

Architecture Of Uzbekistan Of The Ancient Period (Style Features And Composition Laws)

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Abstract: Specific features of the development of architecture in Uzbekistan in ancient period are considered in the paper. The author emphasizes the role of building materials and structures, studies the composition of ancient settlements in Khorezm and Bactria, reveals a high level of military architecture and planning principles of residential and castle structures.

Index Terms: Kushan Empire, raw material architecture, ancient settlements, fortification structures, Hellenistic influence, column avians, architectural-planning principles of the structures.

1. INTRODUCTION

At present in the study of the history of architecture in Uzbekistan the most studied are the periods of early and mature Middle Ages. Less studied remains the ancient period (IV century BC - IV century AD), although some questions on the architecture of the period are addressed in the studies of G.A. Pugachenkova [1], V.L. Voronina [2], B.Ya. Stavitskiy [3], B.A. Litvinskiy [4] and others. It is known that in Central Asia there have been the most ancient centers of civilization and ancient states such as Bactria, Parthia, Sogd, Khorezm (Fig. 1), that made a special contribution to the architecture of the ancient world.



Fig.1. The map of the Central Asia of the ancient period

It was during the last centuries before and after AD that the most important events have happened that influenced the subsequent course of development of the Central Asian peoples. And, of course, along with the formation and development of the centers of high civilization, the emergence of cities, formation of statehood, monumental architecture was developed as well.

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Due to the fact that for several decades the systematic archeological excavations are being carried out in the territory of Khorezm, in the south of Uzbekistan, in Kashkadarya, Bukhara and Samarkand oases, there is enough material for an extensive compilation of the most complete picture of the architecture in Uzbekistan of so-called antique period. Accumulated until today an immense archaeological material shows once again that "the peoples of Central Asia in ancient times achieved a high order of flourishing ... and made a great contribution to world civilization"[5,p.34]. High level of the culture of pre-Islamic Central Asia also testified that "Central Asia was not only the "object" of the historical process, but also the "subject", an active creator of human culture [6,p.88]". Already in XIX century from written sources it has been known that Central Asian countries "lying on the route between the Far East and the ancient states had their relatively high culture, their art" [7,p.65]. On the territory of Uzbekistan there was one of the world empires - Kushan, "that at the beginning of our era had united under its rule the most economically and culturally developed countries and regions of the Old World" [8,p.12] - Central Asia, Western China, modern Afghanistan, Northern India. Between the four empires - Roman, Parthian, Kushan, and Han in the first centuries AD there existed close trade relations (both land and sea ones), as evidenced by trans-Asian caravan route - the Great Silk Road that passed through the land of Sasanid Iran, as well as the water route, known as Indian [9], stretching from Egypt to India. Caravan routes transported not only different products, but foreign rites, beliefs, traditions, including architectural ones.

2. BASIC FACTORS OF DEVELOPMENT

Development and formation of architecture depends on such factors as material and spiritual strength of a country, technical and economic potential, geographical location, climatic conditions and historical processes. For each natural zone of Central Asia - plains, foothills and mountains, various forms of farming and historical patterns of irrigation (size of channels, water inlet, etc.) were typical; they depended on the social and economic development of the ancient cities of Central Asia. Amu Darya, the first data of it being reported in the "History" by Herodotus in the V century BC, was one of the great rivers of the world, which like the Nile played an important role in the development of ancient civilizations and was the basis of life in ancient oases. The development of irrigation indicated the development of slave-holding relations, slave-holding state with a strong central authority; this allowed for huge irrigation and construction work, as the country's main industry was agriculture. The main canals in Khorezm, in Bukhara,

Samarkand (Dargom), Tashkent (Salar), Fergana oases were built and reconstructed; they facilitated the appearance of numerous towns around them [10]. For Central Asia a variety of climatic zones is typical, and as a result of this – a close proximity of nomadic and semi-nomadic population. It is well known that before the arrival of the Arabs such "world" religions as Zoroastrianism and Buddhism, Christianity and Manichean were spread in this territory, each of which had their own places of worship constructed with account of certain religious rites: "A wide range of religious beliefs was stated, with the Houses of fire, Buddhist temples, Christian churches and shrines of various local cults serving as the places of worship" [11, p.55]; the appearance of the ancient cities of Uzbekistan was composed on their basis.

3. BUILDING MATERIALS AND STRUCTURES

Of course, the ancient period for Central Asia is one of important social and economic events; they had a direct impact on the culture and architecture of the region. But this process was preceded by the initial formation of highly-developed culture of settled peoples of the Bronze Age, for example, Altyntepa and Sappalitepa. "Already then, we could see a stable combination of irrigation agriculture, solid settlements, raw material architecture, including monumental buildings and fortifications" [12,p.4]. In all areas of Central Asia adobe brick served as the main building material, which had ancient traditions and was adapted to natural and climatic conditions. Loess clay - the cheapest and most plastic material - had been the main component; it was used in the form of baked brick, raw air brick or pakhsa in the construction of various structures. Building material -raw air brick - played a pivotal role in the formation of a particular style, typical for this period. Thus, the words of F.Wright, one of the brightest representatives of Western architecture, that "the relentless energy of a man had taken out the matter from the Earth and had erected from it the buildings under the Sun" [13,p.49], are true for this region too. The foundations, walls, arched structures were built of mud bricks. An adobe (chopped straw) was added to the clay, "it protected the clay mass from cracking during the drying and provided a good framework for it" [14,p.125]. The shape of a brick was square (Khorezm, Bactria) or rectangular (Sogdiana, Shash, Ustrushana) and its dimensions varied depending on a particular region or "on relation to erected by architects buildings and to inherited construction traditions" [15,p.73]. Till the end of the IV BC a rectangular brick of 52-56x26-28x15-16cm size was common, and already in the III BC – a square brick of (42-48x42x48x11-13cm), became common not only in Bactria (Fig.2), but "all over the south of Central Asia and over the whole of the Hellenistic world" [16,p.5].

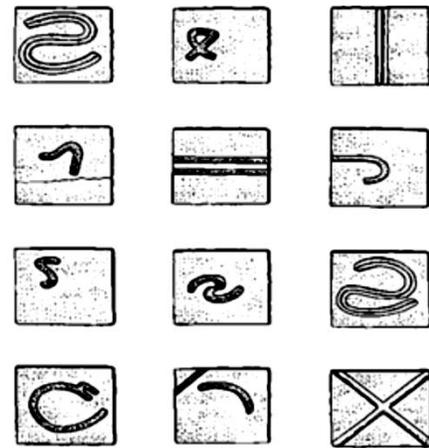


Fig.2. The shapes of the ancient bricks

While raw air brick was used as a common building material, the pakhsa was used for monumental structures (Fig.3), sometimes alternating with raw air bricks (in the castle walls).

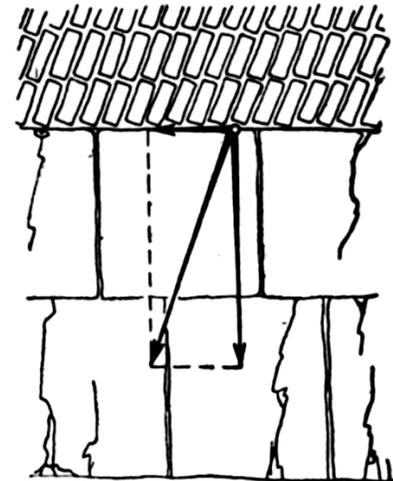


Fig.3. The walls from the clay

The reason for this was the fastest construction of walls extended over the length. In the construction of ancient Khorezm, the area being characterized by frequent earthquakes, sand was used. The reasons for the wide use of sand were more than one: 1) anti-seismic purposes [17], 2) as the insulation of walls against soil salts, [18] and 3) "as a material strengthening the resistance of the walls against the action of siege machines" [19,p.88]. Beamed ceilings and wooden columns were used as architectural structures; they had provided the stability of post-and-beam system favorable for seismically dangerous areas. The columns were mounted on the stone base with the conjugated pin, also serving as a movable joint. Building material for the beam structure was resinous juniper or so-called "immortal tree", which is not subject to decay. Arched raw material structures (simple wedge-shaped and inclined lateral segments) were also used as a ceilings (Fig. 4).



Fig.4. Example of using arched arches

Sometimes in erection of one monument both types of structures were used (palace of Toprak-kala). So, the building technology of the era was the material basis for the development of architecture. Thick walls testified the regulation of thermal regime in conditions of extreme continental climate. Observance of this regime "encouraged architects to eliminate solid walls of excessive thickness, and sometimes – to build the premises embedded into the ground or carved in the rocks" [20, p.189]. The thickness of the exterior walls reached up to 3 m (Halchayan Palace) - "perhaps this provided the temperature control in the premises - coolness on hot days and heat retention in winter" [21,p.130]. If the buildings were built of mud bricks and pakhsa (Ai-Khanum), stone slabs were used as a facing (for example, marly limestones of Buddhist sanctuary in Ayrtaam). Marly limestone was not only a solid material, but also a frost-resistant and water-resistant one; the bases of the columns, capitals, pilasters and the bodies were erected of it (in Termez, Ai-Khanum, Ayrtaam, Halchayan, Kunduz). The reasons for the limited use of this material were technical difficulties associated with the processing of stone and its transportation. Together with glass, crystal, Greek alphabet, the idea of the Order and some of the motifs of Art (for example, acanthus) had penetrated from Hellenistic countries. As noted by G.A. Pugachenkova, a major influence of Greek architecture on Central Asian one was "the inclusion of such items as capitals of Ionic and Corinthian Order, Attic bases, antefixes" [22, 61], converted by the architects on the bases of the proportions of a human body. She has singled out 3 main types among local Orders: Ionic-Bactrian, Corinthian and composite ones. In the construction of the foundations the ancient builders adhered to certain principles that depended on practical problems. In some cases, in the construction of new buildings they had used the ruins of previous constructions. As noted by S. Khmelnytsky, "since ancient times in Central Asia, it was common to erect a new building on the remains of the older one – the ruins were not demolished and were used as the foundations" [23, 9]. So, construction equipment in Uzbekistan in ancient period was mature and adapted to local conditions. Builders were familiar with the work of the structures, had some knowledge in applied geometry (especially in arch construction), since without this, a variety of methods and techniques for arches and vaults masonry, could not had been developed as well as the unity of engineering and architectural forms achieved.

4. TOWN - PLANNING

According to archeology data of Central Asia it became known that the cities in ancient times were different from those under the Achaemenids and during this period there was a deliberate policy of urban development throughout Central Asia. It was in ancient times that in the south of Uzbekistan there began the formation of a city as a public body; before they were the prototypes of the cities located on the banks of delta ducts of the river (Sapallitepa, Djarkutan). The building of ancient cities had been often associated with the erection of the long channels and the establishment of the irrigation centers. For example, in Khorezm in IV BC - IVAD there were at least 16-17 settlements, "which could be considered as the cities" [24, 549]. Khorezm city differed by a powerful advanced fortification system - "two-tiered gallery with beamed ceiling raised on a massive plinth were typical" [25, 43] as well as oblique loopholes, thick walls with a base of pakhsa and large mud bricks (in Janbas-kala the wall thickness was more than 5 m), with round towers (Koi Krylgan-Kala) or without the towers (Janbas-kala), as well as near-gate large maze with a roofed corridor (20x52m), i.e."a unified system of fortresses that protected the entire border line of the oasis from the desert was distinctly seen" [26, 122]. All of them, basically, were stretched along the canals and were located near the tail of irrigation ditches, protecting oases from the deserts (Fig.5).



Fig.5. Urban defense of Khorezm

For ancient Bactria the settlements of the area of 6-7 hectares were defined by the researchers as the cities. In Greco-Bactrian period the cities were the centers of handicrafts and trade as a result of "the busiest commercial, cultural and ethnic ties of the Far, Near and Middle East" [27, 6]. These include the cities of Zartepa, Shortepa, Airtam, Dalverzintepa, Termez Kala, Karabagtepa in Halchayan, Kampyrtepa. All of them, basically, were the fortresses, "built by Greco-Bactrian administration for the protection of the most important roads in the north and northwest, crossing the Oks river" [28, p.44]. Bactrian cities planned with consideration of natural conditions, in contrast to the cities of Khorezm, did not have a tie trunks and residential blocks, which is explained by "the advantages of the defense of the cities with complex, sometimes labyrinthine-like web of streets" [29, p.218]. Ancient cities of Sogdiana, the most studied to date, include Samarkand and its environs (Miankal) Tali-Barza, Kafir Kala, Bukhara, Yerkurgan, Kitab. Located on the steep banks of saiz, on the natural hills and remnants near waterways, these cities, on the whole, had the same inherent traits as Bactrian ones – they were square or rectangular in plane, surrounded

by walls and moats, had a citadel. And if the urban development "boom" of Bactrian cities in Kushan period was associated with the creation of new irrigation canals, high population growth, favorable conditions for the development of urban life, introduction of rural population into urban culture, the development of Khorezm towns could be also connected with an expansion of irrigation networks, economic and cultural rise. The ancient cities of historical and cultural regions of Uzbekistan, dating its development to the Bronze Age, underwent an independent and their own way of development.

5. FORTIFICATIONS

Along with the development of urban development, fortification architecture was formed, which was also an "economic indicator of development, one of the pressing problems of the ancient urban civilization" [30, p. 3]. Defense construction had reached a grand scale in ancient times, as for such large-volume jobs slave force could be engaged under the influence of strong central government (Fig.6).



Fig.6. Ancient defense

Later, in the Middle Ages, in the period of different social system, similar structures did not reach that scale (in Khorezm, Parthia, Bactria) - wall thickness became less, as did the number of towers and loopholes, etc. This type of structures had originated in Central Asia at the end of II millennium BC and had achieved a great success in VI-IV centuries BC [31]. The level of development and continuous improvement of fortifications was due to economic development, urban planning, military and architectural art. Construction of these structures was connected, primarily, to the topographical conditions, as "the choice of the most favorable position, their size and nature depended on local relief" [31, 88]. Ancient towns and castles were given a geometrically correct configuration in order to "reduce wall perimeter; that was very significant with a limited number of defenders" [32, 56]. For example, the location of Afrasiab on high hills hampered its water supply, but provided a good defense [33]. Multifaceted stronghold in Dalverzintepa was located in such a way that "the direction and location of walls was governed by natural topography of the hill" [34, 12], protecting it by the old duct on one side and by Surkhandarya floodplain on the other. Already in proto-type cities of Altyn-Depe, Djar-kutan, Namazga-Depe, the fortresses and settlements were "surrounded by walls of mud brick" [35, 43 p]. In the Achaemenid period the further development and progress in the construction of fortresses was seen, as

evidenced by the walls of settlements Kyzyltepa, Talashkantepa I, Bandykhan II: «for Pre-Achaemenid and Achaemenid periods in-wall shooting galleries and oval in-plane towers or solid monoliths of pakhsa walls were typical" [36, p.42]. Later on, fortification architecture had been improved, there appeared in-wall corridors, pilasters-ledges, rectangular in-plane towers. Building materials and structures, military equipment and weapons (daggers, spears, bows and arrows and battering machines) also affected the level of fortress architecture, being in Central Asian armies at a high level. Military art of Central Asia had developed over half a millennium and was associated with the flourishing of the slave system, the formation of large state-owned entities and major military operations. [37] The development of this architecture could be seen in Bactrian cities where existed a whole system of fortifications of powerful structures, dating its development to the Bronze Age [29]. The walls of Achaemenid times (Talashkan type) were designed "to repel the attacks of horsemen and infantry, but were not designed to the effect of battering rams" [38, 9 p], which appeared with the arrival of Alexander the Great. During that period, at the formation of new cities the main action was the construction of a bypass wall, its dimensions calculated considering the further growth of the city [39]. In scientific community there are different opinions about Hellenistic influence on the development of Central Asian fortifications [40]. The various periods of ancient Bactria - Greco-Bactrian (III-II centuries BC), Yuedzhiy-Kushan (I BC - I AD) and Great-Kushan (I-III centuries AD) had much in common, and differed in their features. In its gradual development it is possible to identify a specific system "with both Greek and local methods of fortification, and some new principles ... of military art of the era"[19, 45 p]. First of all, in an extensive program of urbanization, started in the East by the Greeks, "exclusively the qualities of the area were used" [41, 68 p], fitting to it the lines of city walls (Ai-Khanum). Such transformations were not characteristic of Khorezm, where "the former type of Pre-Hellenic fortification with internal devices" was maintained till II-III centuries [42, 68 p]. In Hellenistic-type cities (Ai-Khanum), built of local materials, monolithic walls were calculated to withstand the siege technique, and the defense was conducted from the top sites and parapets. The two-part structure and location of the main parts of Greek city of Ai-Khanum, according to E.V. Rtveladze, was repeated in Kampyrtepa of Hellenistic period. Walled fortress had two lines of defense - internal and external, and "the line of the walls repeated the pattern of local relief" [43, p. 14]. According to the scientist's opinion, it was the first outpost - a fortress, built during the campaign of Alexander the Great in Central Asia for the protection of main crossings and it was built "as it should be in Hellenistic architecture, in the traditions of Greek fortifications and polyarchetics" [44, 5 p]. Ancient fortresses were surrounded by moats, the walls were flanked by towers (rectangular towers were characteristic of such settlements as Kukhne-Kala, Kum-Kala, Shahrinau, Uzundara) and loopholes. Towers with the walls without inside premises, had a parapet with loopholes. One could give an example of castles without towers, known not only in Bactria (Karabagtepa, Hayrabadtpepa), but also in Khorezm (Dzhanbaskala, Babish-Mullo). This archaic method "dates back to pre-Macedonian time, when in Bactrian environment the achievements of advanced Hellenistic polyarchetics were still unknown. Another feature of the fortresses was the presence of the plinth with a steep slope face (as in Hellenistic

cities), it precluded the possibility of enemy undermining. "This barrier wall, which in Greek fortification was called *protheizm*" stood against the rams strikes (Karabagtepa). Later on in Kushan period when the cities were designed for long-term defense, a certain system of fortified architecture was developed, "it involved the techniques of both Greek and local fortification and some new principles of defensive architecture". G.A. Pugachenkova noted the disadvantage that they were "allowed to carry out the defense only from the crests of the walls, presenting mostly an inert balk" because the walls of the fortresses at that time were incased into raw brick or pakhsa armor (walls of Gyaur-Kala, Emshitepa, Dalverznitepa). So, in Kushan period, the degree of fortification architecture achieved a high level, as "the creation of a strong fortification was obviously an important aspect of the political program of Kushan rulers in subordinated cities" [20, p. 249], related to the increase of internal contradictions. The walls of ancient settlements such as Termez, Hayrabadtepa, Dalverzintepa, Khalchayan and others testified to it. As for the use of loopholes it should be noted that the loopholes of such settlements as Bactria, Parthia, Sogd, Khorezm, Margiana are similar in shape and structure, but different in location and the distance between them. The loopholes of rectangular and arrow shape (in Zartepa, Dalverzintepa, Kuhna-kala) were located on one level and it should be noted, that in Bactria "the number of loopholes have been reduced since greater emphasis was placed on the towers"[45, p. 49]. Strict distances between the towers were established in this region. According to Vitruvius, the distance between the towers should not exceed an arrow's flight [46]. In Bactria the distance between them was 16-34m (Zartepa - 34 m), in Khorezm 11-28m and in Parthia - 17-40 m. Thus, we can assume that the ancient fortification was constantly evolving with time on the basis of local factors (fighting techniques, weapons used, the role and importance of military function of a state) and introduced factors (in particular, Hellenistic), related to the formation of large state-owned entities and, accordingly, to major military operations "[37, p.42].

6. THE DEVELOPMENT OF CIVIL ARCHITECTURE

Within these powerful fortresses there went an active erection of both civil and religious architecture. On the territory of Northern Bactria residential houses were surveyed at the settlements Khalchayan, Khatyn-Rabat, Airtam, Dalverzintepa, Dilberjin and Zartepa [47]. Common in the planning structure of these houses was the presence of an *aivan* and a central room (surrounded by bypass corridor and other groups of rooms) – a living-room-mehmonhana. Another common feature was their volume-spatial composition - blind facades, isolated column-like *aivans*, surrounded by blind walls. Common in terms of architectural and decorative qualities was the use in residential houses of wooden columns, Corinthian capitals, beams, antefixes. The difference was in the size of the buildings and other premises. So, noted by G.A. Pugachenkova, typology of residential Bactrian house "*aivan - pronaos - naos* in a U-shaped by-pass by a corridor scheme" [48, p. 41] was used in monumental architecture, in particular, in the palaces. So, in the palace in Halchayan (I century AD), consisting of 10 rooms, a central group of 3 rooms was distinguished. It was a 6-column *avian* with wooden pillars, a central room, stretched along the transverse axis and a ritual room with two wooden columns. So, the planning structure of

the palaces dated back to Bactrian dwelling house. A similar tradition was characteristic for the Hellenistic palaces. For example, in Pergamum the palaces were similar to ordinary houses; they differed in size and splendor decorating, i.e. both types of structures were characterized by the same principles. It should be noted that the palace structures were built not only in Bactria (in Ai-Khanum, Saksanohur, Zartepa, Halchayan), but also on the territory of Khorezm (in Gyaur-kala, Toprak-kala) and Sogd (Yerkurgan). Later on, in the Middle Ages, the number of palaces, as administrative centers of high rank increased and the most studied of these are the palaces in Penjikent, Budzhikat, Kafir-kala, Varakhsha. Of course, at different historical periods of time the functions of the palaces were different. For example, in ancient times they presented complex (in planning and realized functions) structures that combined both residential, administrative and temple functions. Usually "there was no room for intimate family life of the ruler" [49, p.149], and numerous rooms were the places of the ruler's dynastic cult (Toprak-kala), cult centers (Kalalygyr, Kyuzeli-gyr) or insulated house chapels (in Bactria). For example, in palace sanctuaries and temples of ancient Khorezm there were found the altars and podiums for the fire. And if, for example, the type of palace, such as the High palace in Toprak-kala, had a sacred character, the North complex, built next to him, served as a residential palace [50] and such functional separation the researchers explain by traditional division of power in Khorezm on sacral-legal and military-administrative ones. In Erkurgan there were no living rooms in the palace and private life of the rulers of Erkurgan in III-V centuries passed in a vast court complex, the remains of which were found near the palace. To such structures refer the administrative palace in Ai-Khanum, combining in a single complex the main premise and state treasury, or palace-fort in Airtam, mainly serving as defense outpost. Later, in the Middle Ages, the palaces, whose numbers were increasing, served mainly as a residence of a ruler, and even became typologically similar to strengthened houses of aristocrats, i.e., compared to the previous period, there dominated the household functions, rather than religious ones.

7. SPECIFIC FEATURES OF PALACE CONSTRUCTION

The excavation of ancient palaces testify to the fact that they were erected not only in large and important megacities (e.g., in Ai-Khanum with the area of 170 hectares, the palace occupied 1/3 of its area), their vast area allowing their construction, but also in urban settlements (Khalchayan and Saksanohur - 5 hectares, Zartepa- 17 hectares, Kyuzeligyr- 25 hectares), etc. Presumably, one of the most ancient structures of this type was a palace in Kyuzeligyr (VI-V century BC), being the residence of local rulers [51]. 50 years later, at the end of Achaemenid era, when Khorezm stood out in a separate satrapy, Kalalygyr fortress was built on the upland of the left bank Khorezm (V-IV centuries BC) – a satrap residence of the area of almost 70 hectares, and, accordingly, a palace, its construction being suspended at the time of finishing works (Fig.7).



Fig.7. General appearance of palace

Several palatial structures were known in Bactria, one of which was built in Zartepa, the former center of Angora Irrigation District, part of Kushan state; in Saksanohur and Halchayan, "being a large residence of Geraevclan of Kushan" [20, p. 248], as well as in Ai-Khanum [52], which in the long run should have become an economic, administrative and cultural capital of North-East Bactria. In Sogd the largest city-community was Yerkurgan - the mother city of Karshi oasis. In the absence of a standard system, in planning structure of palace buildings in historical and cultural regions of Uzbekistan, as well as in Eastern-Hellenistic architecture the most typical element was the yard, as a necessary element of the southern house in perimeter by-pass of the premises [53]. Aivans with columns typical for Eastern Hellenistic architecture, presented in different options (Fig. 8), played an important role in palace buildings.



Fig.8. Interior of palace

For example, in the palace in Khalchayan, its planning mentioned above, six-column aivan, presses out on 2 sides by blind walls, faced the yard of front kurdoner type lined along the perimeter with columns. In the palace in Saksanohur 4-columned aivan portico of very slender proportions was located in the southern part of the courtyard on a single axis with the main hall. Among these palaces, the palace in Ai-Khanum differed in its scale, the facade of which was facing the yard with aivan majestic portico with three rows of Corinthian columns, leading to the great hall.

8. DECORATION OF THE PALACES

As noted above, the type of structures under review stood in the city over all the adjacent districts, "in its exemplary embodiments, it met the needs of wealthy classes, for whom the construction was carried out by highly professional architects" [28, p. 90]. The emotional power of these structures was achieved using large volumes with impressive integrity and conciseness. In design of the facades the lining of marlymarble-like limestone in the form of friezes, merlons (Khalchayan) and antefixes (Khalchayan and Ay-Khanum) was used. The ancient builders intentionally did not pay the external design of palaces as much attention as to their internal decoration. And the beauty of majestic buildings was hidden behind thick walls and disclosed within. In the interiors of ancient palaces there is observed a wide use of such forms of fine art, as painting and sculpture, subdominant to architecture. So, the palaces in ancient times were not so much civil as religious in their nature. Each of them was distinguished by its originality and testified to the active process of their construction, differing from other buildings in its monumentality, rational regularity, and to some extent in innovation. In the processes of construction an improvement of their stylistic development occurred, Toprak-kala being a shining example of. Their monumental appearance determined the look of ancient cities, towering above all the surrounding buildings, and being a critical component of the entire architectural composition.

Three-dimensional features of ancient monuments. Urban buildings had flat roofs, sometimes decorated with battlements, merlons and antefixes. The main volumes were built on a combination of simple monumental forms correlated to surrounding scale (Fig.9).

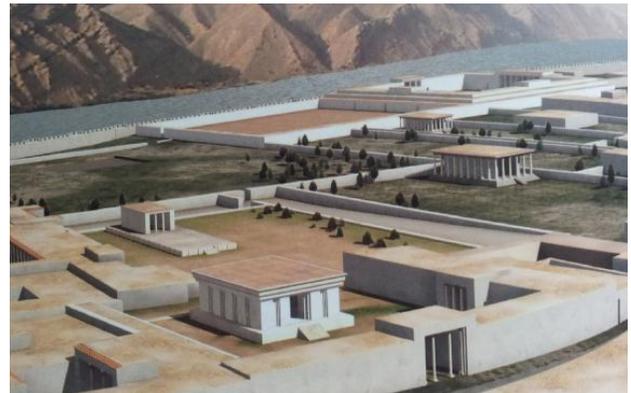


Fig.9. General appearance of ancient period

And there was a sharp contrast in three-dimensional composition of the facades and interiors: exteriors were correlated to urban scale, while interiors oriented to human scale, differed in color depth and plastic design of the walls, being the antithesis of the facades; here one could observe the process of submission of fine arts to monumental architecture when artistic means highlighted the compositional characteristics of a structure, such as, the main axis of the building, its scale, or when sculptural relief served as the final frieze of the wall. Among three-dimensional features of ancient monuments one could note a frontal nature of the structures, which was typical for the monuments of Greco-Bactrian, Early-Parthian and imperial period (the palaces of Ai-Khanum,

Khalchayan, the sanctuary in Surkh-Kotal). The use of this composition B.Ya.Stavisky has considered as Southern-Central-Asian feature. According to G.A.Pugachenkova "frontal development of spatial compositions in its origin was connected with the traditions of popular house, being a characteristic feature of Northern-Bactrian architecture" [20, p. 143]. This so-called avian-column composition peculiar to residential houses of Uzbeks and Tajiks in Baysun and Ghissar mountain systems and developed in the structures of the palaces testifies to specific features of local architecture. Along with functional and structural features of the structures, not less important in architecture is an artistic image of the monument, its notional meaning. The fact that many of the architectural forms in ancient times carried a special meaning was dictated by the requirements of religious and cultural traditions, which "demanded a strictly fixed architectural volume for the buildings of special purpose, entailing a certain chain of associations" [56, p. 43]. Through simple, as seemed at the first glance, external geometrical volumes of buildings and structures, an architect-painter accomplished ideological understanding of the form. For example, in the architectural composition of Toprak-kala (Khorezm) vertical divisions of volumes are distinguished in the foreground –the towers of the blocks of houses, the ruler's castle, the walls of the fortress. These massive elements, which S.P.Tolstov associated with the forms of classical East, were aimed to psychologically suppress human beings.

9. THE SYNTHESIS OF THE ARTS

The main features of ancient art were harmony and proportionality, a sense of proportion and tact was manifested in everything, for example, in the synthesis of the arts (Fig.10).



Fig.10. Interior of palace

The main types of so-called small arts were sculpture and multicolored wall paintings, subordinate to architecture. However, it should be noted that the use of Fine Arts was limited - "only in key elements of volume and spatial compositions of the building" [54, p. 43]. For example, the placement of a sculpture was subordinated to the division of architectural surfaces and strict rhythm. To decorate the walls, depending on the purpose of the building the projecting cornices, grilles, special facing plates, stucco garlands were used. The main place of use of small arts was an interior (Toprak-kala, Khalchayan) while an exterior was built in a combination of simple monumental volumes correlated to surrounding scale, without any elements (except antefixes,

merlons, etc.). Relief had dominated in the sculpture, as well as bas-relief, high relief (Ayrtam frieze, the palace in Toprak-kala), or in the form of round sculpture (with rough rear side), depending on the location of the sculpture in the overall composition of certain structures, master's experience and belonging to different art school. But no matter in what manner was realized this or that sculpture, it was designed not for round viewing, but for frontal display (frontal composition was typical not only for a sculpture, but for architecture as well). Therefore, in around sculpture (Khalchayan) the head has been fully accomplished, and the shoulders and the chest - in a three-quarter relief, the torso - in bas-relief, and the rear part was roughly processed. The gradual increase in volume - was an Asian technique in sculptural compositions typical for early antique period, whereas in subsequent time such differences did not exist. This method was designed to create the best visual effect, "correcting visual displacements caused by high location of the sculpture in the narrow hall interior" [55, p.105]. However, initially, in Hellenistic period, the sculpture was done in full size, often exceeding the human scale (in Square Hall of Nisa, in the temple of Ai-Khanum, in Surkh-Kotal). The scale of a sculpture emphasized the position of depicted image in the hierarchy. Hellenistic traditions of erecting the statues of kings "were transformed over the time into the objects of worship and were placed in sanctuaries" [56, p. 15]. In Bactria the temples of Hellenic gods with probably Greek deities (Dioscurus Temple in Dilberdjin) existed and were used for a long time, attended by local descendants of Greek colonists and Hellenized part of native population. Central Asian architects of ancient period, perceiving the space as an integrity, set special locations on the walls of buildings for round sculptures: decorative niche (spiral form in the "Hall of Warriors" in Toprak-kala), arches of different shapes (barrel vault or pointed upwards), small rectangular "shelves" (in the "Hall of victories" in Toprak-kala), peribola niches (Surkh-Kotal). However, it should be noted that "round sculptures, especially ones of large forms had not such a strong roots in Central Asia" [57, p. 231], as monumental painting, observed even before Hellenistic conquest. According to Khares Mitilensky, a historian of Alexander the Great, monumental paintings adorn the walls of temples and palaces, as well as the homes of barbarians. The oldest examples of paintings are related to the Neolithic times of VI BC (paintings in Pesedzhiktepa), and later in Khorezm, Sogd, Bactria, Parthia; every town having its own art school. According to E.V.Rtveladze, "monumental wall-painting probably was the part of interior decor of the buildings of religious and secular purpose" [58, p.97] and in its ideological content it was secular (the Palace in Halchayan, Dalverzintepa) and religious (Fayaztepa, Karatepa, the temple of Nana goddess in Dalverzintepa). Religious art was Buddhist or Bactrian in character. Linear manner, gravitating to graphic art, painted pictures and broad bold lines and originality were typical for the paintings. Panels (the Hall in Halchayan) and votive niches (rooms of residential house in Dalverzintepa) were painted with ornaments by the masters. The patterns were not repeated, and even in one monument each type of them was applied only on one wall. The painting was thematic (secular and religious-mythological in character), and ornamental. Pictorial panels were located on the main walls and in niches (the Temple in Erkurgan), on the columns, and the subject of the composition was chosen depending on the location. In some monuments the painting was limited to a solid wall

coloring (mihmanhana of residential house in Khatyn-Rabat, the temple in New Nisa), without any decorative elements. However, depending on the light there was used a polychrome (in ground yards) and monochrome (in cave corridors) picture compositions (in Kara-Tepa). Monochrome painting could be placed frieze-like (in Kara-Tepa on the wall of a narrow corridor bypass), "forcing the viewer "to read" it gradually as he moved along the wall.

CONCLUSION

Thus, the architecture of Uzbekistan in ancient period was a complex and unique phenomenon, its formation caused, first of all, by the continuity of traditions going back to the Bronze Age. Later, with further development related to irrigation improvement, urban planning and development of fortress architecture, building materials and structures, there occurred a gradual (in ascending order) development of architecture in the region. This process was influenced also by close cultural contacts with peoples from other regions of Central Asia (Persians, Greeks and others), resulting in manifestation of a variety of foreign traditions in the construction of ancient monuments. It could be said that the architecture of Uzbekistan in ancient period presented a difficult and peculiar symbiosis, based on local traditions, other than Iranian, Indian and Greco-Roman ones, as evidenced by the monuments of pre-ancient Bactrian civilization - Kizyltepa, Bandykhan, Talashkan with certain techniques of local town planning, fortification, techniques of architectural composition. In ancient times, these traditions have been continued and developed to have a higher and updated level, neatly superimposed by Greek (Hellenism contributed to the Bactrian architecture the idea of the Order), Indian (from India came the typology of Buddhist structures), Mesopotamian traditions, and traditions of nomadic tribes, as Central Asia "was one of the places where ancient Oriental despotic states and the world of Eurasian cattle-breeding tribes came to a direct contact with each other" [59, p. 13]. As C. Nylander rightly noted, "the art is not the amount of borrowing, but rather what ultimately came of it, what has created something more important than a simple combination of elements borrowed" [60, p. 144]. The most important thing is that these traditions have been creatively processed in the local land, took on a different character, adapted to these conditions and climate. All this was the main basis for the development of ancient cities of Uzbekistan. This problem is under investigation and with the accumulation of new scientific data, the topic under consideration would be expanded and generalized.

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