Undo Caves Multi-staged Karstic System and Temporary Camp of the Neanderthal Hunters

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Abstract. *In Georgia, a strong foundation for scientific study of this period was developed in 1930-ies. Since then more than 500 Paleolithic sites were identified*

The frequency of paleolithic sites on the territory of Georgia was determined by geographic position of Georgia itself, as it is situated at the crossroads of Africa, Asia and Europe

According to some archaeologists the archaeological evidence demonstrates the different local-cultural groups. Despite the small territory we have at least 5 local-cultural versions in the Middle Palaeolithic singled out with us four out of which are represented in the Rioni-Kvirila basin (Fig).

Most quantity of levallois industries were recovered in Imereti region (Western Georgia).

1. Drouchula,-Kudaro Local-cultural group. Mousterian assemblages characterized by blades and elongated points, as recovered in Drouchula, Tsona, Kudaro and other sites, resemble the “Tabun D-type” and Hummallian entities in the Levant. Unfortunately, we have not the dates from this sites, but we assume that they are younger than Levantian “Tabun-D type”; at the same time, this industry has some similarities with the Northern-Caucasus Miquoqian industries , as well.

2. Tsutskhvat caves Local-cultural group. Multi-stage cave system characterized by the industry which resemble the Zagros region, but there are some differences-the non-Levallois industry of Tsutskhvat is denticulated;

3. Tskaltsitela local-cultural group- Levalloisian, denticulated industry (by M.Nioradze);

4. Tsopi Local-cultural. The industry of Tsopi site differs from above mentioned sites by the high quantity of the tools of Quina and Demi-Quina type;

5. Tskhinvali local-cultural group (according to v. Lubin)-Levallois, Unretouched industry. Another type of industry is represented I Ortvala Klde, Djieti open-air site etc.- Mousterian assemblages such as in Ortvala Klde demonstrates similarities with the Middle Paleolithic industries of Anatolia, the Zagros region-recurrent Levallois big number of the convergent tools.

Most of the local-cultural groups and the sites are discovered in Western Georgia (Imereti Region)

A first evidence of the Middle Paleolithic hunters temporary camp which, possibly has been used as place for some kind of rituals and where is represented a first evidence of the cave rock-art in Georgia has been determined in Rion-Kvirila basin as well. This is a cave-site named “Undo Cave”.

Recently, we discovered some other cave-sites near Undo Cave. This fact gave a reason to consider Undo Cave as a one of the caves of Multi-staged cave system which doesn’t belong to any above mentioned groups.

Key words: *Caucasus – Paleolithic – Rock art-Initial Religious Rituals*

Introduction. The territories of Georgia belong to the space, which were important terrestrial bridges that connect the Middle East and Europe (Transcaucasia, Anatolia, Balkans) in prehistoric past.

Since Pleistocene there was a migration route of primitive homos through which they dispersed in various directions.

Photo 1

and in particular, Georgia, from the strong impact of glaciations (pic.1) and provides a wide variety of geographic, environmental and topographical settings.

Georgia is divided into two climate zones: a warm, humid zone to the west, and drier, more continental zone to the east. Due to the mild climatic conditions, rich floral and faunal resources, numerous rockshelters, caves and an abundance of raw materials, this region was intensively occupied during the Pleistocene and Quaternary. Due to specific topography, some endemic vegetal species and refuge zones have been preserved until present. According to existed opinions, during glacial episodes, when the viability of human occupations in high altitude was reduced, Transcaucasia remained a preserved zone of relatively low height. During interglacial episodes, it was possible for human occupations to take place again in higher areas of Caucasus, while the level of the Black Sea upraised up to make impossible the north-south crossing along the coast. Geographic and paleo-climatic conditions certainly played an important role in the formation of original local cultural units, as well as raw material accessibility.

Short History of Researches of Paleolithic In Georgia. In Georgia, a strong foundation for scientific study of this period was developed in 1930-ies. Since then more than 500 Paleolithic sites were identified thanks to research works of such well-known georgian scientist, as Giorgi Nioradze, Alexander Kalandadze, David Tushabramishvili, Levan Maruashvili, Leo Gabunia, and others. Rich archaeological, faunistical and anthropological collections were amassed as well.

The frequency of paleolithic sites on the territory of Georgia was determined by geographic position of Georgia itself, as it is situated at the crossroads of Africa, Asia and Europe. In prehistoric past, since ancient times, this was a migration route of primitive men through which they dispersed in various directions. This was well proved by Dmanisi archaeological discoveries, where remains (skulls, lower jaw etc) of the african type of one the oldest human being-Homo ergaster, have been excavated. Age of these defined as 1,8 mln years. So far, these are the oldest human remains (after Africa), discovered on the territory of Eurasia.

After Dmanisi epoch, the following periods of Acheulean (1000000), Middle Paleolithic (270 000-40 000) and Upper Paleolithic (40 000-11 000), territory of Georgia looks as very intensively digest-

The total area of Georgia is approximately, 70000sq.km. More than 500 Paleolithic sites are determined on this small territory of Georgia for the present time.

The frequency of Paleolithic sites on the territory of Georgia was determined by geographic and topographic position. The northern border is dominated by the Caucasus mountain range (1200 km) which separates Georgia from the wide Russian steppes. In the South the Georgian and Armenian mountains of Small Caucasus are around 2000m in average.(slide).

The Main Caucasus Range protects Transcaucasus

Photo 2

Photo 3

ed. This was determined by favorable natural conditions: plenty of natural shelters (caves, rock-shelters, etc.), abundance of floral and faunal communities, etc. Geographic location is also to be noted-the Main Caucasus Range protected Transcaucasia and in particular, Georgia, from the strong impact of glaciations. Local archaeological cultures had been forming on the territory of Georgia, which however bearing certain resemblance to Paleolithic cultures of neighboring regions, at the same time were different from them. In this respect, such differences determined the universality and uniqueness of the Paleolithic existing on the territory of Georgia. Presence of all prehistoric stages in Georgia provides the opportunity, on the base of study of Georgian Paleolithic, to reconstruct all stages of evolution and disperse of prehistoric humans in Eurasia and development of his material and spiritual culture. This should as well facilitate the study of such problem as relations between human being and natural environment.

Lower Paleolithic sites mostly represented by the open-air disturbed (non-stratigraphic) sites. Only few sites are with good and clear stratigraphy: Well-known sites -Tsona Cave, Kudaro I. III, Ziari and newly discovered by us "Ziari 2".

The Middle Palaeolithic record of the southern Caucasus is particularly rich and diverse, and represents a critical piece in the complex, and as yet incomplete geographic puzzle of Mousterian lifeways.

Previous researches conducted within the southern Caucasus has led to the identification of approximately five hundred archaeological sites and find localities dating to the Middle and Upper Palaeolithic, with the vast majority of these being located in the limestone caves and rockshelters of western Georgia. This pioneering work was spearheaded by the late Dr. David Tushabramishvili and is now continued by us (Dr. Nikoloz Tushabramishvili). Over many decades of work these researchers and others have attempted to reconstruct the behavior of the Neanderthals that occupied this region of dense forests, deep valleys, fast rivers, and open plains. Based on the study of large lithic assemblages from many sites, D. Tushabramishvili, V. Liubin, and M. Nioradze

defined five local cultural variants (Tsopi, Djrchula-Kudaro, Tsutskhvati, Tskhinvali, and Tskaltsitela) believed to represent different Middle Palaeolithic cultural groups that may have occupied the region simultaneously. These groupings were based largely on technological differences (e.g., Levallois vs. non-Levallois) or similarities (e.g. laminar assemblages), and data derived from palaeontological analyses. Unfortunately, a lack of reliable chronometric estimates at the time this research was conducted meant that it was not possible to draw direct temporal correlations between sites.

Photo 4

Photo 5

For the present time the territory of Georgia is divided into 6 main regions by the dispersal of the Paleolithic sites: 1) Coastal region of Black sea (Abkhazia); 2) Rioni-Kvirila Basin; 3) Shida Qartli (South Ossetia); 4) Qvemo Qartli; 5) Djavakheti Plato; 6) Iori-Alazani Basin.

According to some archaeologists the archaeological evidence demonstrates the different local-cultural groups. Despite the small territory we have at least 5 local-cultural versions in the Middle Palaeolithic singled out with us four out of which are represented in the Rioni-Kvirila basin (Fig).

Most number of levallois industries were recovered in Imereti region (Western Georgia).

Supposedly, the first appearance of Levallois technology belongs to the Middle, or Late Acheulean (open, non-stratigraphical sites from where, unfortunately, we have not dating)

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Another type of industry is represented in Ortvala Klde, Djieti open-air site etc.- Mousterian assemblages such as in Ortvala Klde demonstrates similarities with the Middle Paleolithic industries of Anatolia, the Zagros region-Recurrent Levallois, big number of the convergent tools etc.

The Georgian Middle Palaeolithic covers a long time span during the Middle and Upper Pleistocene, as shown by new dating from Djruchula, with the early Middle Palaeolithic layers dated to 270-260 000-130 ka (Meignen and Tushabramishvili, 2006; Mercier et al., 2010) and Ortvale Klde, where Late Middle Palaeolithic occupation phases were dated to circ. 50 ka. The lithic assemblages of a dozen key Middle Palaeolithic sites display a wide variety of technological features.

It's logical that functions of the big number of the sites are various: long-term settlements, short-term camps, workshops, quarries etc. Supposedly, one of the caves in Tsutskhvati multi-staged cave system has a ritual function as well (Upper Cave).

Most of the local-cultural groups and the sites are discovered in Western Georgia (Imereti Region)

A first evidence of the Middle Paleolithic hunters temporary camp which, possibly has been used as place for some kind of rituals and where is represented a first evidence of the cave rock-art in Georgia has been determined in Rion-Kvirila basin as well. This is a site named “Undo Cave”.

Recent surveys and researches determined the facts that Undo Cave is not an isolated cave-site. It is a one of the caves of the multi-staged cave system. For the present time we have six (6) caves: Undo

I,II,III,IV,V, VI. Most significant and important for us is Undo Cave I.

Undo Cave I (Undo Klde)

Undo Cave I. The cave is situated in Chiatura district -12 km to the South-East from Chiatura (on the territory of the village Vachevi, in the canyon of Varkhmela river, on 570 m above the sea level, 90-100m from the riv. Varkhmela). It was discovered during the explorations in 2006 by us. The height of the cave at the entrance is 2m, width-5m. The orientation of the cave is South-West.

The name of the site Undo (“untrustworthy” in Georgian) comes from the danger configuration and interior of the cave. A rather deep (49 m) natural vertical karstic pit has been discovered at the end of the Cave horizontal corridor and it is dangerous to get close to the edge of the pit without safety measures.

A History of Discovery of the Cave. In 2006 during the archaeological surveys we’ve decided to reach somehow an un-known for cave which was visible only from the grove of the Varkhmela dry gorge. We’ve climbed about 90 m-s to the cave by using techniques of mountain-climbing (by the ropes). Later, we discovered that there was a abrupt path from the vil. Vachevi to the cave.

We have uncovered the Upper Paleolithic layers there. At the same time, we made another test trench on the front space of the cave where the Middle Paleolithic layers have been determined. Also, some mixed materials (Neolithic, Classic and Medieval Periods) were found on the surface of the cave.

The excavations in Undo Cave I have been conducted in 2007, 2010, 2011, 2012.

Photo 6

Photo 7

Stratigraphy. 9 lithological layers (more than 4,5 m in thickness) have been determined at the entrance and on the front space of the cave.

The first layer (humus) is mixed and belongs to later ages.

II layer- sediments with average thickness of 20-25 cm belong to the Neolithic period and the Medieval Ages.

The layers III-IV has yielded Upper Paleolithic lithic industry

The Middle Paleolithic materials have been found in the layers V-VIII

The IX lithological layer is sterile.

In general, the lithological deposits are represented by the clay rich with the gravels. The rocks fallen from the ceiling are represented in the layer as well.

The final determination of the stratigraphy needs further excavations.

Methodology of the excavations. Archaeological works have been divided into several stages. The areas A and B have been excavated at the front space of the Cave. The stone artifacts and the faunal materials have been fixed by the EDM-’s, (Total Station) through. 383 points have been taken in the cave.

Photo 8

Area A represents a long trench from the path to the cave to the entrance of the cave (2/10m), which consists 8 levels (8 stages)

2/3m of the Western part of trench have been excavated while the Eastern part have been cleaned from the humus layer.

Eastern part of the area A (2/3m). Three layers have been determined there. Two of them (humus and Middle Paleolithic layers) have been excavated.

Area B (1mX2 m) is represented a test trench, excavations of which have been started in 2007. Two layers have been excavated in this area. All sediments have been washed and sieved.

The archaeological excavations were conducted in the corridor of the cave as well. The third trench was done at the SW part of the first hall of the cave. Neolithic (fragments of pottery, flint saw, flint tools, etc.), Upper and Middle Paleolithic materials have been determined in this area.

The fourth trench was made in the second hall of the cave at the north-western wall, where five cultural layers have been determined. The materials belong to the Middle and Upper Paleolithic.

The fifth section of the test was made at the end of the corridor. However, the cultural layers have not been determined.

At the same time, the works just in the karstic pit were conducting. The, the small sections have been made on the bottom of the pit, as well as on one of shelves of it.

Stone Material.

Raw material. 5.1 Flint.

Most of the flint described in the Middle Palaeolithic assemblages displays common features and is red, grey or brown, and of good quality.

Fieldwork on the plateau located above the caves in the vicinity of the city of Chiatura yielded evidence of flint outcrops and raw material provisioning. Moreover, several open-air archaeological sites, located on the flint outcrops, have been described the past not only as Lower and Middle Palaeolithic sites (Moncel) but the workshops located at the origins of the sources raw-material which have been used since lower Paleolithic until even medieval.

Fieldwork resulted in the re-discovery of some of these sites and new series of test pits yielded both flint geological samples and archaeological artifacts. The assemblages

of artifacts are composed of crude cores, cortical flakes, flakes and flake-tools. Most of the flint is red and similar to that observed in the archaeological cave series. It is available as good-quality cubic nodules.

These outcrops are thus likely potential outcrops and may well have been used by hominins during the Upper Pleistocene. They were easily accessible from the caves. (D. Tushabramishvili, me, moncel 2015)

Photo 9

Photo 10

Photo 11

Upper Paleolithic materials are characterised by the absence of microliths. Opposite of other Upper Paleolithic sites of the same region, we have only few micro-blades, or bladelets in Undo Cave. The rest UP materials are similar to the UP materials coming from other sites (Pic)

Middle Paleolithic. The small lithic series are made on local flint (red, grey, and brown) collected coming from the sources of the flint raw-materials from the plateaux (*Table 3*). Several artefacts

made from obsidian, sandstone and quartz indicate other procurement strategies. The series is composed of short and elongated flakes, very small flakes, chunks, points, small blades and some long and thick blades (*Figures 13, 14, 15*). Products were mainly produced by Levallois core technology. The two cores are Levallois and discoid types. Blades were produced either by Levallois core technology or by laminar cores (management of the core volume).

Technical behavior is similar to the “Djrchula-Koudaro facies”. The composition is typical of material brought by humans for short-term occupations. Preliminary data from faunal remains point to intensive human activity in UP layers whereas the MP layers indicate above all bear occupations with occasional human occupations. This concurs well with the characteristics of the lithic series.

Most of the tools are the Mousterian Points and the elongated Mousterian Points. At the same time there are very few side-scrapers also made on the blades. Other material is represented by some flakes and elongated blades. The number of artifacts is not enough for the final determination of the technology. We suppose that the material belongs to the levallois facies.

Photo 12

Types of artifacts in the Middle Palaeolithic layers at Undo cave

Type	Flint	Obsidian	Quartz	Sandstone	Total
Backed flakes	2				2
Blades	39			1	40
Bladelets	22				22
Bladelet cores	5				5
Cores	1				1
Discoid cores	2				2
Elongated flakes	7				7
Flakes	75	2			77
Fragments	66		1		67
Levallois blades	4				4

Levallois cores	1				1
Levallois elongated	3				3
Levallois flakes	13				13
Levallois points	6				6
Points	2				2
Micro pebble-tools	1				1
Microflakes	60				60
Nodules	16				16
Total	327	2	1	1	329

Photo 13

Unfortunately, we have not yet datings from Undo Cave. Djrchula Cave is dated to 260-130 ka (Meignen and Tushabramishvili, 2006; Mercier et al., 2010). Based on the technological and typological analysis, on the fact of presence of some obsidian artifacts (which appeared in this region comparatively later, since developed MP. Also, the obsidian raw material is located in South Georgia, Djavakheti Plateau and the presence of the obsidian in Imereti region is a result of some kind of migrations) we suppose that the MP Paleolithic material chronologically is more close to the I layer of Djrchula Cave-BP 150-130 000)

Faune. All layers of Undo Klde contain a large amount of faunal material. Approximately 60% are fragmented and it's impossible to identify.

In general, there is studied about 200 bones. 99% belong to *Ursus* sp. 3 bones belong to *Bison bonasus* and *Cervus elaphus* (4 bones).

The remains of approximately 12 (?) individs of *Ursus* sp have been discovered in Undo Cave. We suppose that part them have been killed after the earthquake which took a place several times in the region (Bondi Cave) by the collapsed blocks from the roof of the cave.). We have determined not only earthquakes, but some volcanic activities in the region during Pleistocene (results of RESET project, Dan Adler etc)

Microfaune. The remains of Microfaune is not rich. They are represented by *Arvicola* sp. and *Microtus* sp.

Paleoanthropology. The human tooth was found in Middle Paleolithic layer. Unfortunately, the tooth is broken, worn and represented only by the enamel. Also, it is in bad preservation It's very difficult to identify, determine a species of it.

Karstic Pit. At the end of the Cave horizontal corridor (length-80 m) a rather deep (47 m) natural karstic pit (upper diameter of the pit is 7,0 m. on the bottom-3,0m) has been discovered, which is full

Photo 14

of faunal and anthropological remains.

The depth of the pit could be about 90 m (depth to the river basin). Further excavations of the pit are planning.

Paleontological material. Paleontological and anthropological materials from the pit are mixed. However, it's quite clear that the bone materials coming from the surface of the bottom of the hole and the upper layers of it, are less fossilized than the materials founded deeper.

Paleontological materials from the pit are represented by *Ursus sp.*, *Canis lupus*, *Cervus*, *Capreoulus* and some other species have been identified. Approximately 60% are fragmented and it's impossible to identify. In general, there is studied about 200 bones. 99% belong to *Ursus sp.* 3 bones belong to *Bison bonasus* and *Cervus elaphus* (4 bones)

We would like to mention that if the caves represented a place of habitation of the cave bears, *Cervus elaphus*, *Capreoulus* and to *Bison bonasus* never entering into the caves themselves.

Anthropological materials. Some human remains were found in the pit as well. Later two modern human skulls have been reconstructed. The skulls belong to Modern Humans but they are not fresh and supposedly, they are quite ancient.

We would like to underline that we could not find any archaeological material in the pit.

Four possible ways are considered of presence of faunal and anthropological remains on the bottom of the pit: 1) It is rather probable that animal and human remains were intentionally thrown after mortality. A possible reason of that was an avoidance of the attack of carnivores and scavenger animals; 2) The run after animals have been fallen into the pit during the period (unknown) when the entrance to hall was open from the surface of the plateau 3) The humans have been fallen into the pit from the entrance of the pit in the interior; 4) Result of erosion; 5) The pit was used as a disposal pit

Roc Art. Human's Symbolic thought is expressed by the art. The appearance of the art is related with Upper Paleolithic and Modern Human (*Homo sapiens sapiens*). *Homo sapiens sapiens* is a creator of the art in Upper Paleolithic.

The Middle Eastern Upper Paleolithic is the earlier than the Upper Paleolithic of Western Europe. There is an idea that symbolic thought and the art appeared in Western Europe. The example of it is the Franco-Cabrian Upper Paleolithic culture. Some features of signs and symbolic art (for example-statues) are represented in Middle East, Levant, Eastern Europe and in South Caucasus (Georgia).

Despite of presence of the objects of portable art, there was no rock art discovered in Caucasus. In Georgia there are few finds, discovered in South regions (Tsalka and Borjomi districts). One of them belongs to Mesolithic age (?) another one-to the Bronze Age (?)

Photo 15

Photo 16

Photo 17

The first evidence of the cave rock-art in the region was found in Undo Cave.

The engraved marks (possibly made by prehistoric men) were found deeply inside on the wall of the cave. Engraved inscription symbolised a human, perhaps, falling down into the pit. This opinion or hypothesis appeared because of the direction of the figure. Engraved human is with up-raised hands and it's direction is diagonal (not vertical and not horizontal). I suppose that it is an emotion of the eye-witness who saw a falling of the human into the pit and later expressed his emotions on the wall of the cave.

Photo 18

Basis on the complex of finds and type of the site: Temporary camp of the hunters, karstic pit with the faunal and anthropological remains, engraved symbol (rock art) we suppose that, perhaps, the function of cave during Paleolithic has been transferred from just a hunter camp to the place of some kind of religious rituals.

In later epochs (Neolithic, medieval) Undo Cave was used as a temporal camp (Neolithic) and as a refuge.

Photo 19

are quite shallow (approximately 35-40 cm). The materials are mixed-some Medieval and Early Bronze Age ceramics have been discovered in the test trench.

Undo IV. This small cave represents a small chamber located in 15 m-s from the entrance to the Undo I, below it. Altitude is 560 m above the sea level. Some Upper and Middle Paleolithic materials were discovered in this cave. A height of the chamber is 1.70 m, width-2,5 m, depth-2,5m. WE named this cave jokingly-“The chamber for just married”.

Undo V. Quite deep (15 m) vertical cave was discovered by us just below of Undo IV in 2015 during surveys. The cave is not studied yet.

Undo VI. The cave is located on same elevation as Undo I, in 80 m from it to the West. It represents a medieval refuge with the fortification walls remains at the entrance of it.

Further researches of this site are very promising for the investigation of origin of initial forms of religion and art.

Undo II. The cave is located in 30 m-s from Undo I. The altitude is 555 m above the sea level, 75m from the riv. Varkhmela. The partially survived remains of the wall of fortification at the entrance to the cave and some ceramics founded in the test trench made by us show us that the cave was used as a refuge during Medieval.

Undo III. It is a rock-shelter which is situated between Undo I and Undo II. The sediments in the shelter

Photo 20

Undo Cave is a really unique cultural heritage site, the similar site of which has never been discovered in Georgia. We have no information about the existence of the similar site even in Europe. The only approximately known to us Paleolithic site is a well-known for all researchers of prehistory “Sima de los Huesos” in Atapuerca (Spain) where human remains are found on the bottom of the natural pit and which has been filled with the fallen roof, sediments and the rocks. The non - accidental nature of this set of bones could represent the oldest documented manifestation of a ritual act.

According to one version, primate animals were thrown into the abyss as a result of the subsequent hunt, and the people themselves probably fell into the abyss. It should be noted that the age of occupation by the humans of “Sima de los Huesos” is much ancient (430 000 old) than the age of Undo Cave (?).

According to the stone materials, Undo Cave was habituated by the Neanderthals (since approximately 150/130 000 years ago, later by Homo sapiens (since around 45000 B.P.) and in Medieval Age as well.

The samples from the different layers of Undo Cave-1 have been sent to the Max Plank Institute for dating and for DNA studies.

A complex of the finds gives a unique look to Undo Cave. These unique combination of finds are: the materials of the Middle Paleolithic Age, a depth of the cave, the symbolic stretched engraved sign of the human on the wall of the cave, and the karstic pit (disposal pit or the place for some kind of rituals), rich with anthropological and paleontological remains.

Some information about this site was published in various articles in foreign scientific journals, the documentary was filmed by the University of Cork and broadcast on various Georgian TV channels.

Such archeological excavations, which are carried out at such a depth from the ground - 50 meters, are unknown to us internationally.

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