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## The Geomatic Analysis Landscape of Death in the Iron Age of Central Qaradagh, Azerbaijan, and Northwest of the Iranian Plateau

Vahid Askarpour\*<sup>1</sup>, Arash Tirandaz Lalehzari<sup>2</sup>

1. Assistant professor, Tabriz Islamic Art University, Iran.

2. M. A. of Archeology, Islamic Azad Branch, Tehran Center, Iran.

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### Abstract

This study is an attempt to investigate the death landscape of the Iron Age in the Central Qaradagh Region of Eastern Azerbaijan. The mountainous zone of the Central Qaradagh has a semi-arid climate. It has been one of the main access passages of Eastern Urmia Lake to the Southern Caucasus in the prehistoric era. According to the evidence obtained from archaeological investigations, during the Iron Age, in this area, we are mostly faced with living systems that are not dependent on stable settlements. There are rarely much evidences left except graves and some evidence of temporary residence. The ecological features and the lack of soils suitable for agriculture have prevented the formation and development of settlements systems in this area. Based on the clay fragments and graves shape, the collection of the archaeological evidence obtained from this area is included under the Iron Age. The death landscape deals with the relation between the funerary evidence and the geographical landscape deals with the social and ideological aspects. What is the most important in the relation between the ancient graves and the environment is the non-arbitrariness of their location. In this regard, through the use of the GIS, the logic of the graves distribution can be clarified and they can be sociologically and ideologically interpreted. In order to do so, the environmental and cultural information of the graves and the areas enclosed in this region must be investigated and analyzed. The most important criterion for graves distribution in the death landscape of this region is the different types of these graves that can be marked in different ethno-sociological groups.

### Keywords

*Death landscape, Iron Age, Central Qaradagh, Archaeological Distribution, Geomatic analysis.*



\* Corresponding author: +989132017185 v.askarpour@tabriziau.ac.ir

## Introduction

Qaradagh is one of the mountainous and impassable regions in the northwest of Iran, located on a natural passage that links the Moghan Plain and Meshkin Shahr and Aras River valley to the Tabriz Plain and the eastern bank of the Urmia Lake. Its central area which is the subject of the current study has an arid steppe ecosystem and its mainland are 2000 meters above the sea level. Narrow valleys and shortage of permanent water resources are among the main features of this region. Nevertheless, the Central Qaradagh is a region potentially full of high pastures that can be completely exploited by the rancher nomads during the hot months of the year. Generally, the conditions for growth and development of permanent settlements in this area are not prepared. The sporadic villages located on the relatively steep slopes which have a low number of cultivable lands are mainly the outcome of the so-called settlement policies. Moreover, some of them, due to the harsh climatic and environmental conditions, have even become abandoned recently. Therefore, this area cannot be suitable for the emergence of more complex social-political nomadic systems such as those seen in the Central Zagros (Honeychurch, 2014).

The geographical area of the current study includes Ahar City in Eastern Azerbaijan, and the discussed evidence, in terms of time, refers to a period from Iron Age to initiation of the Urartu period 800 B.C. (Bishionet, 2005). The related evidence in the current study belongs to the slope of Sheyvar Mountain with a maximum height of 2700 meters above the sea level located on the northwest of Ahar City (central zone, Azghan zone, and Och Hacha). The peripheral slopes of Sheyvar Mountain in Central Qaradagh has a relatively consistent climate with the Southern Qaradagh (the Dareh region in Ahar to the northern lands of Tabriz Plain), but it is totally different from the Northern Qaradagh. The Northern Qaradagh (the Kaleybar and Khoda

Afarin Valleys) has a humid climate due to its proximity to the Aras River valley and the Lesser Caucasus Mountains (southern) and Azerbaijan's Karabakh, as well as the Kaleybarchay River and maximum rainfall of 400mm, whose feature is the Qaradagh or Arasbaran jungles. Kaleybarchay also, though being stemmed from the Sheyvar heights, runs to the north and Aras River due to the northern slope of the region (Bakhtiari, 2006, 21 & 62). The central Qaradagh valleys are narrow and have steep slopes that do not allow permanent settlement and agriculture. The low number of small rural settlements in these narrow valleys have been also abandoned and evacuated due to the mentioned reasons that cause sudden seasonal floods. The small village of Laman is the best example (Tirandaz Lalehzari, 2011, 18). The sporadic existing villages or bigger and more thriving villages such as Angit have been concentrated in lower heights than Sheyvar and on the Ahar Plain side.

In the current study, the nomadic character of the Central Qaradagh environment and its landscape during the Iron Age has been focused. The main feature of this region is different types of graves in its landscape. In the lack of permanent settlements and the social complexities of nomads of this region in the past and present, it is suggested that these different types of graves have prepared a conceptual space (or in a sense, cognitive niche) to protect the long-term memory within a landscape which can be referred to as "death landscape". The probable roles of the dead in the semiology of long-term relations between the residents and environment of the Central Qaradagh, especially in terms of intragroup identity, inter-group relations, and man-environment ecological interactions would be examined and discussed in the current study.

The archaeological studies of the Central Qaradagh were initiated in summer 2009, led by Arash Tirandaz Lalehzari (Tirandaz Lalehzari, 2012, 2010). These studies which were conducted to

identify and register the cultural sites in Ahar City, East Azerbaijan, included an area of 190 Km<sup>2</sup> with six villages. This area included several Iron Age evidence in the form of funerals as well as the enclosed areas. The chronology of the graves and areas has been done merely based on the scattered clay fragments in the area (Tirandaz Lalehzari, 2011). The enclosed areas are the temporary locations used to set up the tents by the nomads migrating in this area. These areas have been created by putting the stone fragments on each other through a Dry stone or drystack method. The graves belonging to the Iron Age can be seen in front of some of these areas. These areas are mainly scattered in heights from 1700 to 2500 meters above sea level. The different graves of the Iron Age in this area can be also divided into three general types as rubble mound (12 graves from this type were identified), simple hole (8 graves of this type were identified during the field studies), and megalith. The megaliths themselves can be divided into three subcategories as simple stone box (13 graves of this type were identified during the field studies), Hashtgir (8-brick) stone box (2 graves of this type were identified during the field studies), and trilithon (20 graves of this type were identified during the field studies).

The GIS has been used to compute the patterns ruling the dispersion of the mentioned archaeological data. In order to do so, the dispersion of these data concerning the water streams border, the natural passages, present permanent settlements, and most importantly, the distance of the different types of graves was computed by the GIS Software and its results have been depicted in the form of several output maps. These results obtained from the simple geomatic computations can be explained in the theoretical framework of “landscape archaeology” and under the concept of “death landscape”. This theoretical framework can efficiently indicate and explain the significance of the logic ruling the

dispersion of grave types of the Iron Age in the area under study.

### The Theoretical Framework

The Iron Age in the Iranian Plateau is identified based on the cemetery evidence more than any other thing (Taleai, 2008). The scarce specimens obtained from the settlement areas in the different stages of this age in the Iranian Plateau- for example in the Gholi Darwish archaeological area on the one hand, prevent obtaining a clear image of the daily life of people in these stages. On the other hand, it directs the mind to the supposition that at least, in the northwestern and western areas of Iranian Plateau, during the Iron Age, we are mainly faced with the livelihoods independent of the stable settlements, except for the cemetery areas, and they have rarely left material evidence. Even areas such as Hasanlu (Young, 1969), Nooshijan (Stronach, 1974), Babajan (Goff, 1970), and Goodin (Young, 1969) are castles or citadels which have prevailed the peripheral nomads or villagers. In such a state, two elements are dominant in the archaeological landscapes of these areas during this period: first element is the invisibility of the stable residential structures which, like the past ages (especially the Bronze Age) is indicative of multi-strata settlement systems. The other is the dominance of the graves and cemeteries as the most visible evidence remained from the mentioned age.

This is more prominent in the mountainous areas located on the higher geographical heights. The Central Qaradagh Mountains are among these areas. The ecological features and lack of suitable soils for agriculture prevent the formation and development of settlement systems in this area. In the enclosed areas, which have been, and are, the permanent settlement stations for the nomads in some intervals of the year, there are two elements which are more prominent in their landscapes: one is nature and the other is human; the first is the

natural passages of migration and the second is the scattered graves in different types.

Among the studies related to the landscape, the “death landscape” is one of the concepts used (Arnold, 2002; Barrett, 1990; Ongers, Arkush & Harrower, 2012; Daróczy, 2015; Déderix, 2015; Dent, 1982; Goldstein, 2002; Tarlow, 2000). In this framework, the relation between the funerary evidence and the geographical landscape is studied in the social contexts related to collective memory. In a sense, “the funerary landscape is a specific type of archaeological landscape which is focused on the phenomenological relation between the death, the depiction of the deceased in the environment, and the collective memory of the people who participate in the funeral remembrance” (Aróczy, 2012). Bart (1990) introduced the funerals as the “depiction” of the complex genealogical systems. In fact, the discussion of the participation of the funerary memorials in the policies related to the remembrance and identity is serious (Williams, 2003). In this regard, the discussion which arises is the relationship between the cemeteries, graves, and funerary memorials and the landscape of people’s lives in terms of formation and regeneration of social and ideological relationships within a specific social group, and between them, as well as the human groups and the world, (Arnold, 2002). Here, the graves can be considered as genealogical signs and landmarks.

What is most important in the relation between the archaic graves and the environment is the non-arbitrariness of the locations. The location of the graves is the outcome of the choices arisen from the sociopolitical, economic, cultural, and ideological features (Dederix, 2015). In this regard, exploitation of the GIS in extracting the logic dominating the dispersion and distribution of the graves in a specific human landscape has become more prevalent (Ibid).

Bongers et al. in a study conducted on the funerary

towers of Titicaca River (Bongers, Arkush, & Harrower, 2012), examined the visibility and exposure of these structures through the use of the GIS and concluded that distribution of these graves is not accidental. They showed a high level of clustering built in highly visible areas which can be seen from the settlement areas. This death landscape has been intentionally built to promote a stable social effectivity in terms of respecting the ancestors, remembrance of the collective memories, reinforcement of the social and territorial ties, and marking the access routes to the environmental resources.

In this study, the death and funerary landscape of the Central Qaradagh (Fig. 1) would be addressed from this view. The visibility and exposure of the graves have been examined based on their distance from the passages as well as the other environmental features, and by investigation of their dispersion and distribution patterns compared to the natural monuments and their position towards each other. The data of this study was collected from the field studies and their capabilities, combined with the GIS, was presented to research different types of archaeological landscapes.

## Results

Natural features: the areas enclosed with the graves identified in the current study, on the migration passages, are mostly located in a height lower than 2000 meters above the sea level. A significant portion of them is also located near the water streams and ponds (Fig. 2). These areas are related to the stone box, rubble, and trilithon graves, more than others. Unlike the areas enclosed with the graves, those areas which are not enclosed with the graves are mostly located on the altitudes above 2000 meters, which are not near any previously mentioned natural features.

The trilithon and simple stone box grave types are conditionally different among the others,





Fig. 1. The geographical location of the region under study. Source: authors.

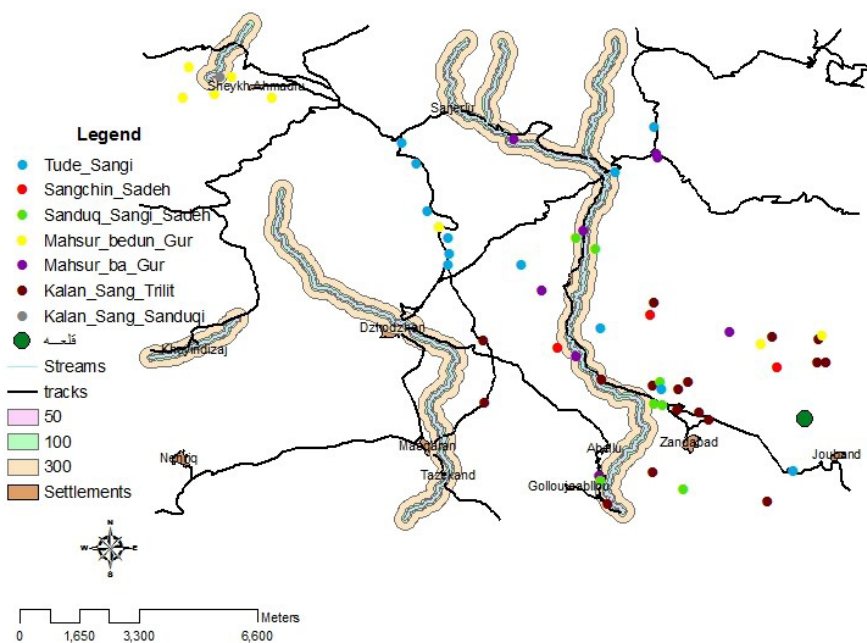


Fig. 2. the graves dispersion compared to the water streams in the region. Source: authors.

being located above 2000 meters. The mass stone and simple rubble types have the highest spatial relations with the natural passages of migration, compared to other types of graves (Fig. 3). The simple stone box graves and trilithon graves are related to the ponds more than any other areas; however, besides these two types, more than half of the other types of graves are also distributed near the ponds in the area. This is inconsistent with the relationship between different types of graves and the water streams in this area, which is practically a negative relationship and does not show any correlations.

**Cultural Features:** the most prominent cultural feature of the Central Qaradagh landscape is the permanent rural settlements. These villages are located sporadically with a significant distance from each other, in a way that they do not make up any settlement systems. Indeed, the nomads' settlement policy in the recent century should not be ignored. Some of the villages have also been abandoned due to environmental poverty, and their habitants have moved away. Also, by the combination of several small villages in place of one village which has had better geographical conditions, a vast village has been made. Laman and Angit villages can be mentioned as examples here. What is important here is the lack of connection between most of these graves and the areas enclosed with these settlements. Some of the mentioned evidence can be found near these cultural features just in the northeastern area of the region under study.

The spatial relationship of the data with each other: the dispersion of different types of data in the area is not accidental and it follows a specific spatial order. The studied samples are extended along a linear axis from southwest to the northeast. Also, each of the samples under study is collected at a point in the region. The enclosed areas which lack any graves are accumulated in the northeastern region and the only large stone box grave sample

also is found in the same point. On the other hand, the areas enclosed with graves are concentrated in the central areas of the region under study (which is indicative of the first Mokebs (cortege) of the Yaylak "pitches"). This spatial differentiation is also observed in their collection regarding the different types of identified graves. The mass stone graves are linearly extended along with each other from the center to the north (which also marks and indicates the migration path). The trilithon is specifically concentrated in the southwestern area (these graves are indicative of the maximum quality level of the nomads' settlement in the Yaylak region); so do the simple rubble and simple stone box graves. Generally, the main part of the graves is located in one-fourth of the area in the southwestern region and the area around the "Buyuk Qalachiq" citadel (since this area is an ideal place for Yaylak Mokeb, this concentration of the graves is natural). In this state, it is also observed that the members of each specimen have had a higher tendency to attract each other, rather than the members from other specimens (Fig. 4).

## Discussion and conclusion

The Gravitational Pattern Governing Different Types of Iron Age Graves in the Region:

- **The relationship between the spatial distribution and the monuments (different types of graves indices):** as is indicated by the results, the natural monuments have a direct relationship with different types of graves in a way that specific types of graves react to the natural monuments more than others. For example, only the mass stone and large stone box samples are located above 2000 meters above the sea level, or the mass stone and simple stone box graves are located near the migration paths, more than others. None of the grave types are located near the water streams or the contemporary settlements and it is a good sign whose dependence on the land and long-term

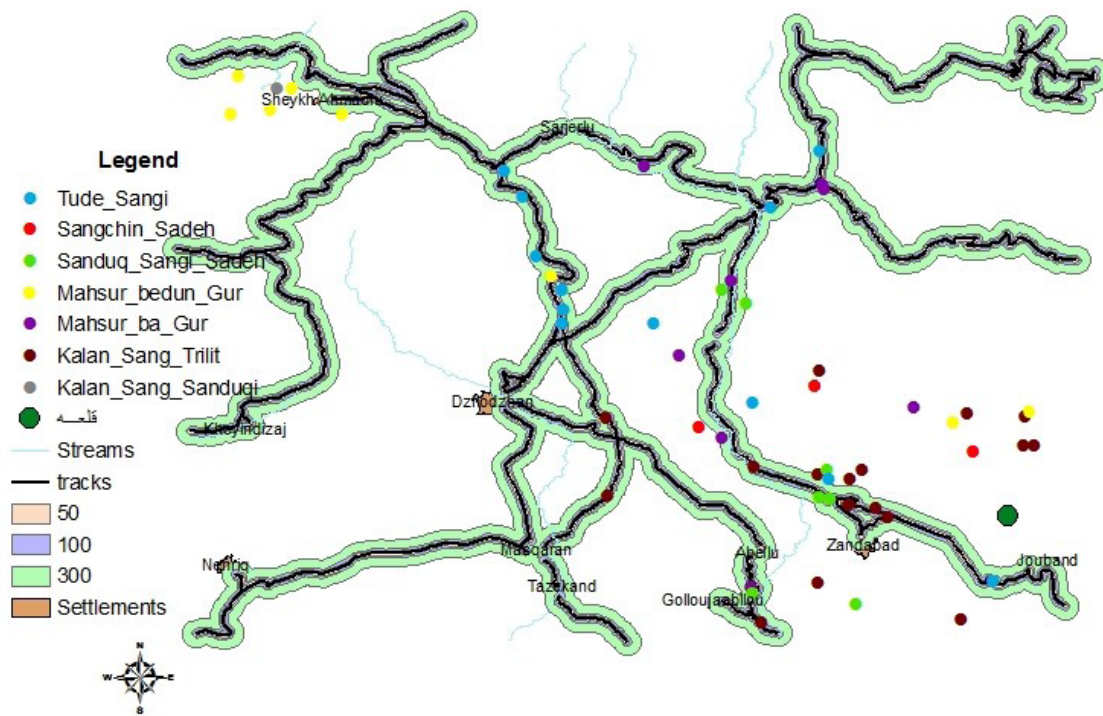


Fig. 3. The dispersion of the graves from the same type. Source: authors.

settlement is at a very low level (today's interaction between the tribes and farmers is also the same; in other words, the nomads should not and converge with the settlers at the same place anymore since it would lead to conflict). Yet, the positioning of a significant number of the graves near the lake is also another evidence that proves this claim. The positive correlation between the graves and the ponds is an achievement focusing on which can reveal the beliefs of the ancient inhabitants of this region.

The similarity in the spatial distribution of the areas enclosed with graves and those not enclosed with them does not seem to be accidental. Each of these two enclosed areas is concentrated at different geographical points and they are totally opposite in terms of the natural migration passages and water streams. The enclosed areas show a positive correlation with these monuments. Also, the types of graves which are located near these areas are different. Except for the simple rubble type which

is observed near both areas, the simple stone box and large stone trilithon graves (because in the structure of this funeral, large stones have been used which weigh much higher than an ordinary man can handle. It seems that this type of graves can be proportionate to the individual power, social position and the expositive matters) are located in the areas enclosed with graves, and the mass stone and Hashtgir stone box graves are located in the areas not enclosed with the graves (however, it should be noted that based on the categorization suggested in the current study, the enclosed area without cemetery is an area within or near which no funerals have taken place, while Aghadashi area which is not enclosed with graves may probably have had a cultural relationship with Aghadashi stone box graves cemetery, but since the cemetery remnants should not be considered to be same as a settlement area, they have been separately analyzed). It can be proof for different functions of these two enclosed areas, or at least, their social or



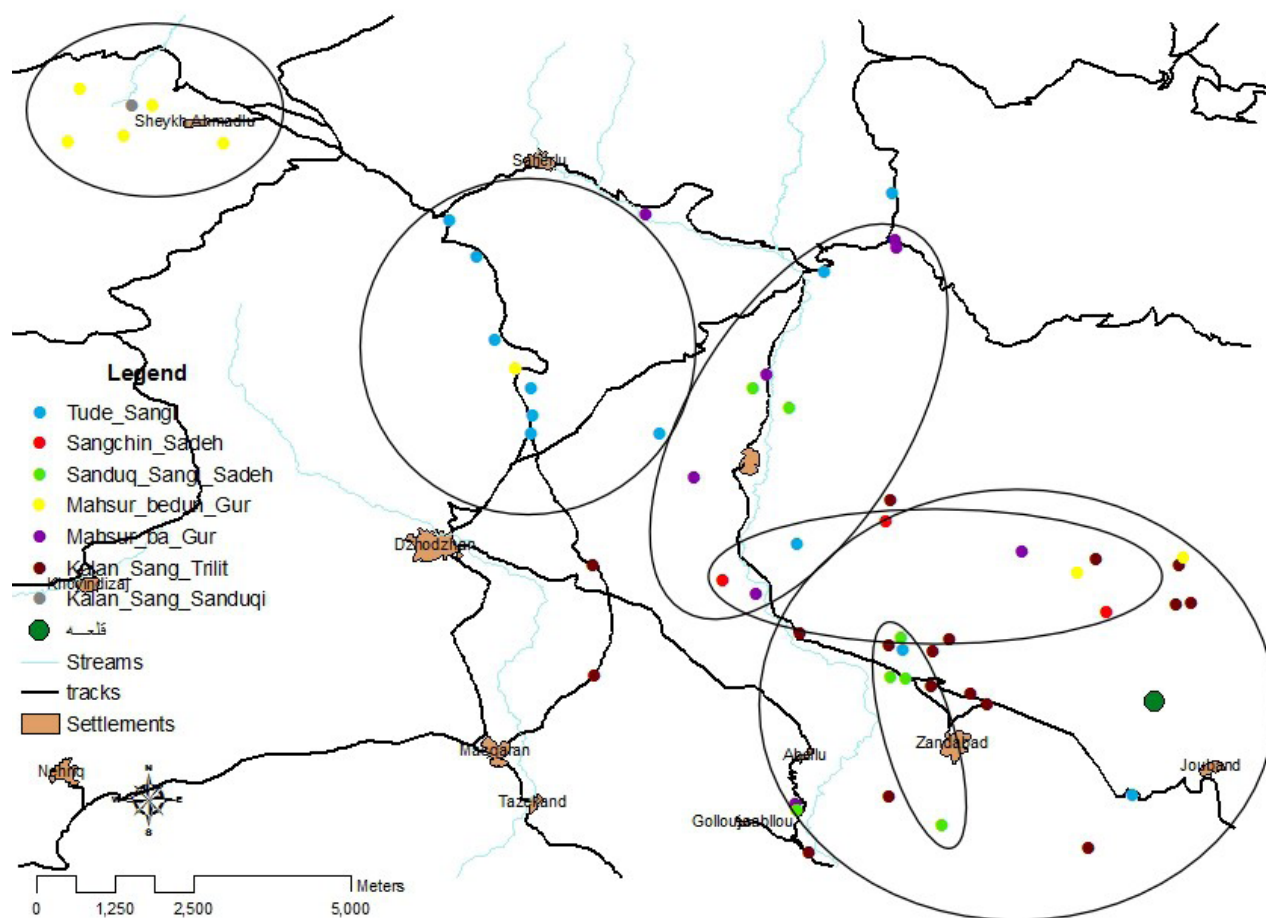


Fig. 4. The graves dispersion compared to the passageways in the region. Source: authors.

ethnic differences, which are still not known to us.

• **The gravitational force of the same type graves:** another point that is extracted from this study is the gravitational force of graves towards each other (see Fig. 2), i.e. different types of graves have been distributed in a cluster formation and mostly near each other. This strong gravitational force between the same type graves is an important proof for non-arbitrariness of the spatial distribution of them in the area under study, whether each of them has been built in different periods or belonged to different ethnic groups in a specified period.

• **Death Landscape:** the landscape of the Central Qaradagh has no settlement systems,

even the primitive ones. A significant portion of the permanent settlements of this landscape is new phenomena and the outcome of the modern governments' policies. These villages have been also distributed quite distant from each other each independent of the others. In this distribution, the current geography and topography of the region have been more effective factors than the cultural ones. The settlement signs in this region show themselves in the enclosed areas most, which itself has had a temporary form. Based on the spatial distribution of the areas enclosed with the natural monuments, it can be perhaps supposed that the areas enclosed with graves have been residential



for longer periods, but this period does not cover the whole year. What is more manifested in Central Qaradagh landscape is the different types of graves dispersed in it. It can be interpreted as the main sign of settlement in this area. These grave have made this region an all-out funerary ecological niche and it mainly serves as ancestral territories landmarks on the one hand, and the ethnic markings on the other hand.

Central Qaradagh is a mountainous region, or precisely speaking, a part of treeless steppe mountains. Three main environmental features of this region are high heights which prevent from growth of edible forage for cropping, narrow and tight valleys that limit agricultural activities, and steep slopes that accelerate erosion and degradation in landscape capabilities. The question is that the area under study is included by which mountainous cultural landscapes of the Near East?

The mountainous landscapes of the Near East can be archaeologically fall under four general categories (although each of these categories can be divided into more detailed types). The first category is the landscape that has been created by terraces of the agricultural land, and form the basis of settlement in this livelihood based on agriculture. The heights of Yemen are included in this category. The very productive slopes of these regions have led the human populations to change the landscape to a fully agricultural and sedentary one through the creation of agricultural terraces, especially from the new Bronze Age on. Politically also, these areas move towards autonomy and social complexities.

The second form of landscape, compared to the first type, have more instabilities. The between-mountains valleys and planes are relatively vast which prepared the possibility and foundation for the first forms of sedentism and invention and extension of agriculture at the end of the Pleistocene climate. In the meanwhile, with the end of modern ruralization (or the copper and stone

age) and worsening of the climatic conditions it has accommodated to a form of livelihood based on the nomadic animal husbandry. This type of landscape is characterized by multi-period residential hills which are among the features of it. As seen in Central Zagros, there is the possibility of the emergence of a self-reliant political system by the nomads residing in these areas and their connection with the lower proximity political systems can be viable. Another type of this landscape in the Van Province of Turkey, especially in Urartu's era, shows that they have been a political system basically dependent on the heights. They support a dual livelihood system. While relying on the promotion of irrigation-based agriculture and digging artificial channels and waterways, they also control the pastures. In fact, their livestock was their most important capital. The relationship with the low areas is inevitable in this form of landscape. This relationship is seen in two forms: exchange of the mineral goods of the heights with the food or high quality products of the low areas on the one hand, and the migration of nomads to the heights in the form of Yaylak and Qeshlaq (winter quarter). The third form of mountainous landscapes consists of settlements in the form of enclosed fortifications which can be seen in the heights, especially the treeless steppes of the Caucasus, which is a standard in the Iron Age. The most important factor in the formation of these cultural landscapes, besides dependence on the pastures and paddocks, has been their placement on main commercial and army paths. Thus, the communication roads have played an important role in the formation of such landscapes, especially in the late second millennium and early third millennium B.C.

The fourth form of the mountainous landscapes which have been generally (and not necessarily) placed in the peripheral areas can be named "mineral" landscapes. An example of such landscapes is the mines of "Taurus" mountains

in Turkey, especially “Bulgar Dag”. The main indices of such landscapes, humanely and culturally, are their high concentration of mineral waste, small melting and extraction workshops, distribution of human artifacts in artificial and natural tunnels and caves, and high environmental pollution, and that the temporary settlements of the miners and metalworkers in such landscapes have been mainly set in the periphery of the Sylvan jungles on the slopes so that the access to fuel has been facilitated. Among the most important indices of these landscapes is the destructive effects caused by humans, especially the deforestation.

Now the question is that the area under study falls under which of these mountainous landscapes? Definitely, it cannot be compared with the first group, since its most important feature, which is reliance on the agricultural terraces and its dependent social complexities, is totally absent here. Among the most important indices of the second group of mountainous landscapes is the presence of vast plains and high archaic hills. Again, no environmental or even archaeological evidence supports the existence of this index in the area under study. However, this area has been significant in terms of the communications, since in the ancient world, Qaradagh has been one of the main access routes of the Urmia Lake’s eastern area to the southern Caucasus and now, it is considered as the connection point of prehistoric cultures in the northwest of Iranian Plateau. On the other hand, in spite of richness of metal mines, especially copper mines, in this area and the surroundings, there have not been any evidence of ancient extraction and mining of this metal in this area, yet. However, during the current investigations, examples of limited extraction of copper were observed, but it needs further investigation which is out of the scope of the current study. This feature (having copper mines) besides its richness in suitable pastures and limited sections of arable land has led to the

formation of a combined but peripheral landscape in the Iron Age.

As this landscape is controlled by the nomads migrating to the heights today, who pass their time from the late spring to the early autumn in this area, the reported archaeological evidence is indicative of the close relationships between the human work and migration which connect this region to the fertile low land such as Moghan Plain. The existence of remnants of citadels in the heights of this region is indicative of kind of military significance in a specific time, however, the reasons behind this importance are still the subjects to further studies. The most important index of the landscape of this region is the dispersion of different types of graves in it. These scattered graves and enclosed areas in the region under study can be considered as the remnants of its main inhabitants who are the nomad tribes (who were indeed temporary inhabitants).

The Central Qaradagh is a peripheral area which is poor in terms of soil resources. Such high regions never host the human populations higher than a specified level. Even more importantly, it is not surprising if they become completely abandoned or very rarely residential in the long term. A large number of landscapes in the Near East are those with a central gravitational force which have experienced different types of cultural complexities. The type of landscape in this region is not such. This region is among the rare areas which have been archeologically studied and evaluated, which not only is not included by any central gravitational forces but also it is not included in their inner peripheries. This region, based on the existing archaeological evidence, is placed in the “vacuum” between the peripheral areas of influence and during the history, has escaped any central gravitational force.

Therefore, it might be necessary to change our research view in studying this region and its peripheries. Perhaps it would not be needed to

research this region with the same patterns and presumptions which for example can be seen in studying the Urmia Lake area or Central Zagros. The most important question that can be responded in the future is that what factors and reasons have caused this sheer isolation? On the one hand, further studies are needed to clarify the role of natural resources, especially the metal mines, in archaeological fields. On the other hand, there are still serious weaknesses in the precise chronology of this area and without this chronology, any comments on the cultural processes taken place in this area would be hasty and fragile. Until now, and based on the existing evidence, two points are clear: first, the pivotal role of the natural migration paths in dispersion of the antiquities, and second, the prominent role that different types of graves have in shaping its landscape; a role that is necessary to be studied and evaluated with scrutiny and precision, in terms of social-ethnic and identity differences.

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