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## **Evolution of the architecture of mosques in Iran (seventh to eighteenth centuries)**

### **Meczety w Iranie i ich znaczenie w życiu społeczno-politycznym kraju**

#### **Abstract**

This dissertation argues that under the influence of external factors, climatic conditions, pre-Islamic architecture, local architectural and construction traditions, a peculiar regional Iranian school of Muslim architecture was formed and evolved. The relationship between the historical periods of Iran's development and the architectural periods of the construction of mosques is determined, and three major periods of the construction of mosques are described.

Keywords: Iran, Muslim, mosques

#### **Streszczenie**

Przez bogactwo irańskiego dziedzictwa kultury islamskiej architektury, ochrony i konserwacji zabytków oraz powstawaniu nowych konstrukcji, postanowiono ustalić politykę legislacyjną dotyczącą zasad organizacji, doskonalenia i rozwoju meczetów w kraju (Rada Ministrów Islamskiej Republiki Iranu 22/4/1376, 31 marca 1996). Zauważono, że nowe meczety muszą przestrzegać irańskich zasad budowlanych. Zachowanie islamskiego dziedzictwa architektonicznego Iranu i nowych meczetów reguluje Rozporządzenie Rady Najwyższej o Urbanistyce i Architekturze 30676/z10/300 z 22 września 2008 r. numer 5361 i prawo z 20 stycznia 2009 r., które przewiduje alokację i harmonogramowanie meczetów.

Słowa kluczowe: Iran, Islam, meczety

In the introduction, the substantiated actuality of the topic, the degree of study of the problem, and the goals, objectives and methods of the research are determined; additionally, the scientific novelty of the dissertation is formulated and its practical value, the results of its implementation and information on the appraisal of the research results are presented.

The first section (Historical prerequisites for the construction of mosques in Iran) analysed the degree of research of mosques in Iran by scientists from different countries. Also included is a review of literature and previously undiscovered and unexplored aspects and the relationship of historical periods of the development of Iran with the architectural periods of mosque construction. The author identifies three major architectural periods of the construction of mosques.

For the first time, the Iranian Islamic architectural school is considered in hereditary connection with pre-Islamic architectural periods as a basis for regional architectural schools outside of Iran, while studying the peculiarities of its formation in three periods, shows the process of evolution of mosques from the seventh to the eighteenth centuries.

The second section (The methodology of research and the impact of external factors on the architecture of mosques in Iran) describes the chosen methodology, examines the impact of historical preconditions and climatic conditions on the concentration and constructive image of mosques within the country, and the legislative policy in the field of the protection of Islamic architecture in Iran.

In the third chapter, entitled 'The main planning, compositional, constructive and decorative features of mosques in Iran', considers the main characteristics of the composition and planning schemes of mosques in Iran, the evolution of characteristic structures, building materials and molds of Iranian mosque elements, decoration and colour scheme.

On the basis of the comparative analysis, the distinctive features of the regional identity of the planning structure of mosques common in Iran and some of the neighboring countries, were identified and formulated:

- a) in the early Islamic columns of mosques – a combination of the canonical prototype of the column prayer courtyard of the Prophet Muhammad in Medina and multi-column palace apadan of Persia; there are multi-column mosques with a homogeneous metric and inner courtyard at their base
- b) in the early pavilion-type Islamic mosques – the organic inclusion in the structure of the mosques of the transformed Zoroastrian (Sassanid) pavar 'chartac', which is adapted to the functional requirements of the religious Muslim establishment
- c) in later mosques of the second and third periods – an organic combination in the planning of multi-column rooms and modified 'chartaka'
- d) the complication of the planning of mosques chronologically during the transition from the first to the second and third periods by way of retreat from simple plans to complex multifunctional plans of an irregular geometric form, due to the different times of the various parts of the plan of the same mosque

During the early stages of the formation of Muslim architecture in Iran (seventh to eighteenth centuries), it was not only the borrowing of the canons of Islam from the Arabs which took place, but also a reverse process of enriching Arab culture with the centuries-old architectural and artistic traditions of the Achaemenid and Sasanian periods of Iran. Subsequently, the planning scheme of the column of the Arab mosque (which felt the influence of the Achaemenid multi-column Apadan) and the dome pavilion with michabam (modified charact pavilion) were re-transferred to the territory of Iran as elements of the architecture of Arab mosques.

With regard to planning and composite decisions, there is a rather pronounced similarity between Iranian mosques and mosques of other countries in each of the architectural periods; this is due to both historical and political reasons. First of all, one can note the similarity of the planning of mosques in Iran and the Arabian East during the reign of the Umayyads (first period), Iran and Central Asia during the reign of the Timurid (second period), and Iran, Afghanistan, Azerbaijan, eastern Armenia and eastern Georgia during the reign of the Sefevides (third period).

On the basis of the systematic structural analysis methodology, the compositional planning and semantic peculiarities of the architectural forms of the facades of mosques in Iran were analysed; furthermore, the evolution of characteristic structures, building materials and molds of elements of mosques in Iran, and changes of decor and colour scale in each of the three periods was revealed.

In Iranian mosques, transitions from simple forms to complicated and decorated forms, from functional the constructive to the decorative, from coarse monochrome to oversaturated subtle polychromy, have been observed.

Along with the above, the main influences on architectural and planning decisions of Iranian mosques are the canonical foundations of Islam, natural and climatic conditions and local architectural and building traditions. The proliferation of the main type of mosque throughout Iran with an Aywan and a spacious courtyard (often with a pool) is most consistent with climatic conditions, and this is clearly attributable to the limited use in Iran of the types of dome mosques borrowed from the Byzantine traditions of Georgia, Armenia and Turkey – mainly on border areas.

The research revealed and argued the role of pre-Islamic Iranian architectural and construction traditions in the formation of Central Asian and Arabic architectural schools. The pre-Islamic Iranian school forms the basis for Central Asian and Arabian schools of Muslim architecture, on the basis of which formed the original regional schools.

The architectural, planning, compositional and construction techniques of mosques in Iran, Central Asia, Iraq, and Afghanistan allows them to be combined into a joint architectural school. On the basis of the analysis of factors influencing the formation of the Islamic architecture of Iran, a model for the formation of the architecture of mosques in Iran was developed.

The scientific novelty of the study is as follows:

For the first time:

- the evolution of architectural stylistics, composition, planning, designs and decoration of mosques in the main periods was established (seventh to eighth centuries – the early period of the spread of Islam in the territory of Iran and enrichment with the Iranian traditions of the countries of the Arabian East; ninth to fifteenth centuries – the middle period and the formation of new building traditions, 3) sixteenth to early eighteenth centuries – the high period of the flowering of Islam in Iran and the flowering of architectural and constructional Islamic traditions), their most characteristic forms and volume planning decisions were determined in accordance with the developed new periodisation, gradual complication and diversification of plans
- a model for the formation of the architecture of mosques in Iran has been created, taking into account the influence of external factors – territorial changes, the specifics of climatic conditions, hereditary connection with the pre-Islamic period and the architecture of neighbouring countries

Improved:

- the typology of the volumetric and spatial organisation of mosques in Iran; two new types (quadrival and tanabi) are added to the existing three types (shabestani, dome, aivani); clarification of chronological changes of type in connection with the rebuilding of mosques
- methodical approaches to the study of the evolution of structures and the decoration of mosques in Iran from functional to purely decorative, in conjunction with the influence of climate conditions and pre-Islamic construction traditions

Has been further developed:

- study of the regional identity of the Islamic architectural school of Iran as a holistic phenomenon which is inextricably linked with pre-Islamic construction traditions, the architecture of neighbouring countries and conquerors
- the systematisation of the location of mosques in centres of Islamic construction in Iran in their chronological and percentile ratio by region is developed

A practical significance of the results is that a scientific and theoretical basis for research, restoration and new construction of mosques in different regions of Iran will be created.

Study results can be used:

- in research institutes: to deepen knowledge about the specific features of mosques in Iran and the role of the Iranian architectural school in the formation of other architectural schools in the Muslim world
- in the field of cultural heritage protection: to deepen knowledge about little-known mosques and the refinement of a list of objects under the protection of the state
- areas for the restoration of objects: to create a scientific and theoretical basis for the research and restoration of mosques in different regions of Iran

- in new construction: characteristic features of the traditional Muslim architecture of Iran for use in modern mosques
- in the educational process: to expand lecture-based courses on the history of Muslim architecture, to deepen students' knowledge of secular and religious educational institutions about the chronology and peculiarities of the construction of mosques in different regions of Iran in certain historical periods

The conclusions of the thesis contain generalising provisions that reveal the results of the research.

1. For the first time, the evolution of Iranian mosques from simple forms to complicated and decorated forms, from functional constructive to decorative, from simple monochrome to super-saturated elegant polychromy has been proven. There are three main periods of construction of mosques in Iran: 1st period – seventh to eighth centuries. not. – early period: the spread of Islam in Iran; 2nd period – ninth to fifteenth centuries. not. – the middle period: the development of Iranian Islamic architecture for the rulers of foreigners; 3rd period – sixteenth to the beginning of the eighteenth centuries – a high period: the flowering of Islam and the construction of mosques in Iran.
2. For the first time, based on the analysis of external and internal factors influencing the formation of the Islamic architecture of Iran, a model of the evolution and architecture of mosques in Iran has been developed. Such influential factors were territorial changes, the stability of Zoroastrianism, the flowering of cities, the spread of Islam and the rule of Islamic dynasties. Territorial changes led to a mix of cultural traditions, the stability of Zoroastrianism – to continuity with pre-Islamic traditions.
3. The variety of types of compositional planning schemes of Iranian mosques during all three periods was identified as was the most common type of plan with a central axis. A modified dome 'chartac' in the structure of a mosque that passes through the main entrance and with four located opposite one another and symmetrically relative to the main axis 'Ayvans' and biker arcades on the sides. In the early period, the prevailing multi-column mosques had a monotonous metric series and inner courtyard and mosque pavilion-type with the inclusion of the charter pavilion. The second and third periods were characterised by complex multifunctional plans of irregular geometric shape combined with the planning of multi-column rooms and modified 'chartac'.
4. It was discovered that the architectural and planning decision of Iranian mosques was significantly influenced by natural and climatic conditions and local architectural and construction traditions. The spread of the main type of mosque with aywan and the spacious inner courtyard (often with a pool) throughout the territory of Iran was most in line with the climatic conditions, and clearly, this explains the limited use of the types of dome mosques borrowed from Byzantine traditions of Georgia, Armenia and Turkey in Iran – mainly in the border areas.

5. The continuity of Iranian Islamic architecture from Persian pre-Islamic traditions, such as the Achaemenid Apadana and the Sasanid Aywan and the sanctuary, 'chartac', have been identified and argued. Doislam traditions are also manifested in the dominance of the space of an open inner courtyard over the weight of the building, adjacent to the main dome pavilion to the inner courtyard. Iranian mosques contain elements that are the main bearers of the canons of Islam, as well as elements borrowed from the architecture of the pre-Islamic period. It is argued that the formation of mosques in Iran took place in the general key to the development of Islamic religious architecture; however, since the twelfth century, and especially from the fifteenth to the seventeenth centuries, the influence of local regional traditions has intensified in the Iranian school of Islamic architecture, which has led to stylistic distances of architectural objects of this time from the early Arab specimens.
6. A significant role of Iranian pre-Islamic architectural and construction traditions in the formation of the Central Asian architectural school was revealed. The conquest of Central Asia by Sassanian Iran in the 5th century led to the spread of the Zoroastrian religion, the typical Sasanian planes of the palaces and the Ayvan composition of the inner courtyards, typical of Iran for the construction of domes on trusses, vaults in groups, types of masonry arches, ornamental carved knock. The modification of the Sasanian Zoroastrian 'chartac' in accordance with the canons of Islam was the first Central Asian mosque with a dome on four arches and early mausoleums. The conquest of Iran by the Timurid in the fourteenth and fifteenth centuries led to the further convergence of the architectural and construction traditions of Iran and Central Asia; this is due to Central Asia bringing not only military trophies, but also constructive techniques, the best masters and borrowed planning schemes of mosques.
7. The role of Iranian pre-Islamic architectural and construction traditions in the early period of the formation of the Arabian architectural school was argued. In particular, it was established that during the arrival of the Arabian Caliphate in the seventh century, the influence of ancient Iranian architectural and construction traditions was felt in the early palaces of the Omega Revolutionary dynasty (seventh and eighth centuries). This was apparent in the use of techniques for the planning of columns of the Aadan and the Iranian Sasanid palaces, including the arrangement of a dome hall with an inner courtyard in front of it (the transformation of the design of the Iranian 'charact'). Subsequently, the planning scheme of the column of the Arab mosque (which felt the influence of the Achaemenid multi-column apadan) and the dome pavilion with michabam (modified charact pavilion) were transferred to the territory of Iran – as elements of the architecture of the early Arab mosques.
8. The community of architectural, planning, compositional, constructive and construction methods of mosques in Iran, Central Asia, part of Iraq and Afghanistan allows us to consider the territories of these states as the only architectural school. The main

role in this widespread school belongs to Iran, just as in Iran, elements of schools of Islamic architecture such as Achaemenid Apadana, Sasanid Ajwan and the sanctuary 'chartac' originated in Iran historically and then were spread within the territories of the abovementioned neighbouring states. Thus, we can say about Iran as one of the most important centres for the dissemination of architectural influences in the Muslim world.

9. Chronology, localisation and classification of mosques in Iran are specified. It was established that in all three periods, the main centres for the construction of mosques were the cities of Isfahan and Shiraz, through which the Great Silk Road passed.

The Iranian Islamic architectural school is considered as the basis for regional architectural schools outside of Iran. The results of the work highlight the development of Islamic architecture in Iran and constitute the basis for the research, restoration and new construction of mosques in various regions of Iran.

The topic of the dissertation research is related to a number of international memorial and legal documents, including: the 1964 Venetian Charter, the Paris Convention for the Protection of the World and Natural Heritage of 1972, the Granada Convention for the Protection of the Architectural Heritage of Europe in 1985, the Washington International Harmony of Protection historical cities of 1987. In the current context, cooperation between Iran and international observation institutions is intensifying. Since 1979, the inclusion of Iranian monuments in the UNESCO World Heritage List has increased, as of 2017, there have been twenty-two Iranian objects on this list. Representatives of Iran are part of UNESCO; recently UNESCO has added nine new Iranian objects to the World Heritage List. The Iranian authorities have allocated funds for the restoration of religious buildings in the north-east of the country which are included in the UNESCO list. Cooperation is being established between the architectural universities of Iran and those of other countries in the field of the preservation of historical and cultural heritage (one of the most active in establishing scientific contacts is the architectural and artistic universities Isfahan).

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## REFERENCES

- Zahedi Sh., *Specific features of the construction of mosques in Iran at different periods (VII–XX centuries)*, „Modern problems of architecture and urban development” No. 32, KNUBA, Kyiv 2013, 168–171.
- Zahedi Sh., *The Influence of Historical Periods of Iran's Development on the Construction of Mosques*, „Architectural Bulletin of KNUBA” No. 1, KNUBA, Kyiv 2014, 130–139.

- Zahedi Sh., *Style features of the architecture of the mosques of Iran*, „Urban Planning and Territorial Planning” No. 51, KNUBA, Kyiv 2014, 167–173.
- Zahedi Sh., *Methodology of Investigation of the Architecture of Iranian Mosques*, „Urban Planning and Territorial Planning” No. 52, KNUBA, Kyiv 2014, 135–140.
- Zahedi Sh., *Canonical sources of mosques as specific structures*, „Modern problems of architecture and urban development” No. 35, KNUBA, Kyiv 2014, 21–25.
- Zahedi Sh., *Features of concentration of mosques within Iran, separate regions and cities*, „Modern problems of architecture and urban development” No. 36, KNUBA, Kyiv 2014, 255–263.
- Zahedi Sh., *Composition–planning scheme of mosques of Iran in the main periods*, „Architectural Bulletin of KNUBA” No. 3, KNUBA, Kyiv 2014, 131–143.
- Zahedi Sh., *Features of the construction of mosque structures in Iran in the fifteenth and fifteenth centuries*, „Architectural Bulletin of KNUBA” No. 5, KNUBA, Kyiv 2015, 161–166.
- Zahedi Sh., *The architecture of Evolution of mosques in Iran (VII–XVIII centuries)*, „AMIT” 1 (38) (<http://marhi.ru/AMIT/issues.php>; <http://elibrary.ru/defaultx.asp>).
- Zahedi Sh., *The scientific and theoretical base of protection the Iranian Islam architecture*, „Urban Planning and Territorial Planning” No. 65, KNUBA, Kyiv 2017, 546–551.
- Zahedi Sh., *Modern methods of studying Iranian mosques. Innovations in the construction industry*, Bryansk 2014, 167–172.
- Zahedi Sh., *Historical researches of Iranian mosques XV–XVIII centuries as the basis for architectural restoration and protection of historical heritage. Architecture, urban planning, historical and cultural and ecological environment of cities of central Russia, Ukraine and Belarus*, Materials of international scientific–practical conference, March 12–13, 2014, BGITA, Bryansk 2014, 59–63.
- Zahedi Sh., *Regional features of the architecture of mosques in Iran (VII–XX centuries). Science, education and experimental designing*, Abstracts of reports of a scientific conference, MARCHI, Moscow 2014, 221–222.
- Zahedi Sh., *The Problems of Identifying the Peculiarity of the Persian Islamic School of Architecture in the World Legacy of the Architecture of Islam. Modern Problems of Architecture and Urban Development in the Conditions of International Integration*, Abstracts of the Conference, November 27–28, 2014, Kharkiv 2014, 238–239.
- Zahedi Sh., *Iran’s Architecture in the Context of Domestic Politics / Zahedi Shahab. Regional Policy: History, Political and Legal Foundations, Architecture, Urbanism*, „Collection of scientific works”, Whip III, Part 2, KNUBA, Kyiv 2017, 218–220.
- Zahedi Sh., *The Need to Preserve the Historical and Architectural Heritage of Islam in the Cities of Iran. Architecture of Historical Kyiv. Context and Intervention*, Materials of the 3rd International Scientific and Practical Conference, November 24, 2017, KNUBA, Kyiv 2017, 141–142.