THE LAWS OF HARMONIZATION IN ARCHITECTURE ACCORDING TO THE THEORY OF M. S. BULATOV

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Annotation
This article discusses the laws of harmonization, composition, as well as the design theory of Medieval Islamic architecture. On the example of Khanak Ahmed Yassavi, the canons of geometric harmonization compiled by M. S. Bulatov are studied.

Keywords: Islam, Qur'an, mosque, madrasa, khanaqa

Introduction

There are three equal and integral aspects of architecture, consisting of function, construction and aesthetics. The perfection of asam, which is the product of any artistic creation,levels are manifested, first of all, by composition. The word "composition" means "integrity", "unity", "interdependence". Adjectives that make up the connection of the part with the whole form the composition. In general, the structure of the work makes up its composition. The more thorough the structure, composition of the work, the higher its level. Any architectural or urban asa steering composition consists of a point, line, surface, volume and spatial environment - space.

Research Results

Mass is the norm of the ratio between two things that are accepted to regulate the scale. The ratio of the building with the project; indicates how many times the building to be built in the project is drawn. For example, 1:50, 1:100, 1:200, 1:500 like. There is also the term massiveness, which is also used in architecture for the artistic characterization of building grandeur. Often in this place is a huge building scale the person is compared in the manner of proportion to his size. In the Uzbek architecture, a number of fine lines are observed in the form of a monogamous, which determines the scale. Skill is formed due to the mayts in the shrine of the oynids (X century), the Ulugminor (1127 - th year). The meter (Russian-merilo) was of great importance in architecture. In primitive times, when man began to build shelter for himself, the need for measurement arose. The oldest of the measurements is defined in relation to the size of the personuss, with a slender figure. Anthropometry in science (anthropos - man) studied this area. Units of measurement, such as the hips, elbows, abdomen, fingers (elik), mushututam, step, are defined by each person, each architect in relation to his body members. Therefore, it is difficult to find a single unit of measurement even from ancient

buildings. In sources related to the history of the Middle Asia, as a unit of measurement, we often meet such names as Zira, gas, arshin.

Scientists estimate that these measurements ranged from 45 cm to 120 cm. In a special decree of Amir Temur (1336-1405), the base of the mausoleum of Ahmad Yassavi, the khanaqah, was defined as 30 gases. This means that 1 gas was equal to 60.6 cm at that time. Ancient manuscripts include the names "Shah Gazi", "Short Gas" - "Muqassar Gas", "Iron Gas".

The units of measurement established by Babur in India are almost indistinguishable from the measurement traditions that existed in the Central Asian regions at that time rather, there is a sense of interdependence. Most of the terms are Turkish (such as kadam, qari, tutam, elik-ilik). When Babur described the Amir Temur Mosque in Samarkand, he referred *"andoq ulug' xat bila bitibturlarkim, bir kuruh yovuq erdin o lqusa bo'lur"* (Boburnoma, 1950, p. 105) to the Qur'anic words in the book on the roof of the mosque's main khanaqah .This means that the inscriptions can be read from a distance of 4,000 steps (about 2.5-3.0 km)

One of the surviving architectural designs of the 16th century by Bukhara architects (such as a madrasa, a mosque) is known to be the history of the building

finely drawn on a level consisting of the same cells. An architect in this way

set the shape and size of the building to your liking capable of. For future buildings through small cages the number of necessary construction materials (mainly bricks and mortar) has been determined.

Gas measurement is widely used among Uzbek architects. Normal size the stick was a constant companion of the architect. The term fabric is also used because of the use of gauze to measure fabrics preserved so far. A module is a unit of measurement widely used in past and present architecture. Through the module, the architect ensured the harmony of the parts of the building in the architecture of the ancient world. In ancient times, because a single dimension was not yet established, often each architect built a building with his own individual dimensions (such as elbows, elbows, elbows). Therefore, in ancient architecture, two length module does not occur. In Central Asian architecture, gas, semi-gas, and gas are used as modules.

Comparison in Ahmad Yassavi's xanako

This architectural complex consists of a mausoleum, a mosque, a khudra, a kitchen, a well and a large room. Dedicated to the famous Islamic sage Hoja Ahmad Yassavi. The Yassavi complex was the center of Islamic propaganda and spread. Like all Timurid buildings, it is distinguished by its majesty and perfection of design. But the volumetric solution is soda. It is an elongated parallelepiped, with 2 portals and a dome from an elongated axis. The first one is big (on top of the church) and the second one is small (on top of the tomb).

A lot of literature has been dedicated to Hodja Ahmad Yassavi's khanaqah in recent times. Including Zasypkin B.N. "Architecture of Central Asia" (89-92str), Masson M.E. «On the

construction of the mausoleum of Khodja Akhmada in the city of Turkestan, -« Izvestiya Sredne-Aziatskogo geograficheskogo obshchestva »(39-45 pages), Mendikulov M.M. Some historical data about historical architecture of Kazakhstan - «Izvestiya AN Kaz SSR», series architecture, issue 2, 1950 (15str)

During a recent renovation, L.Yu. Mankovskaya's scientific research was born. It is based on questions of architectural structure, geometric proportions, side and diagonal of the square. The module is adapted to the gas of the Timur period. Mankovskaya L.Yu. "On the study of the Central Asian zodiacs of the XIV century" Art of the zodiac of Uzbekistan "Tashkent .1962. “L.Yu. Mankovskaya's research did not see the proportions of a number of rooms in the Yassavi Hotel, including the library, the halimkhana, the mosque, the mansion, and the large Oqsaroy. Also, the height and width are not the same as the original size. ” (Bulatov MS "Geometric harmonization in architecture of Central Asia IX-XV centuries", p. 138)

The history of this khanaqah dates back to Mecca 32^0 to the south-west. The mosque is on the west side of the tomb and the Sufi chambers are on the east side. To the left of the entrance is a library and a kitchen. There is a well to the right of the entrance. This khanaqah also structurally replicates Hagia Sophia. Both parts of the building are divided into three parts by walls - the stairs leading to the roof. In this khanaqah, the pilgrims performed the religious "right path". In the Yassavi khanaqah, the dhikr was brought forward. From it, the Sufis climbed to the roof and performed their religious rites, both towards the samakhana and towards the khanaqah. Thus, the previously closed khanaqah became the center of the state community.

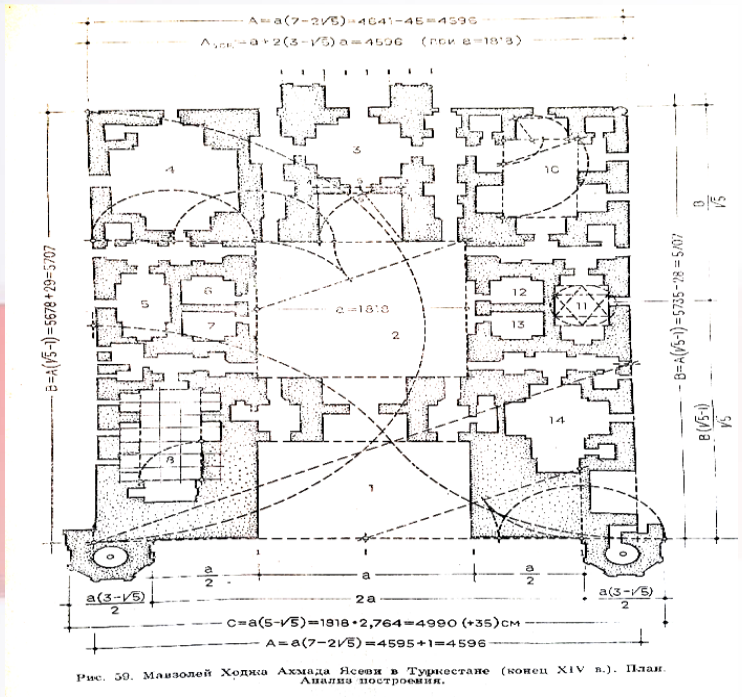

Рис. 50. Мавзолей Ходжа Ахмада Ясеви в Туркестане (конец XIV в.). План. Анализ построения.

Bulatov M.S. «Geometric hormonal harmonization in the architecture of Central Asia IX-XV centuries.» (139 pages).

Conclusion.

According to the research of Bulatov M.S., the dimensions of the history of the khanaqah were found by mathematical methods.For example, the history of the khanaqah (excluding bouquets) has the following dimensions: width A = 4641 cm, B = 5735 cm. The length (B) is equal to the doubling of the ratio of the middle and extreme limits of the width (A). $B = A(\sqrt{5} - 1) = 4641 \times 1{,}236 = 5736$ *The height (H) of a building is half that of a large part of its width, excluding the unstructured roof.* $H = \frac{(\sqrt{5}-1)\times A}{4}$ *, or is equal to ¼ of the length of the building in history.*

Literature and collections:

1.Булатов М.С. Геометрическая гармонизация в архитектуре Средней Азии.-Москва:Изд-во «Наука»,1988.-67
2. Berchem, M. Van. L'architecture musulmane de la Perse //Journal des savants. 1911, Fevrier. P. 54-69
3.Бартольд В.В. Культура мусульманства.-Москва: Издательство «Леном»,1998.-9
4.Hamilton, R.W. Keppel Archibald Cameron Creswell//Muqamas VIII. 1991. P. 128-136. P. 128
5. Syed Mahmud-ul-Hasan. Glimpses of Muslim art and architecture. Dhaka: Islamic Foundation, 1983. P.37-72.