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## The Architecture Hunting Structures in Aral Sea region

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### Abstract

This article describes the architectural monuments of the Aral Sea region and the Ustyurt Plateau in Uzbekistan - the hunting arrow-shaped constructions «Arana». The remains of these hunting structures are on the verge of extinction. One of our scientific tasks is to graphically reconstruct below mentioned groups of hunting structures. Arrow-like layouts of the Ustyurt Plateau are compared with others hunting structures and the ones located in Saudi Arabia and the Middle East their unique forms.

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## I. INTRODUCTION

The Turan Lowland of the Aral Sea region covers some parts of Khorezm region, the Kyzylkum Desert, the Karakum Desert, the Ustyurt Plateau uplands and the Aral Sea in the Republic of Karakalpakstan. Possessing seasonal forage resources, sagebrush, echinocloa and salsola pastures, the Ustyurt Plateau is an inhabitation of nomads, a place for studying the problems of nomadism. Most of the part of the Ustyurt territory is usually not covered by snow or snow cover there is insignificant. This factor contributes to the migration of ungulates to the Plateau, and, on the other hand, creates favorable conditions for livestock grazing and nomads' stays during the winter time.

The problem of economic adaptation of a human being in unfavorable conditions of the arid zones of our planet is one of the fundamental problems. Starting from the Neolithic period, ancient and medieval times, the region between two rivers of the Oxus (The Amu Darya River) and the Syr Darya River was inhabited by «the Massageteans» (the word means «people who eat fish»). The Massageteans were mostly engaged in fishing and hunting ungulates, such as deer and saiga antelope. During the research, we came across an unusual archaeological phenomenon called «arrow-shaped constructions».

## II. SIGNIFICANCE OF THE RESEARCH

This phenomenon made possible to study the most ancient form of the human economy (an

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appropriating type of economy that was specific to the primitive communal system at its early stages) in specific ecological conditions of the Ustyurt Plateau.

### III. LITERATURE SURVEY

The term «arrow-shaped construction» is found in Karakalpak folklore, ethnography under the name of «Arana» - hunting construction with a wide opened entrance. In particular, in «ErZivar» and «Kyrkzyz» epics the expression «opened his mouth widely as an Arana» is often found («Arandaiauzynashadi»).

[4, 1980, page 382; 1981, page 57]. In the book «Shezhire» by Berdakh, Arana is described as a hunting structure for hunting goitered gazelles:

(«Goitered gazelles graze in steppes,  
Aranas are there to trap them»)

[translation by Khamidov, 1985, page 143]



Hunting scene rock carvings in Teke-Tash tract near Jizzakh



Hunting in the mountains Miniatures of the XV century.

### IV. ARCHITEKTURAL METHODOLOGY OF RESEARCH

In the early 70s, the archeology department of the Institute of History, Language and Literature of the Kara kalpak branch of the Academy of Sciences of the Republic of Uzbekistan developed and conducted an extensive program of archaeological study of the Ustyurt Plateau. In the aerial photographs of the Ustyurt Plateau, taken by members of the expedition, the researchers discovered strange structures and parts of Aranas, built by ancient Turks (Figure 1).



The length of one of such Aranas is more than 10 kilometers and from the height of the bird's flight its fragments resemble mysterious arrow-shaped signs, pointing somewhere into the depths of deserts. It can be noticed that these signs are of a human height and the boundaries of these structures go far beyond the horizon. In the process of searching, you can repeatedly step on separate sections of these signs without noticing those unique architectural monuments under your feet. More than 10 such kind of structures were discovered in Ustyurt. Scientists have determined that these giant structures served as hunting pens for catching wild ungulates in great amounts. Largest in size and length Aranas are located in the northeast of the Ustyurt Plateau (Figure 2).



There were wide, but not deep ditches in the inner part of the structures. The ditches were 3 meters long and 4 meters wide. Walls of the ditches were strengthened by limestone. The width of a ditch was about 7 meters, the depth- 0.5 meters. The ditch formed the shape of a bag with a funnel-shaped 100 meters wide dead-end entrance. In the corners of the arrows there were trapping pits more than 1 meter deep. The early built Aranas, located in places of habitation of saiga antelopes in the northeast of Ustyurt, required minimal people's efforts. Migrating animals moved along ditches and, as a result, were trapped. There was nothing left to do for hunters but reaping the benefits. Archaeological research allowed to determine that people of Ustyurt provided meat food not only to themselves, but later it became possible to trade the excess of meat products to others. Demand and need for other types of products led to expansion of the exchange and sale of goods. As we can notice, Aranas provided people of the Ustyurt Plateau a huge profit. Meat of ungulates, horns, wool of saigas and others were items of sale or exchange for local people.



From the early Middle Ages there were caravan routes, connecting Central Asia and the Volga region and Eastern Europe with the Khorezm Khanate, along the Amu Darya River. This fact promoted the growth of trade in the region. Merchants from Central Asia were also involved in trade of local goods. All this contributed to the growth of the region's economy and improvement of living standards of the population of Ustyurt. In the Ustyurt Plateau region, the following territorial 5-groups with arrow-shaped layouts can be distinguished:

The North Ustyurt group, Aibuyrs-Sarikamish group, Zharynkuduk group, Kendyrlisor group; Beyneu group.

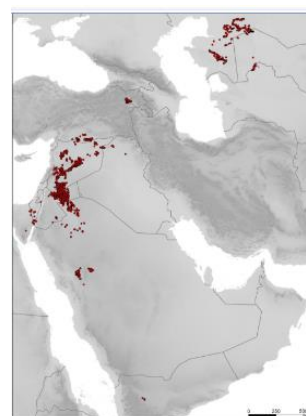
Territorial groups were located: the North Ustyurt and Aibuyrs – Sarikamish groups on the eastern slope of the Ustyurt Plateau; Kendyrlisor and Beyneu groups on the western slope; the Zharynkuduk group in inner parts of the plateau.

## V. RESULTS COMPAREDING HANTING STRUCTURES

We found similar arrow-shaped constructions of the ancient Ustyurt in tundra and forest areas of the entire Eurasian continent, northern Scandinavia, the Kola Peninsula, the Urals, Western and Eastern Siberia (Yagodin V.N., 1991, page 103). In the Urals and Siberia, among numerous rock art images researchers identified scenes with structures such as fences or trapping devices with animals in them. Usually, there are no pictures of a man in such images. These scenes, according to the expression of A.P. Okladnikov, represent «... hunting without a hunter» [Okladnikov, 1966, page 125] or a passive form of hunting using stationary trapping devices. Similar compositions were also found by researchers in the rock paintings of the Urals (Chernetsov, 1971). It is assumed that these methods of hunting in those areas are very ancient. As to the Middle East, the researchers discovered numerous ancient trapping constructions called «desert kites».

Desert kites appear in deserts of Syria, Jordan, East Palestine, Saudi Arabia. It is interesting to note that, like the Ustyurt' arrow-shaped constructions, the Middle Eastern «desert kites» are almost indistinguishable from the surface of the earth and their plan is deciphered only with the help of aerial methods [Fild 1960, page 129]. Meitlen was the first who drew the attention to the «desert kites» archaeological phenomenon [Antiquity, 1927, p. 199-207]. Later, «desert kites» were studied by Colonel Rees (Rees, 1929a, p. 389-407; 1929b, p. 89-92), A. Kirkbridge [Fild 1960, page 130], A. Poidenbar [Poidebard, 1934].

Modern scientists, engaged in studying the problem of «desert kites», come up to the same idea that «desert kites» were used for hunting purposes. «Desert kites» of the Middle East vary in forms and sizes. However, their planning scheme is common. They have a central corral or a large fence (Figure 3).

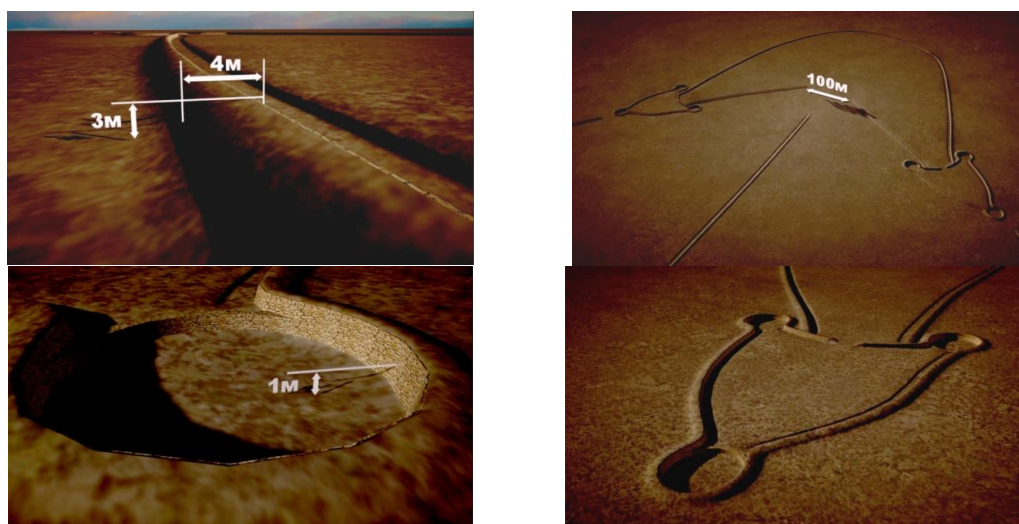


As we can see, the «Aranas» of Ustyurt are great. As if their planning schemes were drawn from the sky or by creatures from another planets. Similar landscape objects were also found 15 thousand kilometers away from Uzbekistan in Nazca in the Republic of Peru. The Spanish historian Pedro Cieza de Leon (1520-1554) was the first who mentioned the Nazca Lines in his works. Later, the American archaeologist Paul Kasok, who flew over the Nazca plateau, noticed these strange objects. They can be distinguished, like the Ustyurt Arana, only from the height of the bird's flight. These geoglyphs represent images of birds, monkeys, spiders, ten kinds of flowers and geometric shapes, like triangles, trapezoids, and spirals.

These geoglyphs are big in size. For example, the image of a lizard is 188 meters. The purpose of these images has not yet been fully determined. Moreover, the Nazca Lines were designated as a UNESCO World Heritage Site. They attract millions of tourists.

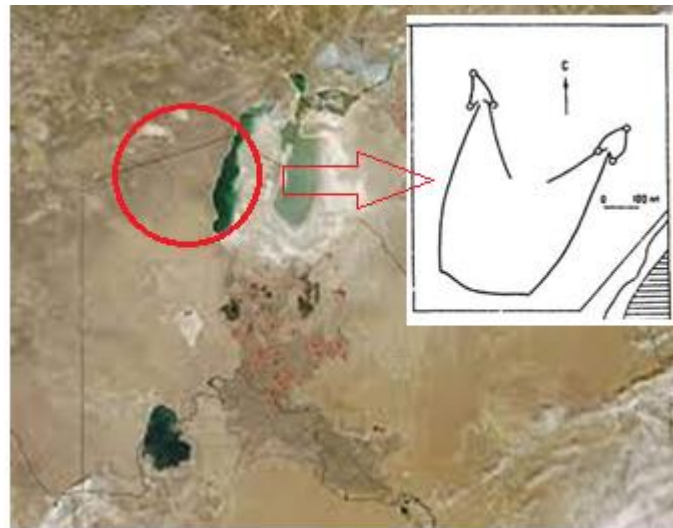
In conclusion, it can be noted that the ancient settlers of Ustyurt could not provide the community with meat products alone or in groups. Since the local fauna consists mainly of saiga antelopes, who are too sensitive and fast, it is very dangerous to appear on their way. That factor forced the settlers of the Aral Sea area and the Ustyurt Plateau to come up with new ideas of safe hunting. Obviously, it took local people too much time to develop and upgrade existed arrow-shaped constructions. From the perspectives of architecture, Aranas are of little interest; however, they are unique in terms of their planning design. It was almost impossible to get out of that trap. This type of trapping construction shad been used for several millenniums. They lost the demand with the emergence of new types of small arms. Aranas can be compared with the ancient images, found in the steppes of South America, the functional task of which is still not established. However, the purpose of the arrow-shaped constructions, described in current work, was to preserve the livelihoods of local settlers.

Graphical reconstruction at author of The North Ustyurt group « Duana group Arana» monuments of the Aral Sea region. Figures 4,5,6,7(graphic reconstruction taken from the Gala-film studio of the alliance for the conservation of the saiga).



## VI. CONCLUSION AND FUTURE WORK

Should one not think about bringing the Asian Aranas to the attention of the world community and about organizing tourist routes along the Great Silk Road near Aranas of the Aral Sea area. Figures 8.



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