At this time a modern type of human appears and start to occupaid on a large terittory of Europe. In addition, qualitative changes are in process in the stone industry, stone tools types are increase and are getting standardized. Effects of the bone and later horns are implemented; hunting devices are developing and art getting outlined, which is less represented in the previous era. As Georgia, especially its western part with the Middle East and Europe are considered as one of the most important regions of distributions of Paleolithic humans, thus it became necessary to study and understand discovered here materials of the monuments in a new way.

Researchers have attracted the interest to the cave sites in the western Georgia, where powerful Upper Palaeolithic layers existed. Since 1996 an international expedition has begun to work in Georgia – in Ortvala-klde and Dzudzuana caves. Then the work was resumed in Satsurblia cave. Our work displays the study and survey in final Upper Paleolithic assemblages of Dzudzuana and Satsurblia caves.

The aims and problems of the study. The purpose and objectives of our thesis is to implies homogeneity and distinction of cultures of two traditionally recognized areas of western Georgia – the gorges of the riv. Rioni and Kvirila, which will contribute to the solutions of such difficult issue as the settement of a modern man on the territory of Georgia. The final task is to clarify the structure of the Upper Paleolithic culture, chronological framework, the oldest humans' activities, climatic and geographical environment, where they had to live. The study will allow us to find out whether local conditions affected the socio-economic life of people.

Theoretical and practical value of the study. The work can be used in order to compare sites of contemporary period and to determine the chronological framework on the territory of the Caucasus and Eastern Europe. The results may be used as an additional source for studying Archeology, Geography and Geology, Paleontology and Palynology at Georgian accredited higher education Universities or at any other scientific-research institutions.

The source of the research. Our qualification work is based on the source of the materials from Dzudzuana and Satsurblia cave kept in the fund of the stone age department of the Georgian National Museum. Archaeological materials were collected during the time of international archaeological expeditions (head of expedition T. Meshveliani). In this paper, we have presented archeological materials and their graphic drawings of the above mentioned expedition (1996-2015.), which were performed at the National Museum. In addition, the work results of Palynological and Paleontological informations were prepared in the field of international studies by the appropriate specialists, whose publications and other materials we use in order to improve our work.

The scientific novelthy of the research. Scientific novelty and significance of the dissertation work thoroughly discusses the stratigraphy of final Upper Paleolithic layers of Dzudzuana and Satsurblia caves, detailed description of the lithological layers, statistical and typological list of archaeological materials had been made. The process enabled us to group the tools in separate categories. The paper used to have made an inter- disciplinary research (Geology, Palynology, Paleontology) results. Also we tried to use the absoluted series of data in Georgian Upper Paleolithical sites and tried to determine the chronological framework. Based on this information we have made the reconstruction of final Upper Paleolithic culture.

The value of the research represents that, the course made possible to study their reconsiling with some Epigravettian sites of Eastern Europe and final Upper Paleolithic layer of Satsurblia cave. During the survey we revealed the common and distinctive features of Epigravetian culture. Moreover, it was possible to separate the local variants. Considering that in stone indusry of Georgian Upper paleolithic cultures we have no such industry besides Satsurblia cave (although, interestingly, Gvarjilas-klde industry further emphasizes the relevance and importance of the thesis. Moreover, some of sites of Eastern Europian Epigravetian culture do not have the absolutic serias of data and their ages is determined only of typological-comparative methods of archaeological materials. As a result of our study, it is possible to use of well-dated layers of Satsurblia cave to determin of ages of this sites. Undoubtedly, this will help specialists and interested scientists to determine accurate chronological framework of the sites.

Approbation. This thesis was held in 2016 on July 15, at Shota Rustaveli state University, at the joint session of the faculty of Humanities and Sciences, department of Archaeology, ethnology and history.

The structure of the thesis. The volume of the work and the structure of the thesis are determined by the goals and problems of the thesis. The dissertation work consists of four

chapters, 10 paragraphs and conclusions. The work is attached by the list of references. 184 pages of the thesis are computer-printed.

The thesis consists of an introduction, the study of the problem and defines research objective, also the Scientific novelty and importance of this work.

Chapter I the study about the subject history and physio-geographic and geological characterized of region. The first and second sections discuss the details of the study about the subject history and physio-geographic and geological characterized of Imereti region.

Chapter II Dzudzuana cave and its final Upper Palaeolithic period. This chapter includes 3 paragraphs, and deals with the stratigraphy of the cave and the detailed description of archaeological layers of Dzudzuana cave. Besides the description of the stone material, the paper details the results of Palynological and Paleontological information and their analysis. Due to on the basis of this informations is shown reconstruction of environment of final Upper paleolithic period.

Chapter III The end of Upper Paleolithic in Satsurblia cave. The chapter consists of 3 paragraphs, where the details about the Upper Palaeolithic culture of Satsurblia cave assemblages are discussed. The specifics of the particular attention are paid to final Upper Paleolithic layer of this site. The lithological composition of the layers is described. It also lists the results of Palynological and Paleontological information.

Chapter IV Epigravettian culture of the Eastern Europe. The chapter consists of 2 paragraphs and belong to the description of Eastern European Epigravetian cultural sites (Ukraina, Republic of Moldova) and their archaeological complexes.

The final section summarizes all of the above issues.

Preface

Georgia, and in particular, its western part, is rich with Upper Palaeolithic sites. The study sites of our qualification work are located in the Imereti region, in particular, in Chiatura region, village Mgvimevi in Dzudzuana cave and Tskaltubo region, village Kumistavi, in Satsurblia cave.

It is noteworthly that the interest towards Upper paleolithic sites of Georgia increased after the origin and migration issues of Homo Sapiens have been rvised. Africa-South Caucasus located on the border of Eurasia, in particular it’s western part, cinsidering this background of changes turned out to be the spotlight of interest as historically so geographically**.**

As the scientist note the settlement of modern of hominids was performed in particular trajectory. The study of the subject has revealed that their origin location was either Eastern Africa or levant or some often part of Asea. Caucasus is located exactly at the crossroads of

Eurasia and Africa and that is why western Georgia and it's Upper paleolithic sites attracted the interest of foreign researchers. We believe that the sites discovered on this area must solve this issue of the settlement of Homo Sapiens sapiens.

One part of scientists connects the movement of the modern groups of people with particular technology of Eurasian stone industries. Upper Paleolithic period is associated with human migration. There are different opinions about the change of Archaeological culture, as to its origin; Scientists believe that this change in the stone processing technology is the change of Mousterian technology into the Upper Palaeolithic one and human migration is completely excluded**.** The second part of the Scientists are in favor of the idea about migration of people, but they also believe that the local Neanderthals were able to adopt the new skills of Upper Paleolithic bone and stone processing technology and social changes. There is another, a third opinion - Upper Paleolithic was a fundamental transformation of the event, which took place in a certain region and then spread to the rest of the old area of the world. The people with new technology, Cro-magnons during the movement in Eurasia either impacted on local habitants or occupied their places**.**

Archaeological research about Georgian Upper paleolithic has being performed for more than a hundred years. Dozens of sites are excavated and scientifically studied, although the methods of studies according to contemprorar scientific requirements are unsatisfactory; to be more specific, stratigraphic data were not complete, thick layers were excavated, thus it was difficult to identify cultural layers, which caused mixing the materials of different periods and their study jointly. In faunal material only the speicies were identified, the small fragments of bones were ignored, in letter cases only their quantity were noted. Taphonomic studies were not held as well as the studies of trample and marks left on bones by a human or animal. Most of the researched areas were fully excavated, so this days it is impossible to re-consider their stratigraphy. Although the methods of excavations has changed ths implies exact fixation of materials washing of prepared soil significantly changed previously ideas and their results. For example, if previously non-existence of microlithic was the sign of it's ancientness, the change of excavation methods proved that even in the oldest Upper Paleolithic layers one of the determinant element is microlithic**.**

Our exploration site of the Upper Palaeolithic cave Dzudzuana, is located in Imereti plateau, in karst cave, in Chiatura, on the territory of village Mgvimevi, on the valley of the river Nekrisi (right tributary of the river. Kvirila) was right on board, the river level 10-12 m (absolute height of 560 m). Cave was worked out in upper Cretaceous limestone, the length of 160 m., the width of the entrance to the 22 m., The height of 15 m. The East-West orientation.

The site was discovered in 1966 by S. Janashia State Museum archeological expedition which was studying the Stone Age under the guidance of D. Tushabramishvili**.** In 1975 Institute of Geography speleoecspedition (under the guidance N. Erkomaishvili, J. Jishkariani and J. Tsikarishvili) first described and researched the Dzudzuana cave in an archaeological and speleological way and investigated it in two stages**.**

In Dzuzdzuana cave archaeological researches were held in two compaigns, The first was held in the years of 1966-1975; The second stage of the Georgia-USA-Israel joint project carried out during the 1996-2008 period, where Georgian experts participated (Head of the expedition. T. Meshveliani) with the Peabody Museum of Harvard University Professor Ofer Bar-Yosef, Israel Hebrew University Professor Anna-Belfer Cohen and so forth**.**

As for the second Upper Palaeolithic sites, it is located in a cave in Satsurblia, Tskaltubo region, village - Kumistavi, on the shore of the river Sam, near the farm. The cave is curved out in Barremian limestone. The archaeological research of the site was conducted by Ivane Javakhishvili Institute of History, Archeology and Ethnography (Head of the expedition. A. Kalandadze). As the archaeological excavations as well the result of a large amount of surface archaeological materials had been collected: flint tools and the remains of its production, cores, endscrapers, scrapers, borers, as well as some cobble stone tools, axes, polishers, and so forth. Tools set, their diversity and the use of the character points to their usage and variety, shows that human had been living in Satsurblia cave for a long time, since the Lower Palaeolithic to the Eneolithic than before**.** The site must be used in the Middle Ages, most likely haven.

Works in Satsurblia cave in 2008-2010 were continued by Shota Rustaveli National Science Foundation-funded project named " From Hunter-gatherer to the productive sector in the west of Georgia, " (the head of the project T. Meshveliani). In 2011-2013, the work on the project program in Satsurblia in 2013- "For dating the sites of Middle and Upper Paleolithy in the South Caucasus " was carried out by Georgia-Ireland-Israel joint archaeological expedition.

The study of final Upper Paleolithic sites in Dzudzuana and Satsurblia caves allowed us to identify two different sites of the final Upper Paleolithic culture in the western region, and then define the chronological framework of human activity. In addition, it can be possible to find out homogeneity of final Upper Paleolithic materials, that is the existence of common culture of Upper Paleolithic.

Chapter I

The study about the subject history and physio-geographic and geological characterized of region

§ 1 The study about the subject history

Investigations of Paleolithic culture in Georgia has begun in XIX c. In particular, in 1868 E. Favre and Statkovski excavated ,,Iazoni grotte" near the Kutaisi. They found interesting flint tools. In 1884 A. Bernatski in the village Rgani (Imereti region) excavated archaeological layers consist of bone materials. Also, some foreigner specialist worked here since XIX cc. In 1914 R. Schmidt and L. Kozlowski makes interesting excavations in some parts of Western Georgia. One of the interesting work was conducted by Polish scientist S. krukovski in some caves in Chiatura in 1916-1918. In Gvarjilas klde with rich stone artefacts he discovered interesting bone and antler materials, with important Paleozoological remains. By S. Krukovski this layer was belong to late Magdalenian culture.

New stage to investigations of Paleolithic culture in Georgia began in 20-30 years of XX century and it connected with archaeologist G. Nioradze. He discovered and investigated very interesting sites of Upper Paleolithic culture in Georgia, such as: Deviskhvreli grotte, Sakajia and other. In addition, many famous archaeologists worked here until many years. In particular, S. Zamiatnin, N. Kiladze, L. Soloviov, A. kalandadze, V. Liubin, D. Tushabramishvili, M. Nioradze, G. Grigolia and others.

At the end of 1990s Georgian scientist's publications and the materials from the sites arose great interest among international archaeological societies, which caused cooperation between Georgian and foreign archaeologists. Joint Georgian-American-Israeli expedition began to work on Imereti sites as Dzdzuana cave and Ortvala cave

Tripartite scheme of the Georgian Upper Paleolithic sites was first conducted by S.N. Zamiatnin, who as if well presented the development of Georgian Upper Paleolithic. This archaeotratigraphic sequence was based on Typological comparisons of various assemblages. S.N. Zamiatnin stressed similarity among three period sites and cultural succession among chronological groups.

Archaeological sites and their artefacts S. Zamiatnin divided into 3 groups: First group (called by him as ,,Early period of UP") - consist Khergulis-klde and Taro-klde, second group

(,,middle UP") - include Sakajia, Uvarova grotte, Bneli klde, Deviskhvreli and Mgvimevi cave and third group (,,late or final UP") - Gvarjilas klde.

The scheme presented by Zamiatnin was generally accepted by all scholars working on Georgian Upper Paleolithic sequence and some new sites were added. But there also were corrections of the chronological schemes and their critical review.

At present time, archaeological excavations undergoing some Upper Paleolithic sites (Satsurblia, Dzuduzana, Sagvarjile) of Imereti region. We believe, that it will be give us more important and interesting discoveries in future.

§ 2 Physio-geographic and geological characterized of region

Imereti territory is situated in the West Georgia, in the east part of Kolkheti valley. From the east it is bordered by Shida Kartli, from the north – Racha-Lechkhumi, from the west – Samegrelo and from the south part Guria-Samtskhe.

The climatic regime of Imereti is conditioned by Geographical location, general circular processes of the atmosphere, close location to the Black Sea, and local physical-Geographical conditions. The hydrographical net of Imereti is represented by 6000 large and small rivers, springs, underground waters, rainforests, and lakes, but the leading from the surface waters are rivers. The main river Rioni joins the Gubistskhali from outside of the region, which waters the west part of it and the River Khvirila, the right tributaries of which waters the half of the east part of the region.

The second largest river is the Tskhenistskhali, which starts from Lafuri on the west side-hill of the Fasis mountain (2708 m from the sea level) Its nourishment, changeability of the level and other hydrological parameters have got as similar regime as the river Rioni.

The river Kvirila starts exactly on the territory of Imereti and takes the first place by its length and affluence. It is a typical mountain river, which outfalls from the district of Tsona and Ertso caves, on the east side-hill of the Racha mountain range. It flows down the narrow woody gorge, joins the Dzirula and flows to the Kolkheti valley, here it joins the Rioni river.

The colorful relief, climatic and soil (mosaic) is reflected in the safari of the plants. In Imereti more widespread are the plantsadapted with mountain climatic conditions. 78% of whole area is mountainous.

Animal world is one of the components of the landscape, which is distinguished from others by its peculiarities. They have ability to be active and are not as chained to the place as the plants. The Caucasus and especially Georgia is distinguished by the variety of animal world. That is confirmed by multiple endemic and relict animals. Caucasus is on the first place among the post soviet union countries with its rich Fauna.

Important is the spreading of limestone, which belong to different stratigraphic horizon. Karst is mostly developed in chalk limestone.

Upper chalk limestone consist a great number of reddish, yellowish flint of Turon-Senoni stages, which are met on the eroded surface passages of the third sediment layers. Such areas are Rgani, Katskhi, Chilovani, Perevi and others, as archaeologist Tushabramishvili indicates this was the reason for the primitive man's interest to the region. The confirmations are a lot of dwelling –shops, and caves placed in this region.

Between the Tskhenistskhali and the Rioni rivers the massif of Sataflia-Tskhaltubo is spread, the area of which consists 92 km (length30 km, width 15-20 km). The absolute maximum height of the massif is 400-500m. It is built with baremic, urgonic, pacie limestone. The most remarkable ones are the famous Sataplia caves and 200 extinct reptile-dinosaur footsteps printed on the marl limestone surface, which were searched by Chabukianiin in 1925. Remarkable discovery is also Tskhaltubo (Khumistavi) unique cave complex, which was found by spelean group In the 80-es of the XX century. The place will be made as a tourist attraction in near future.

There are many karstic caves in the region, the most famous among them is Sataplia cave. The karstic caves are located also in Tskhaltubo, near Kvilishori, Khumistavi, Tskhunkuri, Dzedzileti, Matkhoji and etc.

This is the physical-Geographical characterization of Imereti Region. The region was rich with various reasonable environments for the people's dwelling and settlement which is confirmed by thousand numbers of caves and their remains.

Chapter II

Final Upper Paleolithic period and Dzudzuana cave

§ 1. Dzudzuana cave

In 1966-1975, David Tushabramishvili was conducting excavations in Dzudzuana cave. At this time the zero line of 1 X 1 square m. was planned and drawn in the cave. Two exploration trenches were conducted (inside the cave) №1 and №2 (entrance cave), which made it possible to identify the stratigraphy of the cave. There were discovered two cultural layers: I Neolithic-Early Bronze and II Upper Paleolithic period.

Upper Paleolithic layer was being excavated as one cultural layer till 1972, only then it was possible to divide it in lithology one, cultural layers were linked to it. In total 8 different lithological and 7 cultural layers had been separated (From top-down the cultural layers coincide with the lithological ones, the eighth layer can be considered as sterile). In 1973, the rock layers were united in so-called lithological packages to I, II and III by D. Tushabramishvili. According to present numeration the number of B, C, D. (B- includes cultural layers I-III, IV-VI layers are in C and the VII-VIII are included in the D layer. (It should be noted that the numbering of the following folders have been done, as a result of the international archaeological expedition). The limited microlithic and geometric items were considered as cultural features and rock materials were separated as a local group of the Upper Paleolithic culture. At the same time Dzudzuana V-VII cultural layers were dated as an early Upper Paleolithic, which was based on some archaic things and two doubled retouched Upper paleolithic endscrapers, which was considered by d. Tushabramishvili as an archaic tradition according to its processing. When the origin of these things were verified, it turned out that the endscrapers according to their consistent are of the layer C origin, i.e. the origin of developed Upper Paleolithic. Such endscrapers were found later too. Therefore the endscrapers cannot be considered as a sites characteristic of early period.

The new phase of the study of Dzudzuana cave began in 1983 under the guidance of Meshveliani, who tried to examine the existed available data and discussed Dzudzuana and Upper Paleolithic culture in a new way.

In 1987-1989 gigantic work in Dzudzuana cave, in particular, the results of palynological and geological surveys was carried out (by M. Tvalchrelidze and d.

Lordkipanidze). The process used as geographical as well as X-ray structural and chemical methods At the same time the results of palynological analysis have been made on 19 pieces. It was found that samples were poor with dusty spores, which is typical for deposits in the cave.

Another new chapter in the studies of the cave Dzudzuana begins at the end of the XX century, when the Upper Paleolithic sites became the subject of interest for foreign specialists. The scientists concluded a joint project between the Georgia-Usa-Israel international archaeological expedition ("modern physical type of human settlement problems in the South Caucasus ") the project within the framework of the Upper Paleolithic sites has been conducted since 1996 (Ortvala-klde and Dzudzuana cave).

However, it should be noted, that at the beginning of the project, a group of scientists, faced several problems. In particular, in early times, stratigraphic data from Upper Paleolithic sites had not been completed and quite thick layers had been excavated; Transition phase of moving from middle to upper paleolithy had been misinterpreted; In Faunal material only separate species had been ascertained. Certain kinds of small bone fragments had been ignored, at best, only their number was recorded. Radiocarbon dates were not accurate or never existed.

After that, the international archaeological expedition members decided to start work in Dzudzuana cave, which was one of the site of still well protected prehistoric deposits. Several specialists needed to achieve the goal. In particular, a site stratigraphy should be studied, as well the faunal material and stone material should have been stated. Prepared soil was being washed in 2 mm sieve, not to lose even the least amount of data. After this washed soil was checked where from microlithic, microfauna, small art fobjects, as well as bone tools and their fragments were picked up. It is important that for the reconstruction of the site environmental conditions, the results of Palynological analysis and their study should have been done.

International group of specialists which investigated Dzudzuana cave were: T. Meshveliani (head of expedition), El. Kvavadze, N. jakeli (Georgian National Museum), Ofer bar-Yosef (Harvard University, peabody Museum), Anna Belfer-Cohen (Hebrew University, Israel), Zinovy Matskevich (Phd student at harvard University) and others.

During the expedition two areas were excavated: the first, an extension of D. tushabramisvili's excavations near the entrance of the cave (sq. F-I 9-7 and J-K 12-11), which was called ,,lower area" and the second an ,,upper area" comprising squares G-H 24-21, 19-15. The total excavated surface was 24 m^2.

Researchers working on the site's ,,lower area" have been divided it into 4 layers (A-D). As for the upper area, it turned out to be only C and D layers there, which were mixed with the layer B cultural remains. Unic C on the basis of changes in the nature of the clayed deposit and the inclusions of small limestone fragment into five-sub-units numbered from top to bottom as C_1 to C_5.

Radiocarbon dates are reported from samples of animal bone and charcoal, made at the Weizmann institute of science. The material coming from the lower layer of the cave was defined as an early Upper Paleolithic (layer D). Recent date: 34,5-32,2 thousand years Ka cal BP. As already mentioned above the VII-V layers, defined by Tushabramishvili, also linked to the early Upper Paleolithic period, which was based on the thing of archaic look, and 2 of doubled retouched upper paleolithic endscrapper, which he considered as an archaic tradition of equipment processing. As the experts working on a site point out, D. Tushabramishvili ignored the existence of microlithies as the element characteristic of an early Upper Pal eolithic period, which was not surprising, because the prepared land did not used to wash then and major part of microlithic was lost.

Bladelets tools take leading part in layer D, which allow researchers to express freely their opinions about the microlithic industry of this layer. The layer is characterized by a multiplicity of unidirectional cores, from which there were blades and bladelets. Cores were fully utilized, so their classification was more formal. Among the retouched artifacts there are many typical burins and endscrapers, which are made on blades and flakes. The most distinctive is very small, dimly bladelets, which are less than 4 mm width.

layer C material of Dzudzuana cave originates as from the ,,upper areas" as well from the ,,lower area" of the cave. Therefore, their number is large in comparison with other collections. Layer age is defined in 27-24 thousand years Ka cal BP. Industry is characterized carinated cores and backed tools. The majority of the core are of carinated, which is

characteristic only for this industry. This layer is represented by the almost all type of cores. Most of them are fully utilized. One of the main characteristic of this layer is ,,Sakajia" point.

In layer C microgravettian points is appearing. Dominant tools are endscrapers. As for the burins, their number is much smaller than the flakes. They mande on flakes. In this layer the works of art is also appearing. One of the prominent thing is a bone ornamented pendant, the age of it is 22-21 000 BC .B.P. thousand years. It depicts the so-called inclined cross that was inserted in the circle and from the top it has the straight sided cross.

As for the interest to final Upper Paleolithic B layer of Dzudzuana cave, the stone material and its industry reasonably differs from the previous layers of archaeological complexes. Recent dates are as follows: 16,5-10,2 thousand years ka cal BP.

We studied a total of 26.219 units of layer B.. Typological study of materials showed the following: B layers are represented by different sizes and shapes of cores (354 in.). Basically there is one or two striking platforms cores, presented with slightly carinated cores (8 in.), which in fact was anticipated. In cores there are amorphous, pyramid and discoid forms. There are a lot of fragments. The utilized ones can also be found here. In layer B there are a lot of production remains-chips, which makes up half of the total material (47, 17%). The main feature of the collection is that the material is microlithic. Backed tools are predominant in bladelets. It should be noted that most of them have backed the right side. There is a copy of which is doubly backed. Backed and truncated bladelets are small, only 8 items.

Among the tools of this layer, special place is given to the endscrapers, which are numerous and outnumber of burins. The total number of endsrapers is 232 un. Most of them made on flakes and blades. The total number of burins is 47. Most of them made on blades (19 un.). The one of the main characteries of this layer is the existence of microgravette points (66 un.) and geometric microlithics (16 un.). As for the bone tools, archaeological excavation revealed only 8 unit of bones, notably awl and one decoreted thing.

§ 2. Paleontological data

As a result of the study of the faunistic material in Dzudzuana cave, researchers allocated 28 animal species. The Bison, Caucasian tur and aurochs are represented at all levels of

Paleolithic culture in Dzudzuana cave including layer B of course. However, at the same time, in the cave faunal material, although a small number, the red deer (Cervus elaphus), wild boar (Sus scrola), fox (Vulpes vulpes), bear (presumably Ursus spaleous) and others are represented. As all we know, Caucasian tur lives at a height of 800 m to 2,400 m in the rocky areas. This species are characterized by seasonal migration. In early spring Caucasian turs climb higher mountains and late in autumn they arrive in a forested area. Bison is characterized by similar seasonal migration too. Therefore, it is likely that the Dzudzuana cave dwellers were hunting on these species in the fall and winte.

The stdy of animal teeth revealed that hunting occurred mainly on adults individuals, which once again confirms the fact that Upper Paleolithic hunter-gatherers were experienced in hunting process. The study of materials, performed by zooarchaeologist Guy Bar-Oz have shown that primitive bison and Caucasian tur were main food resource in Dzudzuana cave.

As a percentage of the skeletal study of the bones showed, the small number of bones are in the body, more are in the upper arms, the skull bones are of the average percentage, and the bones of the lower extremities are of the greater number. the bones of the spine are represented by a little number, which is typical for this type of sites and can be explained by the fact that this part of the body, were left by the hunters on the spot after hunting. The hunters cut the flesh from large bones, but limb bones with the flesh they took to the sheds. Ethnographic study showed that hunters preferred the animal heads and lower parts of the body in winter, because there was reduced fat in the upper portions and the meat became tasteless.

Thus, as it turns out, the Upper Paleolithic people living in a Dzudzuana cave were experienced hunters, who preferred hunting on the adult animals and as the taponomic and demographic research shows, their hunting was organized and predicted.

§ 3. Results of Palynological data

Within the international expedition, produced in Dzudzuana cave, except stone materials and faunal studies, also, had been conducted Palynological investigations too, which was performed by a group of palynology by the guidance of El. Kvavadze (Georgian National

Museum). This data allows us to reconstruct the paleoecological environment. As a result of the analysis different data were reported in Upper Paleolithic layers. As we go through the final phase of the interest it is shown that during the forming of layer B warmth loving elements are reducing. This layer reaches its maximum with subalpine and alpine vegetation dust seeds. A good example of this is rhododendron (Rhodendron Caucasia). Rhododenron pollen and other highland elements that suggest the presence of an alpine belt in the vicinity of cave. It's well seen, that the landscapes of sub-alpine and alpine line existed on the first stage of B origin in the cave. It also seems that the second stage of cold spell should have been more humid. A coniferous forest (spruce, fir, beech) existed in Dzudzuana cave area. Small dust grains of beech indicate to the existence and spread of a crooked beech. Cold spell of this period was short, but relatively tough.

During the study of Palynological investigations have been discovered of wild flaxs fibres (Kvavadze 2009), which were twisted and colored pieces. However, their number in layer B was relatively small, only 48 units.

It is interesting that besides spun fibres, there are remains of knitting string with numerous knots. The colours identified are blue, green and pink. Zoological fossils iunclude microscopic remains of mites (Acari) and hair of abdominal segments of larva of beetle (Coleoptera, family Dermistidae). The remains of fur, micro-remains of skin beetles and moth can be interpreted by specialists as evidence for working hide and flax. The samples with the highest content of flax also contained spores ohf the fungus Chaetomium, which usually grows on clothes and textiles and destroys them.

According to Palynological investigation in Upper Paleolithic layers of Dzudzuana cave by researchers has been discovered facts for the use of medicinal plants by Paleolithic man's. Results of Palynological analysis have demonstrated the importance of the usage of medicinal plants in the Prehistoric era - in this case during the Paleolithic era. Pollen data have demonstrated that medical plants were used by neandertals around 60.000 cal BP and work at the archaeological site of Shanidar IV in present-day Iraq has shown that Middle Paleolithic communities used many medical. The results of palynological studies, in Dzudzuana cave, revealed the list of the existence of 28 plants. The maximum number of medicinal plants reach in C and in the B layer, which we have interest in.

Naturally, the nutritious plant existence was fixed in the cave. However, the researchers, focused specially on the medicinal plants. It should be noted that the number of medicinal plants, herbaceous such as Artemisia da Carduus pollens dominate. There are a lot of pollen of Artemisia in the final phase of the Upper paleolithic layer. It is believed that in addition to a variety of diseases Paleolithic people used Artemisia against parasitic insects, or it can be said that he has already tried hygiene rules. In addition, it is known that Artemisia is also used against Malaria, what is the evidence of the fact that this disease already existed at the top of the Paleolithic period in Kolkheti valley. Besides Artemisia, another anti-malaria plant was also found. This is Salix and several species of this medicinal plant are considered as a cure of malaria.

According to the results of Palynological investigations, between the herbs the second dominant is Carduus, there is a lot of pollen remains in layer B. Despite the fact that the young shoots of the plant are nutritious, the researchers suggest that people then used Carduus as a medicine, because the herb has a good effect on high temperatures, as antipyretic. It is also used as a means of causing vomiting.

Thus, as a researcher-Palynologist's study has revealed Upper Paleolithic people knews and used top 28 species of medicinal plants. The dominant position among the herbs were pollen, which were used against bleeding and wound healing, Besides, its due to mention that the drugs can cure flue and have antipyretic characteristic and so forth. The second most important fact that became clear after the above studies, is the existence of different diseases in the period of Upper Paleolithic period, such as: asthma, bronchitis, pneumonia, cystitis, stone disease, dermatitis, malaria and others, such diseases still worry the modern human society.

Final Upper Paleolithic layer B of Dzudzuana cave finds analogs corresponding with the period of archaeological sites, In particular, since 15.000 B.P. - coexistence of microgravette points and backed tools on many sites are recorded. Among the stone industry on this sites we also find increasing percentage of oval endscrapers, burins, borers and microlithic tools. Gvarjilas klde is rich with microlithics tools, microgravette points and geometric type of triangles, or segments. Stone material boasts with exquisite shape points, long triangles, and a large number of small-sized, oval endscrapers. Bone radiocarbon dates

taken 15.960 BC and 15.010 BP showed that the date coincides with the date of Dzudzuana layer B. Geometric microlithic existence In upper layers of Gvarjilas klde matches the early Holocene phase.

Sakajia cave had been excavated by several generations of archaeologists, the first excavators Schmidt and Kozlovsky, distinguished three layers of Upper Paleolithic culture. Later G. And M. Nioradze's believed that this is one segment. The presented material contains prismatic and pyramidical cores, burins, endscrapers, backed bladelets and a few micrograwvete points. It should be noted, that characterized type of tools is a Azilian point (notched, backed blade), which discovered more than 60 un. The radiocarbon date 11.700 B.C. belongs to the last phase of the Upper Paleolithic period.

The Upper layers of Apiancha cave due to a radiocarbon method is dated 14.500 B.P. and contains backed bladelets industry. Local feature is a short-shouldered point. However, there is no statement on the exact date of its origin analysis. Deviskhvreli includes geometric microlithi, the half-meter layer of which belongs to the final phase of the Upper Paleolithy, strengthened by radiocarbon dates 10.12 B.C. Dzudzuana B layer finds its nearest analogue to the same period of Satsurblia cave layer A.

Chapter III

The end of Upper Paleolithic of Ssatsurblia cave

§ 1. Satsurblia cave

Satsurblia cave was found in 1975 by Iv. Javakhishivili Institute of History, Archeology and Ethnography, the stone age studying expedition headed by prof. Al. Kalandadze. The cave was being excavated in 1976, 1985-1988, 1990-1993 years by K. Kalandadze.

The study of Satsurblia cave from 1993 to 2008 were not occurred. Since 2008, there were several stages of archaeological expedition worked here. In particular, in 2008-2010 Georgian National Museum expedition by guidance of T. Meshveliani granted by Shota Rustaveli National Scientific fond (,,Transition from hunter-gatherers to productive economy to the Western Georgia"). In 2012-2013 investigations of Satsurblia cave were continued due to Georgia-Ireland-Israel international expedition (head of expedition T. Meshveliani) in

Tskaltubo under the project ,,Date of Middle and Upper paleolithic sites in South Caucasus". Since 2014, the work was continued within the projects (,,About of genesis of some late Pleistocene and Holocene sites of Imereti") financed by Shota Rustaveli National Scientific fond.

Researchers, through different archaeological campaign, planned a total area of 1 × 1 m square in cave, zero line and the ends of the squares were fixed with metallic wires and paint, the internal as well as outside the cave area were planned. It turned out that, the old dug squares did not match the new ones, the old books in the field have not been exactly set the depth and squares, which naturally made difficult compare the data of the old and new excavated.

Researchers worked on two areas. Researchers working on the sites called these tow area A and B in order not to mix the Stratigraphy and data of these two area. The area A is located on the north-western side of the cave, at the entrance of the nowadays' cave (R-T 20-24 squares). It consists of five lithological (A1-A5, additional A4i-iii) and three main archaeological layers (A / I, A / IIa, A / IIb), the dates of which change between 17,9-16,2ka cal BP. should be noted that this date of Satsurblia cave partially fills the millennium hiatus, which existed in layer B of Dzudzuana cave. However, the details will be discussed below.

As for the area B, it is located on the depths of the cave (T-Z 4-7) and consists of six lithological layers (B1-B6), which includes three main archaeological layers (B / I, B / II, B / III). The area represents only a Middle Upper Paleolithic period, several of which are approximately 25.535-24.408 cal BP. Analogy of this layer is found in - developed Upper Paleolithic culture of Dzudzuana cave in layer C.

Following the absolute dates of the series, researchers working on the sites, believe that a cultural stone processing option of that Eastern Europe Epigravettian analogy existed in Satsurblia cave between thousand calibrated years of 17,9-16,2. In this industry dominant tools are the microlithic ones, including different types and microgravette points and truncated tools. This is a rectangle that has the size, shape and retouched differs from the geometric trapezoid-rectangles, that is characteristic for Mesolithic culture. This gravette - microgravette-rectangle (local epigravetian) found in A / II and B / II layers of Satsurblia Cave is the main element of the final Upper Paleolithic stone industry technology

development line lacked. Therefore scientists have strongly confirmed, that this data of Satsurblia cave fills the hiatus, which can be seen in the industry of Upper Paleolithic stone processing, particularly, in well-dated Dzudzuana cave layers. During the excavations of area A at least 4 living floors were fixed (yellowish silt, clay loam, burning and trampling surface). The "hearth" of the round shape structure of charcoal created by cobble-stones were everywhere. Interestingly, it is due to mention that a large number of burnt bones and flint were also found.

It should be noted that, the living floors discovered in the cave give us a unique opportunity to explore and study constant and intensive utilization of the cave and human behavior of a man, restore the surroundings and environment of the time when and where the Satsurblia inmate had to live.

We have studied the material about the final Upper Paleolithic of Satsurblia cave, the total amount of which are 23.339 units. An important role is for the collection of production of chipes, various fragments and others. The total number of the units is 13.346. A variety of cores of different sizes and shapes can be found in this layer (166 in.), they are mainly with one and twi striking paltform copies. There are few types of carinated cores (13 in.). The importance of final layer of the Upper Paleolithic one can be the fact that, the number of bladelets prevails the number of blades (2,449 in.). Bladelets boast with truncated, backed and truncated items. Among the collection of tools and dominant species are endscrapers (420 in.). Most of them are made on flakes (170 in.) and the blades (67 in.). It seems that the making of the endscrapers on bladelets was rare (5 in.). As for the burins, their number are double less in collection (118 in.).A great number of them are made on blades(37 in.). Among them are distinguished dihedral and multyhedral copies. Features of geometric microlithics (46 in.) and microgravettte tools (51 in.) is the key of final phase of Satsurblia cave.

A variety of color and quality flint are used as the main raw material. Obsidian is very rarely used. In the archaeological material of Satsurblia final phase only 322 units are made of obsidian.

§ 2. Results of Paleontological data

In faunistic remains of Satsurblia cave comprises a total of 327 complete and fragmentary specimens that were identified to taxon. The dominant species in fauna are boar (Sus scrofa) and red deer (Cervus elaphus). Other ungulates represented innclude large bovids (Bos primigenus and/or Bison priscus). Tur (Carpa caucasia) and roe deer (Carpeolus carpeolus). Carnivores are represented mainly by the remains of brown bear (Ursus arctos), wolf (Canis sp.) and small carniveris, including fox (Vulpes vulpes). The final Upper paleolithic bone assemblages includes also two fish vertebrae and the remains of Eurasian beaver (Castor fiber). This species was once widespread in the Caucasus until local extinction at the end of the XIX-th centery.

It should be noted that the dominant element of the fauna belongs to Boar bones, young and newborn individuals. Considering that breeding season of the boar in Caucasus is March-April, then it is possible that Satsurblia resident hunted actively in the late spring and early summer, which is also supported by the results of Palynological data.

According to investigations of faunistic bone assemblages (investigation s were performed bu Guy bar-Oz) were revealed microfaunal remains too. In particular, small rodents, rabbit, bat and etc. The data show that the assemblage is dominated by a number of species of small Arvicolinae voles, the large-bodid ciscaucasian hamster (Mesocricetus raddei), the water vole Arvicola terrestris and the mole vole Ellobius sp. Less frequent remains belong to the rodent families Sciuridae (squirell) and Gliridae (dormice). A few bat (Chiroptera) remains and a single toothless mandible and isolated incisor of the small hare Ochotona rufesence were recovered as well.

In conclusion, the final Upper Paleolithic fauna in Satsurblia cave can be said, that the main part is well saved. Apparently, most of the bones by humans are consumed and are presented in the form of fragments. In addition, there are scratches and injuries on the bones, which are related to picking up the bone marrow. We can definitely say that the bones were used to make the tools. Almost every bone belongs to the wild animals and the hunters used to bring them to the cave. The study of the fauna can conclude that Satsurblia inhabitants were good and experienced hunters, and were able to obtain large amounts of meat.

It should be noted that during archaeological investigation in Satsurblia cave have discovered pendant made on Belemnites sp. (mollusk). On the top of this pendant is a hole, made by humans for hang the thing. Such pendant is not reported early time from Georgian stone age sites.

§ 3. Results of palynological data

Results of Palynological investigation of Satsurblia cave has been conducting since 2007 by the Palynologists E.Kvavadze and Inga Martkoplishvili. The study showed that not only the sedimentary rocks are rich in plant spores and pollen, but also other organic non palynological materials, such as the wood cells, a variety of fungal spores, insects and microscopic foot joint, as well as flax fibers and so forth.

Palynological investigations of the archaeological deposits of Satsurblia cave have been conducted since 2007. Results show that the sediments are rich in both pollen and other organic remains of non-palynological character. Those include wood cells, spores of various fungi, microscopic remains of insects and other arthropods and textile fibres.

More than 40 soil samples originating from various strata of the cave were analysed. The analusis has shown that climatic factors played a major part in the occupational history of the cave. Humans inhabiter the cave mostly during warm and dry climatic phases. During humid and cold period there was some standing water within the cave, as is evident from remains of algae found in the samples.

It should be noted that in 2012 during the archaeological research of Satsurblia cave revealed the first living level - the floor. Due to lithology of Satsurblia cave this fact was very difficult to state. The first floor was followed by another. So far in the cave 4 living floors has been detected. The archaeological study of living floors and the accompanying archaeologist material are truthful and important information for Geologists, Palynologists Paleontologists and Archaeologists, which will allow researchers to restore the image of the human's life living in that period. In particular, researchers are able to define the technology of bone and stone processing, understand what wild plants people used to eat, how to use flax, what they used to hunt on. Analyzes and combination of micromorphological and Palynological results, will make possible restore the picture of environment and weather conditions.

Researchers took the Palynological samples from the discovered living floors. It should be noted that a similar case of research in the cave sites of Georgia has not been made yet. Thus, exploring the cave has unique artifacts of human activity on the environment and image reconstruction.

The range of the material considering the fact that, broadleaved and walnut pollen can be seen only on the first and second living floor, makes researchers suggest that the climate at this time was warmer than during the third level of living period. As already mentioned above, in lower layers, there are not warmth loving, broadleaved plants, but researchers found burnt pine parenchymal cells. During the third and fourth housing utilization pine was growing near the cave, which indicates to cold climate in the area. Besides pine wood cells, the coniferous pine lips are discovered, which will not apply the long distance like the wood. Existence of wood pulp and lips is a good argument for the confirmation of the pine forest existence around Satsurblia cave. This reinforces the researcher's views about a lot of pine pollen grains in the material.

Results of Palynological investigations revealed the existence of medicinal plant remains in the Upper Paleolithic layer of Satsurblia cave. Pollen of medical plants has been found in archaeological material from other prehistoric sites worlwide. Sufficient number of medicinal plant remains was found in the sites of our study. We have already talked about Dzudzuana above. As for Satsurblia cave Palynologists (I. Martkoplishvili, E. Kvavadze) took 22 samples, of which 10 samples have been studied and published. Their pollen spectra also contain medical herbs, including C. jacea L, A. annua L, A. absinthium L, A. millefolium L and U. dioica L.

Thus, the results of Palynological data confirmed that varieties of wide leaved plants were growing in Satsurblia cave in Upper Palaeolithic period, which leads to good climatic conditions. Here are presented hornbeam, lime and oak. Warmth loving fern spores, such as Venus hair and royal fern are presented in an increased number.

Dublin Trinity and University College and Cambridge University geneticists have recently decoded the genome of the Upper Paleolithic period, from two individuals from Satsurblia cave and Kotias-klde cave. The survey showed an interesting result. Until now it was considered that Western Europeans are the heirs of the three populations: 1. local

hunter-gatherers, 2. Neolithic productive population from Levant, 3. North Eurasia, Yamnanian (hole-grave culture) cattle-breeder tribes, whose cultural impact happened from Pontus steppes (North Black Sea coast and East Caspian area) and spread during migration to the west.

Once defined the human genes of the late Upper Paleolithic 13,300 years from Satsurblia and Mesolithic Age 9.700 years old from Kotias-klde cave and they were compared with the contemporary hunter-gatherers gene living on the Swiss area, it was found that the South Caucasian gene is the genetic chain of one of the main ring, the heirs of which are the Europeans living after the last glacial period.

For its part, the South Caucasian hunter-gatherer (CHG), belongs to a different, ancient tribe, who is the heir of two migratory wave of modern humans from Africa (Homo sapiens): the first 45,000 years ago, who was migrated in Europe and the second, 25, 000 years ago which became the source of Neolithic productive sector in Europe. During the migration period to Eastern Europe, the group of people in both wave settled in the area of present Georgia since 15 thousand years lived in isolation. When continental ice cover retreated, South Caucasian tribes began expansion Yamnian cultural tribes to the west. South Caucasian hunter-gatherer's genes influence can be seen as on the tribes of Early Bronze Age, the population of which is regarded as the cradle of the Indo-European languages, as well as on modern Caucasian and South Asian populations, where the Indo-Aryan languages were originated.

Thus, the South Caucasus, which is considered as the crossroad of the human cultures, reaffirmed its geographical and historical influences on the development of the ancient world.

Chapter IV

Epigravettian culture of Eastern Europe

§ 1. Ukrainian Epigravettian sites

Epigravettian culture widespread at the end of the Paleolithic period and covers the chronological framework between approximately 20-12 thousand years. The culture is represented in Central and Eastern Europe, and it is a section of the continuation of so-called Graveti culture, which actually ends the palaeolithic era and humanity is progressively moving

onto a more advanced stage - the Mesolithic era. Chronological order of the culture co-exists with the European Magdalenian and Solutreian stone cultures.

As for Georgia, until the time of the late Upper Palaeolithic sites have looked similar culture (Interestingly Gvarjilas-klde final Upper Paleolithic stone industry**.** However, scientists renewed international research and found the stone industry within Satsurblia cave in the development phase, which is dominated by microlithic tools. They are especially distinguished by different types of micrograviette points, truncated tools, which are rectangular in shape. The size, shape and processing of truncation differs from fixed geometric trapezoid-rectangles of the the later period (Mesolithic). This factor is considered as a local variants of Eastern Europe Epigravetian culture. It should be noted that this discovery is well dated, 17,9-16,2 thousand years.

As we mentioned above, Epigravetian culture is represented in Central and Eastern Europian part, which has much in common and distinguishing signs with each other. Epigravetian culture of Satsurblia cave have analogies in the cultural sites of Eastern Europe. During the our research we have studied the some Epigravettian sites of northern and western Ukraine and the Republic of Moldova (Mezinian, Mezhirichian, Borshevo I, Dobranichivka, kosteshti I, Atachi II, Starie Duruitory and others). The studies of Stone industry revealed, that the dominant is microlithic industry, where micrograves, truncated and sideretouched bladelets and other tools. The survey has found that Eastern European culture of sites do not have series absolute the dates and the only archaeological material typology can speak about their approximate dates. During the research it became possible to collate industries of Satsurblia cave and Eastern European Epigravettian sites, which discussed by us. This enabled us to establish the following: among the sites there are many similarities, it is: the overall chronological framework, in microindustry, dominant categories are micrograve and backed and sideretouched bladelets. Moreover, it was possible to separate the local variants of the culture. In the case of Satsurblia Cave they are these geometric rectangles and abundance of truncated and backed bladelets, their existence is not confirmed by our study and discussion among the Eastern European Epigravetian sites.

It should be noted that the data of Satsurblia cave Epigravettian culture give us unique opportunity to explore direct analogues of our cultural monuments of Epigravetian stone materials and define relatively more approximate age by using the absolute dates of Satsurblia cave. These are: 16-14 thousand years.

On the territory of the Ukraine at the river Dnieper and Dniester basin there are quite interesting and important industry of stone sites, which is united in a common culture within the framework of the Eastern Epigravettian culture. These include: Dnistrovian, Mezinian,

Ovruchian, Mezhirichian and Youdinovian sites. More specifically, they are located in the modern territory of Northern ukraine and neighboring regions of Europian Russia. It should be noted that, in addition to these five industries, there are two other enough specific kinds of industry (Zhurivka and Velika Bugaivka). Industries of this archaeological sites consist of tools made on 80-90% of medium-sized blades (the blades of which are quite long); Burins differ in form and size. Especially noteworthy is the fact that almost all of the tools, burins are the complex of dominant species; There are many truncated tools too. As for the end-scrapers, they are mostly simple and double, which are made of blades and/or flakes. Among the collections there are other tools as well. One characteristic of the type of microlithic industry is microgravette points (abundant lanceolate type points), different-sized rectangles and head truncated tools, which are a crucial element in the Epigravettian culture.

§ 2. Epigravettian sites Republic of Moldova

On the modern territory of republic of Moldova, there are more than 3 hundred sites of late Upper Paleolithic. Among them are the caves, open-air sites, grottes, rock-shelters However, it should be noted that there are not too many sites of Epigravettian culture. They must include the following sites: Kosteshti I, korpachi (second layer), the cave Starie Duruitori (second layer), Atachi II, Kosoutsi, Vadu-Rashkovi, Kalpa, and so forth. As a result of the study of the industry of sites, it can be said that, there are a lot of tools with backed, notched and truncated bladelets, microgravette points and etc. Among the tools there are end-scrapers, burins, borers, and others. On the above mentioned archeological sites there are no absolute dates and researchers make their counterparts according to approx. 18-16 thousand years. However, in this connection we have supposition, which is based on the following conclusions. 1. In view of the opinion that the South Caucasus gene is one of the main chain of a genetic link, the heirs of the last glacial period after Europeans and the migration from the Caucasus to the West are taking place, then it is possible that the observed culture of Satsurblia in Eastern Europe in the late upper Paleolithic culture, is one of the early versions, which originated in the region of Caucasus and then gradually moved to the West and contributed to the development of a culture; 2. Epigravettian culture of Satsurblia cave can be said to belong to early stages of this culture (17.9-16.2 thousand years.), which is reviewed as the most of the early period of Eastern European sites, and which is developing further in the following periods. Given these observations, then it turns out that sites chronological frames which we discussed above, should not happen until the18 thousand years. 16-14 thousand years BC will be more acceptable.

Conclusion

Georgia was distinguished by advantegeous natural-geographic location from the ancient times. With diverse and contributing climatic conditions. It seems that this fact determined the wide settlement of a man here, as evidenced by number of different kinds of habitations of stone age and of other eras. According to the recent discoveries It is proved, that 38-34 thousand years ago the human began development in the history of one of the most interesting and important period - the Upper Palaeolithic era, during which a modern type of people settled in the territories, in addition, qualitative changes in the stone industry, growth and standardization of the stone, bone and horn tools are implemented, hunting devices are outlined in art. It is noteworthly that the interest towards Upper paleolithic sites of Georgia increased after the origin and migration issues of Homo Sapiens have been rvised. Africa-South Caucasus located on the border of Eurasia, in particular it's western part, cinsidering this background of changes turned out to be the spotlight of interest as historically so geographically.

As the scientist note the settlement of modern of hominids was performed in particular trajectory. The study of the subject has revealed that their origin location was either Eastern Africa or levan or some often part of Asea. Caucasus is located exactly at the crossroads of Eurasia and Africa and that is why western Georgia and it's Upper paleolithic sites attracted the interest of foreign researchers.

Upper Palaeolithic sites in Georgia are located on the territory of a particular abundance of Imereti. The physical-geographical and geological information revealed the existence of a variety of favorable environmental conditions of human life and extensive accommodation. That is why the region is so widely inhabitated by the first men.

As our archaelogical sites (Dzudzuana and Satsurblia cave) study showed, the primitive man had been living here for a long time, which is proved in well dated archeological layers of this sites. The study of final Upper Paleolithic assemblages in Dzudzuana cave has enabled us to the following conclusions.

1. The investigation of Stone industry has shown that blade and bladelets are increasing. There are a lot of flakes processing cores. Non retouched blades are with the length of 8-9 cm, end-scrapers are dominated, microgravette points and right, backed bladelets. The geometric microlithics come in the unit, which is one of the most important moments in the final Upper Palaeolithic sites.

2. The study of faunal remains have revealed the existence of 28 animals species. However, Bison (Bison priscus), Ourochs (Bos primogenius) and Caucasian tur (goat) (Carpa caucasia) are the most dominant taxa in faunal complex. As specialists conclude, we can also conclude that the inhabitants of Dzudzuana cave had been experienced hunters of Upper Palaeolithic and were

allowed to hunt adult animals as a priority. Taphonimic and stratigraphic study reveals that they planned and organized hunting as well.

3. The results of Palynology study have shown that during the forming of layer B warmth loving elements began to reduce. In this layer subalpine and alpine vegetation dust seeds reach their maximum. A good example of Deka (Rhodendron Caucasia). Rhododendron dust and also a large number of other mountain plant indicate, that the cave was in the vicinity at that time, there was an alpine trail. It is well exposed that, the B layer of the first stage of the cave was in the vicinity of the subalpine and alpine landscapes. Later it is shown that, it should have been more humid cold on the second stage. A coniferous forest was spread in the area of Dzudzuana (spruce, fir, beech). Small dust grains spread indicates to the existence of crooked beech. The period of cold was short, but relatively severe. The final phase of the layers of the cave was found in the wild flax fibers, which were twisted and painted. It's essential, as well as the results of palynology studies have confirmed the use of medicinal plants by a pal eolithic human of Dzudzuana cave.

The second archaeological site of our study is Satsurblia cave, which is still in the center of attention of international archaeological expedition and researchers. The work deals with a particular emphasis on the study of the material about the final Upper Paleolithic in Satsurblia cave , where the researches had been conducted the research in several areas (stone industry, stratigraphy, Paleontology, Palynology). Study can make several conclusions.

The lithic analyses reveal that during this period (17.9-16.2 ka cal BP) there existed a cultural (lithic) variant resembling the Eastern Epigravettian. The dominant categories in stone industries are bladelet tools, discrete among which are varieties of the microgravette point and truncated items. Moreover, besides rare occurences of gravette points, there is among the backed and truncated bladelets including a tool type that was not reported from earlier excavations in the region. This is the rectangle that differs from the geometric trapeze-rectangle of the proceeding Mesolithic cultures in size, shape and retouch.

The recovery of living floors and the presence of combustion features and hearth provide new information about the processing of wild cereals, the utilization of flax and wood, as well as paleoenvronmental reconstruction based on palynological and micromorphological analyses.

2. Faunal material research has confirmed completely different picture in Dzudzuana cave. In particular, in the final phase of the fauna the dominant is a boar (Sus scrofa) and red deer (Cervus elaphus). Examination of the bones clearly reflects the trace: divide.-skinning, burnt bones. A multitude of animal species and the bones indicates to a great importance of existence of hunting in human's life and reveals the importance of hunting for them, who were mastered in using the area of different ecological zones of the region.

3. The results of palynological data confirm that the climatic conditions influenced on people.. The people in Satsurblia lived in dry and warm weather conditions in the cave, and in cold, damp weather conditions they used to leave it, because at this time the water was entering the cave, which is proved by existence of water plants. According to researchers, when people left the cave, animals settled there. In addition, during the palynological investigations there were discovered some medical plant pollen used by inhabitants of the cave.

The study made it possible to determine the following picture: In particular, the study of the layers in the region of Imereti, in the final Upper Paleolithic cave sites Dzudzuana and Satsurblia Caves, revealed that the latter complements the multi-thousand-year chronological hiatus, which is well seen among the absolute dates of Dzudzuana. In addition, a completely new technology processing of stone is confirmed in Satsurblia cave, which is essential among the late Upper Paleolithic sites, and scientists believe that this is the Eastern European Epigravettian type. Apparently, the final period of a stone processing option had been existed in Satsurblia cave (which is unusual for Dzudzuana); we can consider the similarities between these two monuments the fact that, both of the them have been confirmed by the emergence of geometric microsites and the existence of weapons of side truncated tools (especially in the case of Satsurblia) and their multitude; There is a different picture based on analyzes about the monuments of faunal materials. In particular, if the cave was occupied by the animals proved for severe climate, (buffalo, bison, Caucasian tur), typical animals for Satsurblia boar, deer, and large buffalo, goat are too little. This fact indicates on the different climate conditions in that period, which can be considered by the factors of the monuments; As for the results of palynological data, this line is different in the set. In particular, the harsh climate during Dzudzuana cave the number of warmth loving plants reaches the maximum. At this time subalpine and alpine vegetation dust seeds reach the peak. Completely different picture is in Satsurblia cave. In Cold, damp climate people had to leave the cave, because this time the water was entering the cave, which attests to algae balances. It is due to mention, that both monuments were fixed the usage of medicinal plants, which makes us think about the inhabitants of the cave, who used the primitive medicine.

Thus, the goal of our work was to describe the regional peculiarities of final upper Palaeolithic culture of South Caucasus on the basis of Dzudzuana and Satsurblia caves. The study of the issue showed that both of the monuments have confirmed the common signs of stone industry. They are: backed and truncated bladelets, microgravette points geometric microlithics. It is worth to mention that from the researched sites only in Satsurblia cave turned Epigravettian culture remains. As far as the chronological framework, Satsurblia absolute series of dates filled several thousand-year gap (hiatus) in Dzudzuana cave, which can be considered as

the most important issue in the study of the Upper Paleolithic sites. However, different climatic factors of the region of Imereti, which are well exposed in the results of Paleontological and Palynological data of Dzudzuana and Satsurblia Caves, seem to have a great influence on a human's behavior, hunting mood, and so forth.

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