

Theoretical Foundations of Central Asian Medieval Architecture

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Abstract: The article discusses the architectural art of Central Asia in the Middle Ages. It analyzes the construction rules that scholars who lived in the Middle Ages described in relation to the architectural art of that period.

Keywords: Central Asia, architecture, rules, soil layer, land area, building base, proportion, harmony, ventilation.



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The architecture of the Middle Ages of Central Asia had significant achievements. Until the middle of the 20th century, works on the science of architecture were unknown to science. This raised the question of whether the art of architecture of Central Asia had a theoretical basis in the past or not. Most Western scholars, seeking an answer to this question, came to the conclusion that the architecture of not only Central Asia, but also the countries of the Middle East did not have a theoretical basis [4. -23 b].

This is due to the fact that after the 1960s, the works of medieval Eastern scholars were studied and the above unfounded opinion was eliminated. Below we will see one of the main sources.

Among the encyclopedic works studied later in the 1960s, the work “Matla ul-ulum wa majma ul-funun” (“The Origin of Science and the Collection of Technical Knowledge”) by Wajid Ali, a senior official from the 15th century and a descendant of nobles, is of great importance. The following 14-article rules for building a building are given in the section on the art of architects in chapter 31 of the book [2.- 42 b]:

1. **Choosing a place for construction** (Article 1). The soil should be dense and hard, but not sandy or loose.
2. **Land area** (Articles 4, 10). The land area must be rectilinear. If the land area on which the house is to be built is triangular, the building should be located so that the courtyard takes the shape of a right angle. The triangular rhombus and parallelogram shapes look ugly and are not in good taste. By eliminating the inappropriate parts, a square, rectangular, hexagonal or octagonal courtyard can be obtained.
3. **Foundation** (Article 2). The width and depth of the foundation of a building should be appropriate to its size. If the building is one-story and not very large, the width of the foundation should be 1 or 1.5 gas, and the depth should be appropriate. If it is planned to raise

the height of the building to 2 or 3 floors, its foundation should be considered appropriate. In this case, the bricks should be laid in such a way that all cases of water entering the foundation of the building are excluded.

4. **The pediment of the building** (Article 13). The pediment of the building should be high. Then the building will have a luxurious and majestic appearance.
5. **About walls** (Articles 8-9). The width of the wall of the building is less than the width of the foundation. If the wall thickness remains the same until the end of the first floor, the thickness of the walls of the second floor is reduced slightly compared to the wall on the lower floor. In this case, the method of reducing the wall thickness increases as you go up to the next floor. The corners of the wall should be connected in such a way that the traces formed by the joints of the bricks are not visible (Figure 1).
6. **Roofing** (Articles 7-14). The number of beams in the ceiling of the building should be odd, as an even number is considered bad luck. The roof of the building should be strong and waterproof.
7. **Building plan and proportions** (Articles 3-5-6-12). The height of the room should be in proportion to its width. For example, if the width of a corridor or a closed road is 4 gas, the height of its dome or side should be greater. Otherwise, disproportion will arise and the appearance of the building will have a bad impression. Regardless of the direction in which the room faces, its height should be wider than its width. The outer gate of the building should be located in the courtyard -



Figure 1.

It should be built on a wall parallel to the length of the building, and the front of the gate should not face south, as this is believed to prevent misfortune. Gates on closed roads should be made wide and high. The main gate built to enter the building should be made wide and high compared to the inner doors, because the value of the building is mainly reflected in the beauty and grandeur of the outer gate. A low gate leaves an extremely bad impression.

8. **Ventilation** (Article 1). The interior of the room should be made so that air can freely enter and exit. Violating this most important quality of the room leads to the exchange of various vapors, creating steamy air that causes various diseases, etc.

The above indicates that in the past, before constructing a building, it was coordinated and harmonized with the surrounding environment and the site where it was being built, and then calculations were carried out.

The famous Eastern encyclopedist and engineer Yaqub ibn Ishaq al-Kindi (801-866) wrote a special work on harmony, which he called "The Great Book on Harmony." Al-Kindi, explaining harmony, explains that it " consists in the study of relationships and the conversion of one number into another, and the distinction between proportion and disproportion" [7. -97 b].

The famous Eastern philosopher Abu Nasr al-Farabi's book "The Book of Spiritually Beautiful Methods and Natural Secrets of the Elegance of Geometric Forms" written in the 10th century aroused great interest among architects. In it, al-Farabi revealed the creative research on the best proportions, the secrets of beauty associated with the artistic harmony of works of art, which he considered in beautiful proportions. Scholars who translated this work of al-Farabi into Russian noted that this work almost completely corresponds to the book "On What Craftsmen Need from Artistic Crafts" by Abul Wafa Buzjani, written after al-Farabi. This book consists of an introduction and ten chapters, which contain information about geometric forms and methods of their construction, as well as the structural construction of seven angles, the construction of polygons according to a given side of the form and other parameters; constructions based on drawing equilateral triangles, squares, five, six, seven, nine and twelve angles inside a circle, as well as other necessary information on geometric construction are presented. Al-Farabi writes in his treatise "On the Views of the Residents of a Virtuous City" that "it is necessary to compare both the city and the house to the human figure" [3.- 34 b]. With this, the scientist dreams of a Virtuous City being built in a way that is harmonious and appropriate to the purely human figure. In his opinion, "beauty and utility cannot be separated from each other, and their combination leads to harmony. [3.- 35 b].

In conclusion, it is necessary to note that the architecture of Central Asia in the Middle Ages and the construction of historical monuments that have survived to our time had its own deep theoretical foundations, and this theoretical knowledge has reached us in the works written down by medieval teachers. In the study of these works, our contemporary architects, scientists, such as MSBulatov, GAPugachenkova, P.Sh. Zoxidov, MKAkhmedov and AS Uralov, have made a great contribution.

List of used literature

Social and humanitarian literature, State laws and decrees

1. Law of the Republic of Uzbekistan on the protection and use of cultural heritage objects. - T., 2003.
Historical written sources
2. Vajid Ali. The Origin of Science and a Collection of Technical Knowledge. (In Persian).- Isfahan, 2001.
3. Farabi Abu Nasr. The city of virtuous people. - Tashkent, 1993.
Special publications
4. Akhmedov MK If there is proportion in architecture. – Soviet Uzbekistan Art, No. 8, 1979.
5. Norkulov N. The city of Bobokolonlar. – Science and Life, No. 9, 1990.

- Pugachenkova GA Sredneaziatskie sad y.// V book "Socrovi shch nis y Srednego Vostoka ".- Moscow, 1996.
6. Uralov A. Harmonization and decoration of architectural forms. – Samakand, 2005.
 7. Uzbek National Encyclopedia. –T.9.-T., 2005.
 8. Uzbek National Encyclopedia. – T.10.-T., 2006.