The role of Islam in the development of the architecture of mosques

Introduction

Muslim architecture is the richest cultural heritage of previous eras, with the inclusion of aesthetic concepts of various peoples. Religious buildings have always differed from the ordinary buildings surrounding them in size, architectural, planning and space-spatial solutions, as well as the rich decor of facades and interiors. In recent years, interest in modern cult architecture in general and in mosque architecture have significantly increased. One of the most important reasons for this interest is the absence of rigid typological norms, the functional logic and, consequently, the ability of the mosque to transform its architectural shell. Mosques built in the early years of Islam had a simple form and more resembled the House of the Prophet. Subsequently, Islam spread within a short period, and the Arabs skillfully exploited the architectural traditions of their conquered countries. The architecture of every region of the Islamic world — Azerbaijan, Turkey, Iran, Saudi Arabia, Syria, Egypt had its peculiarities. As in other captured states, in Azerbaijan, the Arabs did not revolutionize the art of construction, therefore, based on traditional methods, construction developed and improved existing structural and compositional solutions. The main types of pre-Islamic religious architecture in northern Azerbaijan were basilicas and domed temples. Certainly, the structural and compositional techniques developed within the framework of these architectural types, developed within the framework of these types, were to become the basis for the formation of a new theme in the architecture of the Muslim Mosque. The architectural and planning character of the ancient mosques of Azerbaijan is influenced by fire worship and Christian temples. But over time, the construction of mosques underwent a serious process of evolution and turned into a peculiar and stable architectural type.

The construction of mosques and other religious buildings was originally based on regional traditions. The types of Islamic architecture were formed both based on active assimilation of the experience of previous eras and cultures, and through the establishment of the Muslim religion, ideology, moral norms, and aesthetic ideas [1].
Materials and methods
As a methodological basis, preference was given to historical, cultural, historical, artistic, and historical-architectural approaches. During the research, a complex method was used, the material was comprehensively analyzed, the history, style and typological features of religious architectural monuments were studied.

We can say that Islamic architecture during its ascent developed a kind of compositional scheme characterized by a specific characteristic of architectural masses, which formed the basis of the spatial solution of most religious buildings of Azerbaijan [2].

We are witnessing comprehensive scientific research on Islamic religious monuments, which are examples of religious architecture located on the territory of Azerbaijan, as well as in Absheron. Examples of the Absheron school of architecture are given in the article by Dj. Gıyas «Monuments of Absheron». The source contains scientific information about the existence of cult architectural monuments. According to Dj. Gıyas, at the initial stage of the development of Islamic architecture of the 7th — 8th centuries, it is impossible to give extensive information about religious buildings due to lack of material. But the mosques of the 11th — 13th centuries deserve, in his opinion, special attention due to development and sustainability.

Studying the history of Islamic religious architecture, we witness the tendency of mosques to transform. Even the shape of the seemingly unchangeable elements — the mihrab, the minaret and the altar — is modified by architects, sometimes the idea of the possibility of doing without them at all is put forward. According to many modern architects, there is no concept of the modern mosque or church architecture, as these are all part of the global culture of our time. Therefore, architects and designers are responsible for organizing an environment that will meet the requirements of modern architecture and the mission underlying religious tenets.

Attention should be paid to the peculiarity of the architectural tradition of the construction of Islamic religious buildings. On the one hand, there are unified, universal Islamic approaches to the design and construction of various buildings: mosques, mausoleums, madrasas, khanaka [3]. On the other hand, these generally accepted techniques for Islam are superimposed by a local building tradition, which forms a local, peculiar architectural type, through which we can distinguish regional traditions of the construction of Muslim religious buildings. Among them, mosques occupy a leading place [4].

The architectural and artistic techniques currently used in the construction of mosques have evolved and improved throughout the history of Islam. The early religious buildings were simple and functional. In large mosques built in the south of Iran, the open courtyard was surrounded by columns bearing the roof [5]. On the side of the qibla, the sacred orientation of the Kaaba in Mecca, several rows of columns formed a canopy that served as a prayer hall. This type of religious building was spread in Arab countries and is called a column mosque [6]. The column mosque was the first Islamic architectural type and up to the 12th century the only kind of Muslim cathedral prayer building. However, this type of Muslim construction did not take place in the architecture of Iran, Transcaucasia, and Central Asia, where preference was given to centuries-old, own building traditions [7].

The Azerbaijan architecture of mosques is a unified scientific and theoretical system, common to all Muslim architecture, that unity manifests itself both in various areas of building art and in the artistic and aesthetic design of mosques. However, applying mosques from an architectural point of view, we see that in the Azerbaijan School of Architecture their main building materials differed from each other, and both the texture and colour diversity of these building materials led to the creation of beautiful colourful patterns of mosques. For example, although the main building material in the Shirvan School of Architecture is limestone, in Ganj, Sheki, Shusha and other regions we see their construction in brick. The construction of mosques played an important role in the creation and use of Kufi, holographic inscriptions, Nabatean patterns, and stalactites. The material used in their artistic and aesthetic design is distinguished by the richness of technical and, to a greater extent, aesthetic qualities. Moreover, the variety of facing materials has positively influenced the diversity and artistic value of architectural monuments of this type [2].

Rich in natural resources Azerbaijan with beautiful mountain landscapes, plains, rivers, hot climate, mineral resources have always attracted nomadic tribes and peoples. Numerous architectural monuments are clear evidence of the creativity of people in all periods of history. The predominance of some natural building materials over others in different parts of the country has influenced the development and dissemination of structural techniques and architectural forms. For example, in some regions stone architecture prevails with its characteristic architectural solutions and techniques, in others, there are monuments built of raw material and burnt brick.

It should be ranked as belonging to Muslim art — stalactites. Stalactites are an ornamental development, one of the main Muslim forms. The role of stalactites in the artistic and aesthetic design of Azerbaijani mosques is undeniable. Stalactites, used mainly for the artistic and aesthetic design of the entrances of architectural monuments, being sometimes constructive, sometimes acoustic, and decorative in nature. The architecture of Azerbaijan in the 10th — 13th centuries reflected the stability of artistic and construction trends, which determined the integrity of its development paths. Azerbaijani architects achieved the magnificence and monumentality of mosques, compositional techniques and decoration, while paying special attention to the complexity and decorativeness of architectural forms, where stalactite constructions and portal compositions became more voluminous [8].

From the point of view of architectural and planning solutions, the Juma mosque in Shamakhi (8th century) is of great interest (Illustration 1, 2, 3). This structure has a plan uncommon among the cult buildings of the Near East. The halls of this mosque have elongated proportions, arched floors of which are supported by two pillars. The three-part division of the mosque indicates the adaptation to the foundations of the new religion of local types of religious buildings, as most mosques in the Near East were of the hall, central-dome and ayvan type [9].

Ayvan types of mosques were found mainly in the south of Azerbaijan. An example is the Ardebel Juma Mosque built in the 9th century. The widespread of the Muslim religion in the country in the 7th — 9th centuries can be found out from the works of Arab authors, which refer to the presence of mosques in almost all cities of Azerbaijan. For example, Al-Istakhi in his work «The Book of Ways and Kingdoms» reports on the presence of a cathedral mosque in the city of Barda in the 10th century. Another author Al-Mukaddasi, who lived in the second half of the 10th century, notes the presence of mosques in cities both in the south (Ardabil, Marand, Urmia, Varson, Salmas) and in the north (Sharvan, Derbent, Gabala, Shakk) of the country [10].
True to the traditions of various architectural schools, the regions of Azerbaijan in terms of the number of monuments erected are inferior to Ichary Shahar with an area of 22 hectares. The Islamic temples of Ichary Shahar consisted of small quarterly and large mosques [11]. Generally, mosques in Baku were built on the foundations of old structures. Each district had its mosque, and neighbourhoods were often named after these mosques. Some mosques, whose construction history spans the 10th — 20th centuries, have preserved their original structures, while others have gone through various periods of reconstruction that we experience by elements of decor and composition. Several of them can be named: Guli Mosque (1308), Chinese Mosque (1375), Molla Ahmed Mosque (14th century), Sheikh Ibrahim Mosque (1415), Mirza Ahmed Mosque (1347), Lezgin Mosque (1169), Bibi Eibat Mosque, etc. Of special note is the Mosque of Muhammad, which arouses great interest among people for its mysterious remains [12]. The minaret of the mosque is in the coastal part of the Baku fortress and is popularly known as «Siniq Qala» (Broken fortress). This ancient monument, built in 1078–79 by the son of the master Muhammad Abu Bakr, resembles the donjons of the castle and watchtowers with its architectural appearance.

Moreover, each of the religious buildings of Ichary Shahar, which occupies a unique place in the planning structure of the city, reflects the characteristics of local architecture. The Ashura Mosque outside has the form of a simple prismatic system (Illustration 4). Upon closer consideration of the masonry system, it turns out that its upper part was later rebuilt [13]. The lower part of the walls of the mosque from more ancient masonry is masterfully made of relatively large and diverse stones. The double construction of one of the oldest mosques in Baku — the Ashura Mosque, the Muhammad Mosque and the Khidir mosque (1301), was built under the inclined relief of Ichary Shahar.

Along the mosques built in the historical cities of Azerbaijan (Gabala, Barda, Ganja, Beylagan, Nakhchivan, especially in Baku), there are also modern mosques reflecting our national religious traditions. So, at the turn of the 19th — 20th centuries, the Juma Mosque, the Bek Mosque, the Taza-Pir Mosque, the Gasim-Bek Mosque, the Al-Ittifak Mosque, the Haji Sultan Ali Mosque were built. Juma mosque built in a fortress in the Middle Ages was subsequently destroyed. Subsequently, in 1899, the restoration of the mosque began in several stages. Some researchers suggest that the Juma mosque arose even on the site of a temple of fire worshipers, which is evidenced by the fact that the mosque has a rather unusual
complex planning composition for such structures. Its core, that is, the oldest part, has a prayer hall, square on the plan, covered with a conical dome (Illustration 5–7). The mosque is supplemented by an adjacent minaret, built back in 1437 [8].

A fundamentally different type of state mosque was developed by architects of the Ottoman Empire [14]. By refusing both the column and ayvan type of the building, although both were absorbed by the cult architecture of Seljuk Anatolia in the 12th – 13th centuries, they turned to the experience of Byzantine temple architecture [16]. The central domed composition became the basis of the «Turkish type» mosque. The interior of the Turkish mosque does not develop horizontally, as in buildings of the column or ayvan type, but rushes up to a giant dome. Fascinating by its majestic, littered with streams of light, coloured with polychrome paintings, stained-glass windows, colourful panels and tiles, the interior of the Ottoman Mosque embodies, with extraordinary artistic strength, the Muslim idea of the unity and singularity of God and the beauty of the world he created [15].

The image of the Turkish mosque was by Le Corbusier clearly described: «A giant cube with small windows, from where four giant cheeks rise, forming a vaulted cover. Even higher space, the shape of which is difficult to grasp, because the beauty of the hemisphere is to deviate from the measure» [17]. The formation of a type of large hall mosque, the interior of which is covered by a central dome and preceded by a courtyard surrounded by galleries, is associated with the growth, and strengthening of the Ottoman state. The creation of the most illustrative, paradigmatic examples of the «great Ottoman Mosque» belonging to the architect Sinan falls on the «magnificent age» of Suleiman I. The domes of mosques, flanked by the needles of minarets with high conical completions, visualized the entry into the Empire of the cities of the Balkans, the Middle East, and North Africa [18].

Several factors predetermined the recognition and typical image of the Ottoman Mosque. First, it is the scale that transforms buildings into obvious urban dominants and allows for routes in building blocks from one dome surrounded by minarets to another [19]. Secondly, the already mentioned laconic «elementary geometry» of the composition of its volumes, which impressed Le Corbusier and reduced in most cases to a combination of rectangles and semicircles in plan and Platonic solids and hemispheres in space. Thirdly, the city-forming function of religious buildings — they serve as dominants not only high-rise but also planning, requiring the release of areas around them (often due to the reconstruction or destroying residential neighbourhoods), closing transport highways, becoming centres of old areas, or organizing new development around them.

The forms and compositions of architectural monuments in the Ottoman Empire in the 16th century were re-organized; this period is also considered the period of the architect Sinan [20]. It is known that in the Ottoman architecture of the 16th century, the role of the architect Sinan was exceptional. Thus, during his professional career, the main dome was expanded, the side spaces were brought to a convenient state, the number of elephant legs was brought to six and eight [21]. In construction projects, simplicity has come to the fore. The use of coloured stones in structures also began.

The first structure of the 16th century is the mausoleum of Shehzade Mehmed, located in Istanbul and built by the architect Sinan in 1547 in honour of the son of Sultan Suleiman Kanuni Shahzade Mehmed (Illustration 8). Inside, the octagonal, stately building is divided into two parts by a porcelain tombstone. At the top of this tombstone, a wide
plant composition is observed, intensively covering the walls. Below, in the parts remaining outside the two sides of the front door, another porcelain programming is highlighted under the same intense plant composition [22].

The purpose of the Ottoman religious architecture of the classical period is to create and place a central space under one main dome. Therefore, the main dome, detached from the walls, is located on the load-bearing system located inside the building. As a canopy inside the building, square, hexagonal, and octagonal schemes were created [23].

Today it is very difficult to understand the connection of such places as a mosque, madrasah, caravansaries, mausoleum, with each other. In the Bayazid Mosque, a large dome in the middle is supported by two semi-domes on two main axes. This plan was previously applied at Ayasophia in Istanbul. However, the concept of central space has already been applied here [20].

Mimar Sinan later used this layout in such a significant structure as the Suleimaniyah Mosque. Built in the 15th century, the courtyard with a fountain and portico appears before us as one of the standard elements of large mosques, starting from this period. In such courtyards, mainly, with the condition of a higher location of the place of the last meeting, porticoes on columns are located. Attention is drawn to the crown door, which provides the entrance to the mosque and has already acquired its classic form [8].

The Suleimaniyah mosque, in terms of decoration, is a simple and outstanding monument. The quality of stone decoration, both in the architecture itself and in the marble altar and the pulpit, attracts attention. Some coloured windows on the windows of the Qibla wall have been preserved to this day. Porcelain was used on the same wall. Porcelain, the primary example of the underglaze technique, is found around the altar [24, 25].

The Suleimaniyah Mosque has two semi-domes [26]. The semi-dome on the axis supports the main dome, and this provides a balance with the system formed from the side small domes and belts. This scheme resembles the Ayasophia model. However, the permanent balance that has never been secured in Ayasophia is the most successful feature of the Suleimaniyah mosque.

Sinan’s contribution to the evolution of the Ottoman Mosque should be due to the fact that several versions of the dome floor structures and prayer hall compositions proposed by Sinan (quadrifolium, half-dome in Shehzad, the nave basilica of Suleimanye, the supporting octagon of Selimye) did not change the composition of the mosque, but also demonstrated the architectural capabilities of this type and its importance in Ottoman architecture. At the same time, Sinan’s work not only predetermined the vectors of the development of the mosque, but also actually exhausted the possibilities of its evolution. The planning and design options he proposed did not need to be developed and later were only adjusted and combined. The mosques of Sinan were clear examples of the planning and design options he proposed.

Below, in the parts remaining outside the two sides of the front door, another porcelain programming is highlighted under the crown door, which provides the entrance to the mosque and has already acquired its classic form [8].

From the above, it can be concluded that the extensive material of the article is common and systematized according to the history of the emergence and development of the architecture of mosques, starting from antiquity. The relevance of the article is in the problem of the development of types of Islamic architecture is considered in the cultural and historical context of the development of Islamic civilization.

**Conclusion**

Islamic architecture as a term is understood much wider than the framework of the religious construction of Muslims since the very concept of «Islamic» characterizes not only religion but a huge civilization, a complex of cultures that has been historically established for 1.5 millennia, united by a common ideology, Islam, despite profound differences. The typological approach to the study of architectural monuments allows us to systematize the knowledge accumulated by science and more clearly represent the main and marginal ways of development of Islamic medieval architecture.

The formation of specifically Muslim architectural types was one of the most important components of the formation of medieval Islamic civilization. The types of Islamic architecture emerged from both the active experience of previous eras and cultures and the establishment of Muslim cults, ideologies, morals and aesthetics. The conclusions of this article include the recommendation of several types of mosques, with their construction time, shape, size, the structure of the prayer hall, presence of minarets and vestibules.

As the study shows, in the typology of Islamic medieval architecture, if we consider it under the established medieval and modern architectural terminology in the countries of the Near and Middle East, historically established groups of buildings are distinguished as 1) a shrine — an object of worship; 2) mosque — a building designed for individual or collective prayer and meeting of the religious community; 3) madrasah — a theological school-institute unifying the practice of an educational and theological centre; 4) khanaka — the abode of Sufis, or dervishes; 5) kasr — fortified, castle-palace.

Adhering to this principle in the absence of a regulatory organization for all eras and regions of the Islamic world, as well as the stability of local construction and artistic techniques, methods and forms, explains the development of many types and varieties within each type of Islamic architecture.

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**Список использованной литературы**


