Protection and preservation of monuments in the Central Asian region

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ABSTRACT

The paper describes the design solution of historical monuments of Central Asian. The main building materials used in the construction of monuments. Also considered ancient ways of basis of architectural monuments on the example of Babaji Khatun Mausoleum.

Keywords: mausoleums, building materials, heritage, basis, brick, construction

1. INTRODUCTION

In the historic cities of the Central Asian region, the architects have paid great attention to the protection of architectural monuments from various man-made disasters (earthquakes, the effect of salt groundwater, the use of building materials.). During the construction of buildings and structures of mud brick (pasha) or fired brick architect chose material and waited for his willingness to use.

2 SAMANID MAUSOLEUM

Clay for the construction of the pahsa wall for three days watered and trampled to availability and only after this wizard - pahsovschiki put a wall (for pahsa were separate master, nor for all the work was entrusted, as after laying pahsa needed special crimping wall shovel).

During construction of buildings of burnt brick architect himself checked brickmaker wizard, the wizard who made bricks in shape and burned it. After laying bricks up to 1 meter for six months tested it with the strength, that is, on the bricks should not be raids salt, cracking, swelling, only then proceed to the construction of buildings and structures (Pardaeva, 1983).

Construction of mausoleums in the early days of non-durable material - raw - has led to the disappearance of the earliest of them. First, extant, funerary monument was built at the turn of the IX-X centuries, of brick - it's a great in architectural and artistic Samanids Mausoleum in Bukhara and many other outstanding monuments of the Central Asian region: the Arab-ata in Tim; Aisha Bibi (X century) and Babaji Khatun (IX century), mausoleums Zhoshy Khan and Alash Khan (near Zhezkazgan) relating to the thirteenth century; Zhuban Ana, Kaip-ata, Maule-Berdy in valleys of rivers Sarysu and Kengir; Kara Khan mausoleum in Taraz and others.

In the development of brick architecture of Central Asia IX- X centuries a number of other mausoleums: Mir-Sayde Bahram in Kerme (end of X century.) Alamberdar in Turkmenistan and Ak-Astana-baba on Surkhan-Darya (the beginning of the XI century), which is a direct continuation of the architecture of Bukhara Samanids mausoleum; mausoleum in Kerme draws damped line of development, the mausoleum Alamberdar - its special branch, spin-off from the main trunk.

Samanid Mausoleum is the oldest monument of Islamic architecture in Central Asia, as well as the only surviving architectural monument of the reign of the Samanid dynasty. It belongs to the type of building, which is known as a Zoroastrian fire temple (Fig.1). Samanid Mausoleum, is the pearl of Central Asian architecture, which according to legend, was built by Ismail Samani, the founder of the Samanid state, for his father Ahmad ibn al-Assad. Later - the family tomb Samanid: it was buried, and Ismail himself, and then, according to the inscriptions above the entrance, the grandson Ismail.

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3 MAUSOLEUM OF ARAB-ATA

In the small village of Tim, about 100 km to south of Navoi, you can see the mausoleum of Arab-Ata (Fig.2). Mausoleum of Arab-ata in Tim (977-978 yy.) - Finally establishes an appearance in Maurya in the "age of the Samanids" monument to the development of portal-dome architecture.

The tomb is one of the oldest and most important of architectural prototypes in the region: "The tomb is known as the earliest surviving in Central Asia sample domed tomb with a monumental portal ... and has influenced the construction of a whole generation of local mausoleums." The monument is a small square room (8x8,7 m) surmounted by a dome. Violation square shape obtained by the development of the main facade forming a rectangular portal in terms of area (3x1,05 m). Inside the mausoleum is located covered repair coating large tombstone. Construction material served burnt brick 23x23x4 cm. Inlaid with usage of ganch solution.

4 COMPLEX OF SULTAN SAADAT

Another example of the mausoleums from fired brick square in plan - mausoleums in the complex of Sultan Saadat near Termez. The architectural ensemble of Sultan-Saadat is located on the outskirts of the city of Termez, in the center of Surkhandarya region of Uzbekistan (Fig.3). The memorial complex is composed of representatives of the dynasty tombs Termez Seyids, considered direct descendants of the Prophet Muhammad.

The architectural ensemble of the complex formed during XI - XVII centuries and includes a variety of memorials and places of worship. Despite the different times of construction, all the buildings have similar stylistic design. The facades are decorated with figural burnt brick masonry, and also serve as material for the supporting structure. In the XV century arch entrance portal was faced with majolica tiles. One of them (northern) dates back to the third quarter of the XI century, the other (southern) built later (end of XI - the beginning of the XII century). In the northern mausoleum transition from a cubic base of the dome was done with the help of the arches of the octagon and sails, laid in a herringbone brick, which is typical for receptions architects southern regions of Central Asia (especially Tokharistan and Khorasan).
small arches, too, with curly laying out of brick. In the interior and on the north facade of the building three-part alternating large and small decorative niches - a technique which has become typical for other monuments of this era.

Mausoleums, as a rule, do not repeat each other, although some techniques used repeatedly. So, curly layout angular columns held in a large series of monuments in Central Asia since the Samanid mausoleum. Their further evolution observed in Maurya (mausoleum Arab-ata, X century), And in Khorasan (mausoleum Alembarda beginning of XI century), the mosque in Dahistane XII-XIII centuries. Underdeveloped portal is also undergoing a long evolution. One of the first links in the chain shackled Maurya builders mausoleum Arab-ata in Tim. Then followed: in one direction by application of a mausoleum Khudai Nazar Ovliya (XII century) in Turkmenistan, in the other - the mausoleum Uzgenta (XII century) in Kyrgyzstan.

All major architectural and artistic design elements "connects the wood (from Arche) bonds (reinforcement) laid in a clutch every 60-80 cm in height" (Basenov, 1950). It is easy to notice that the architect, taking zabutochny technique of wall construction, went to a certain risk, probably not find other ways to attach to the wall of tiles. Architectural and artistic quality of the mausoleum of Aisha-Bibi all researchers rated as "one of the exclusive on the territory of Central Asia and Kazakhstan." Judging by half survivor facade, as well as the scheme of the restored image, made by M.S.Bulatov (1976), the architecture of the mausoleum developed an outstanding master, who was a master of all the basic techniques of architectural composition, namely the question of proportioning and harmonization of parts and the whole, tectonics, scale et al.

Babaji Khatun Mausoleum - one of the most famous "long-lived" an active seismic zone of Kazakhstan, it has been possible due to the mausoleum provided a sufficiently broad anti-seismic measures. As a building material used only solution gunch and clay, which gave rise to the special design of foundations on clay pillows, and finally a kind of zone in the basement of the walls " (Bachinskiy, 1949). Therefore, the thickness of the bed joints in the masonry was significant and" up to 30% of its volume. Even in such important parts of the structures, as bearing vaults, arches and domes, old masters never recorded on the wedge and used only the stucco mortar. Wormed brick castle even in parts of these structures - a relatively rare phenomenon. "Clay cushion foundation, which had almost all of monumental buildings, prepared by filling the pit for
the future construction of 60-80 cm solid mass - crude pottery clay (applies also sand cushion). In the basement part, at least in the lower ranks, masonry was carried out also with clay mortar and masonry on the top row, on a layer of mortar laid in a "reed bags or belt" 8-10 cm thick. in addition, the architects used the old and others, design, which always favored because of the reliability under the constant threat of earthquakes. Here, in the first place, it should be noted lancet arches arches and vaults, with these contours of the castle never falls during earthquakes, as in semicircular form, and the arch, has undergone even failure - have toe in the middle of the curve and in the joint part - starts to work as a kind of hinge system. As for the dome-shaped roof, they all can be considered earthquake-proof.

7 CONCLUSIONS

First of all, it should be noted that the architecture of the Central Asian region, "the absence of plaster and wall coverings in the XI century. Led to the exclusive care of masonry." The primary means of artistic expression was "ornamental masonry, which was carried out with a relief sometimes generated cut on the face of the brick geometric (diamonds, rings, parallelograms et al.) Or arbitrary curved shapes" (Basenov, 1957).

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Fig. 6. Karahan mausoleum of XI century

6 KARAHAN MAUSOLEUM

Karahan mausoleum in Taraz located within the commercial and handicraft settlement suburb of Taraz, was built in the XI century over the grave of one of the rulers of the dynasty Karakhanids, whose influence extends to almost the whole of Central Asia. The mausoleum is a portal-domed structure, consisting of a central hall and three small corner room (Fig.6). The fourth corner of the mausoleum busy staircase leading to the roof of the building. The exterior walls of the mausoleum built of modern bricks, and inside of brick Karahanid time step tombstone also remained intact.