

Comparative Study of Southern Urals Fortified Settlements in 18th-16th Century BC

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Abstract: The study examines the ancient fortified settlements of the Southern Urals, dating from the Bronze Age (3-1 millennium BC). These objects are considered as fortifications, the oldest industrial and residential or artisanal-residential complexes, localized on a separate territory. During the study the morphology of their formation is described and their typological belonging to the architecture of the ancient Indo-European fortifications is revealed that allows us to consider them in a general context with more recent types of similar objects in Eurasia. The relations of Sintashta-Petrine culture with ancient architectural and town-planning traditions of Central Asia are considered. According to the study results the comparative analysis of planning structures at the fortified Southern Urals settlements of the Bronze Age with identified counterparts at the time of the study.

Key words: Fortified settlements, the Southern Urals, Bronze Age, Arkaim, Sintashta, comparative method

INTRODUCTION

The architectural and archaeological heritage of the Ural Region is the subject of study for domestic and foreign scholars: historians, archaeologists, ethnographers but so far it is little studied in the historical and architectural aspects.

During the period from 1969-2007 a lot of fortified settlements in the Southern Urals was found and recorded. The most well-known and studied one is (Prikhodko *et al.*, 2014), originally the Alexandrovskoye city (Aleksashenko and Gening, 1973) according to the name of the nearby village Alexandrovsky.

Today, the excavations and studies related to the archaeological explorations of ancient settlements are carried out in the South of the Chelyabinsk Region and the adjacent areas of the east Orenburg Region, Bashkortostan and North Kazakhstan. The main legacy of this archaic culture is considered to be legally the remains of ancient fortified settlements, dated by 18-16 century BC. Nowadays the most studied and recorded objects in the publications are: Arkaim, Sintashta, Mouth, Stone Barn (Ol'gino) in the researches of the following historians, archaeologists and ethnographers: Zdanowich (2003), Batanina (2004), Gening (1992) and Vinogradov (1995) and others.

Nowadays, the Southern Urals territory revealed more than twenty fortified settlements: Alandskoye andreevskoye, Arkaim (Alexandrovskoye), Bakhta, Bersuat (Berry Vale), Zhurumbay, Isiney (Isiney-1, Isiney-2), Kamysty, Kizilskoe, Konoplyanka, Kuysak, Ol'gino (Stone Barn), Kizil-Chilik (Paris), Springs, Sarym-Sacly, Sintashta (Sintashta-1), Sintashta-2, Stepnoye, Mouth, Chernorechie III, Chekatay, Shikurtay; Ulak (Usmanov *et al.*, 2013) Sele.

The main factors that influenced the origin, the development and the decline of the South Ural fortified settlements (based on dissertation research (Ulchitsky, 2006):

- The presence of copper ore deposits available for extraction by primitive methods for ores located at the surface (Zdanowich *et al.*, 2003)
- The geographical environment of the region, its peculiarities in "Middle Bronze Age" which influenced the formation of settlement structure (Zdanowich *et al.*, 2010)

During previous studies the territorial relationship is revealed: mine-fortified settlement-unfortified settlements. Each fortified settlement has the complex of planning, design, functional techniques as well as the concentration

around the cult-burial complexes and unfortified settlements. The area of one structure within the defensive walls ranged from 8 (Isiney) to 34 m². (Chernorechie) (Lavrov, 1950a, b). The fortified settlements bore the territorial center function. In this regard, they are very reminiscent of early medieval fortified citadels in the cities of Central Asia and Iran “acre” (Lavrov, 1950a), “Kale” (Lavrov, 1950b) or the oldest European fortresses of «Old Sarum» (Hamilton, 2005) type. In the South Urals such centers are recorded approximately in the radius of 20-40 km from each other and are located mainly at riverbanks, often in flood plains.

Despite the fact that the fortified settlements were built on a single image which is tracked in a planning structure, three main layers of their development and decay are revealed: early Sintashta, “classic” Sintashta and Petrine. Then, the Petrine type was transformed into a linear regular form of sargarinsko-alexeyevsky forms of settlements.

The stratification of fortified settlements was confirmed by archaeological data and the aerial image deciphering materials. There are cases where one fortified settlement overlaps another one partly, at that the ruins of an earlier settlement, their configuration are not taken into account by later buildings (Isiney I-Isiney II; Stepnoye I-Stepnoye II and others). There are such view contours which overlap earlier layers partially or completely.

The following unknown reasons led to the active displacements of population and the formation of new building traditions of Alakul and Fedorov cultures on the sites ruined fortified settlements. They had a chaotic development, consisting of large semi mud-huts, among which two types are distinguished traditionally: a “farmer house” and a “potter house” (Zdanowich, 1988).

The purpose of study is to conduct historical and architectural analysis of the fortified Southern Ural settlements of the Bronze Age using the comparative method.

The object of study: Fortified settlements in the Southern Urals, dating back to 18-16 centuries BC.

The subject of study: The comparative method of ancient architecture study and analogue matching method.

Study objectives:

- To clarify the typological belonging of Southern Ural fortified settlements (Bronze Age) on the basis of the previously developed material

- To describe the method of research concerning the identification of the main criteria for counterpart comparison in historical and architectural aspects
- To analyze the architectural and planning structure of Southern Ural fortified settlements (Bronze Age), using the comparative method
- To perform the comparison of planning structures of Southern Ural fortified settlements (Bronze Age) with the counterparts identified at the time of the study

Scientific novelty: For the first time, the analysis of the architectural and planning organization of Southern Ural fortified settlements (Bronze Age) and their analogues using the comparative method. A new form of studied object systematization is proposed according to structural and typological features with the territorial reference.

MATERIALS AND METHODS

Study methods: The comparative-historical or comparative method of the Royal Institute of British architectures member (the Professor Banister Fletcher) was used as the basic one (Fletcher, 1896).

The recent studies in the history of architecture, using the comparative method are related to the works of the architecture Doctor, George Kurinsky-Voron. In this study, we rely on a more appropriate comparative models by P. Portogezzi and G. Kurinsky-Voron, who in our opinion are the most productive ones in relation to the ancient ruined architecture.

The reason for the choice of these models is that the study of architecture which was not previously indicated in historical sources demands innovative methods, considering deep relationships with the counterparts of different cultures. The basis of this approach is the morphological structure link of an object under study with its counterparts.

The Russian architectural historian N.I. Grekov continues to practice in his studies the use of comparative method theory and calls the three main directions in the study of ancient habitats (Grekov, 1985):

- The form of ancient structures as one of the most important historical sources: this aspect localizes the habitats of ancient society (the fact of location)
- Specific-social characteristics (the number of facilities, development degree, construction size, etc.)
- Chronological factor

It is proposed to divide architectural objects-analogs into certain groups for a comparative analysis:

- Architectural objects with morphological identity located in a relative territorial, cultural and chronological proximity
- Architectural objects are morphologically similar but belong to different cultures that do not intersect geographically and chronologically with analyzed objects

Besides the division of architectural analogues into the basic typological groups, you need to identify the main criteria for the comparison of counterparts:

- Morphological criterion
- Historical and chronological criterion
- Geographical criterion

RESULTS AND DISCUSSION

Analyzing the planning structures of a certain type, you may develop a single concept of planning traditions from Sintashta-Petrine formation fortifications to later Central Asian forms, supposedly successive ones.

Extant ruins of Khorezm settlements on the right and left banks of the Amu Darya river give the idea about fortified settlement plan scheme, marked as “ancestral settlements” (Tolstov, 1948) passing to the settled way of life and Khorezm settlements of sedentary type (6-4 BC).

The most archaic type of settlements, known in the history of Central Asia cities is the so-called “settlements with living walls” (Lavrov, 1950a, b) these are large enough settlements the maximum length of the wall of which makes 1000 m. In addition to residential walls, the ancient settlement had uninhabited, allegedly religious or household buildings. The fortification Kalaly-gyr settlement for the fortresses of that period was quite complicated. Numerous towers were located along the walls, the center of each wall had a passing gate with a complex labyrinth system. Another type of settlement is the settlement with solid buildings (“tepe” settlement). Such settlements are developed throughout the territory of Central Asia, especially along the middle stream of the Syr Darya river. The earliest settlements with solid buildings made of mud bricks were found on Anau hill in Turkmenistan. One may attribute here a large fortified communal house in the neighborhood of Bazar-kala (ancient Khorezm). Such methods of continuous development are marked on the South hill of Anau in the settlement Ak-Tepe (near Ashkhabad) and Namazga Tepe (near Kaakha). They existed in Central Asia since the end of the 3rd millennium BC to the 18th century AD due to stable cultural traditions of the region.

D.A. Ahudnov’s study on the ancient architecture of Azerbaijan is a curious one. He performs a graphic reconstruction of the multi-apartment houses in 1-2 millennium BC, the plans of which are shown on Gobustan rocks in the form of a “round” and a “coupled rectangular” one (Akhundov, 1986) an ancient settlement plan, consisting of “one round multi-room house and a group of one-room round houses” related to the 3rd millennium BC is also shown there.

The typical idea about the plan scheme of “settlements with solid buildings” consists of Janbas-kala settlement structure representing a single compact housing array (Lavrov, 1950a, b). The building combined residential and commercial premises. It is worth noting the parallel development of urban planning traditions in different regions by distance. For example, these types of residential structure groups were developed in Eastern countries and in Sumer-Akkad during the 2nd millennium BC simultaneously with the development of the Ural fortified settlements in the 2nd millennium BC. However, the so-called “Southern” type of residential structures, distributed on the territory of the future Babylonia is similar most of all with living wall settlements of the “Northern” type. It was distributed on the territory of the future Assyria and in the Urals and in Kazakhstan the settlements with solid buildings began to appear. Khorezm settlement with residential walls was a closed fortification, enclosed on four sides. Residential premises were located along the walls in several rows. Fortifications were both the walls of an outer row of premises. An internal vacant space was intended for communal livestock.

The settlements with solid buildings can’t be called a city according to their structure. These are only big houses, built in random order, for which S.P. Tolstov uses the term “array houses”. In the future, these settlements are united inside the fortress walls, forming the groups of blocks that are typical for the cities of the ancient period. The settlements with living walls-their architectural and planning framework was used during the formation of a Central Asian City of the ancient period, in the development of fortress wall structure, combined with living quarters.

And the last thing we relied both as on the analogue of ancient Ural fortified settlements is Deu-kala monument-amedieval fortress dated by the 12-13 centuries which is a small circular fort with the diameter of 51.5 m, surrounded by a thick wall of huge slabs made of cut stone. There is a courtyard in the middle with a water tank, surrounded by stone living quarters for the garrison. “Deu-kala location makes to see an outpost of rising Khorezm military expansion against the Central and Western Khorasan” (Tolstov, 1946).

This object led us to believe that the fortified settlements of the ancient Ural look the same way but they are dated earlier than Deu-kala. Perhaps these are the earliest forms of garrison forts on the territory of Eurasia, created for the purpose of defense or expansion to the wild, copper-rich northern lands.

Thus, if this statement is close to the truth, a string of fortresses, like Arkaim and Sintashta should go into a well-marked direction but unfortunately, this theory is not confirmed yet as the deployment of the Bronze Age forts is very limited by the oecumene of Ural Northern steppe except for the fortified settlement Isiney which is located to the east and Alandskoye settlement with individual mounds located along the southern end of the Ural Mountains: for example, it is the Bronze Age mound Mugudzharam.

The issue of Sintashta facility traditions preservation in other cultures in particular with the developed statehood remains an open one.

We believe that the debate on the ownership of the Southern Ural fortified settlement belonging is possible not only in terms of these object belonging to a particular culture or an ethnic group but the belonging to a particular advanced civilization with a certain form of a political system.

CONCLUSION

A definite scientific result is achieved in the study of typological and historiographical belonging of Southern Ural fortified settlements (Bronze Age) which is not only in the conducted comparative analysis of compared planning analogues of fortified settlements but also in the discovery of the obvious similarities, the successive building traditions with later cultures on the territory of Indo-European states.

Thus, the description of the ancient Ural fortified settlements was added, the detailed analysis of space-planning structure for these buildings is provided on the basis of archaeological data and reconstructions. One of the main results is the developed idea about the typology of the Southern Ural fortified settlement (Bronze Age) as a special type of fortifications, designed for the garrison forms of settlement with the production and craft function.

An explicit belonging of these facilities to a particular civilization or a famous ethnographic area on the territory of which the hierarchy of social relations was developed, fitting into the framework of a statehood idea remains the hypothesis for the further study of hereditary traits of the

objects under study with the architecture of the same chronological period relating to the territory of a particular state. Currently, there is no convincing model concerning the process of the ancient Ural fortified settlement creation. Just now there are only theoretical (in terms of archeology) or “analog” reconstructions, according to the type of settlements, medieval fortifications that do not convincingly prove the technologies of ancient Ural fortified settlement construction.

In a further development of the study within this area, the most important thing is the reconstruction of the processes concerning the creation of a fortified settlement 3D form.

Basing on the comparative method the expansion of capabilities is offered for the collection and the analysis of material, the sorting of relevant factual information from a digitized data set with the further development of software for cataloging and systematization of the objects under study.

Also, the most important practical result of further research in this direction could be a real historical reconstruction which must exactly recreate the space-planning structure of a settlement, the technological process of construction and operation of a buildings in the historical context..

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