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## Mirror interiors in Iranian architecture of the 19<sup>th</sup>–21<sup>st</sup> centuries

### Дзеркальні інтер'єри архітектури Ірану XVIII–XXI століть

**Abstract.** Typical mirrored interiors of Iran of the 18<sup>th</sup> through the early 21<sup>st</sup> centuries are discussed in this article. Aesthetic, plastic, architectural and design particularities of existence of such places in Persian tradition are researched on examples of Golestan and Saadabad royal complexes at Tehran, religious sights of Qazvin (the holy place Hossein Imamzadeh grave mosque and Friday mosque); mausoleum of Abraham descendant, the prophet Keydar at Zanjan province; Sayed Alaeddin Hussein mosque, Shah Cheragh mosque (Blue or Mirrored mosque), Ali Ibn Hamzeh mausoleum in Shiraz. Particularities of addition to amalgamated glass of mirrored sculptural elements, precious stones and silver plates in such complexes are clarified.

**Keywords:** Iran, mirrored interior, palaces, mosques, holy places, 18<sup>th</sup> through early 21<sup>st</sup> century.

**Problem statement.** Specific features of local architecture were always of great importance on the territory of modern Iran, since the era of Achaemenid dynasty that gave the world fascinating images of creative thought and refined style of Mazdaic Persians in Persepolis, Sus and Pasargad approximately in the 5<sup>th</sup> century B.C. (Phidias period in Hellenic art). With the development of arts and crafts (glass-making, mosaics, wood carving, textile and metal production), the architects of this land strived to decorate buildings they were constructing. Special attention was given to interiors, the space which is distinctively separated from outer world.

The mindset of people of the East differs from the one of people of the West. It was always important for the people of the East not only to see paradise on the Earth, becoming like Allah looking at the pool with goldfish — it was also important for them to pose every sophisticated achievement of human thought and crafts ranging from precious jewelry to arms to early Persian porcelain of 15<sup>th</sup>–16<sup>th</sup> centuries, from brocade to silk and carpets decorated with floral and vegetative ornamental motives (pomegranate, cypress, irises, hyacinths, tulips, anemones and Shiraz roses) [4, p. 81–100].

That is why original hierarchy of beauty was formed in Iran, subjected to the influence of palaces and cult buildings, with mian sara gardens, that made the world beautiful, and badgir windcatchers [5]. Mirrored interiors had a special place in this splendorousness. They are not familiar to Europeans but are very important to mindset of Iranian people.

**Analysis of recent research and publications.** Persians developed their own aesthetic canon during the centuries. Many of their creative inventions enriched the European art, architecture and design, starting from such findings as Apadana of Darius-Xerxes [4] to front verandas and garden planning similar to Mauritian art [10]. A part of this aesthetic canon is the decoration of important parts of exterior and interior of the buildings with refined and expensive materials.

Iranians, improving their engineering and construction skills for the centuries, included in the design of each building the accents which were creatively well-balanced and consistent with each other. In this way they managed to create their own “music of stone” which differed from the stone art of other cultures of West Asia. Their “music of stone” includes not only creatively engraved stucco and fine carving, but also thousands of artificial “diamonds” made of glass and pieces of mirrors, put closely to each other with excellent accuracy.

General questions of the tradition of planning, constructive and decorative features of the development of Persia architecture are considered in the relevant sections of the books of famous Soviet orientalists Nina Dmitrieva and Nina Vinogradova “The Art of the Ancient World” (1986) [2], Tatyana Kaptereva and Nina Vinogradova 1989 “The Art of the Middle Ages” [4]. Memorial Colam Husein in his work “Understanding the Architecture of Closed-type Residential Buildings” (in Persian) focused on the sacred space of Iranian detached building [5]. It is worth to mention Mirrazavi Firuza, who have turned to the architectural



1. Mirrored interior of Golestan Shah palace in Tehran. Photo made by O. Shkolna

heritage of mirrored interiors of Iran and who studied the interiors of Golestan, palace of the shah [9]. However, there are no special studies focusing on the heritage of "crystal" palaces, mosques and holy places of Persia.

**Objectives of the study** are to analyse possible ways in which mirrored interiors of Iran originated, to analyse specifics of their existence and to analyze the individual ensembles preserved in this country at the beginning of the 21<sup>st</sup> century.

**Presentation of the main research material.** Origins of decoration with mirrors in Persian art are connected with traditional crafts of this region. Shisha (from Persian "shisheh" — glass) embroidery style — inclusion of small mirrors [6], coins, buttons and cords into art compositions — is ancient tradition of this region. This pieces of glass were to reflect the sunlight, which, it was believed, could protect person from enemies and envious people, while giving him a "bright and shining" look. In combination with coins shisha was believed to attract the ergregor of well-being and the sunny warmth of love. Traditions of countries situated close to Indochina felt strong influence of Buddhism and spiritual practises of energy cleansing, they reflect the ancient attitude to high-pure character of the elements. For Iranians they were primary, that's why they were sacred.

There are several legends about shisha origin. The wife of Shah Jahan, the representative of Great Mughal dynasty, was a legendary woman; she inspired Shah Jahan to construct Taj Mahal, her burial mausoleum in India. She is believed

to be the first woman who started to use glass together with traditional mica, coins, tin and silver. Her name was Mumtaz Mahal, she was almost contemporary of the Sun King Louis XIV in 17 century (the years of her life were 1593–1631). Nevertheless, there are no reliable data to confirm that this legendary woman was the first to replace simple natural materials by specially designed materials of the new style [6].

According to the other version, this invention was found on the territory of Persia, where shisha style was used for decoration of fabric, tablecloth, garments and walls. Introduction of mirrored elements in this line seems to be more real. Therefore, it is considered that the glass with amalgam coating was used for the first time in Iran in 1557, at the time of Tahmasp Shah [9], in Qazvin, the capital of Sefevides. And now amalgamated glass is one of traditional types of decoration in internal lining of the walls.

Later mirrored decoration was used in Isfahan and other palaces constructions of the local nobles. Thereafter, the inclusion of mirrored decorations in the design of holy places (they differ from mosques because they are opened 24h, not only during the hours of Mohammed prayer) and other cult constructions was started.

Mirrors for shisha were produced according to special technology, and this fact also influenced on aesthetic perception of similar elements of decoration in Iranian architecture. Firstly, glass blower blew the glass ball, then it was broken in convex pieces. Inner part of each piece was silvered and the irregular facets were often polished. That is how



2. Interior of Keydar mausoleum in Zanjan province.  
Photo made by O. Shkolna

drop-like particles of glass were produced, which later on were frazed with fabric. Artisans did their best to produce the fine work, they carefully fixed small reflectors with different types of seams of high quality and particular delicacy [6].

When exactly wide spread trend of making mirrored interiors occurred is not known yet. According to the legend, the mirrors seen in newly opened workshops of Louis XIV in Saint-Antoine suburb impressed one of Iranian shahs. In the next century the large-scale mirror were imported from Venice to the East in big numbers. Persian glass processing masters gradually learnt how to design separate mirrored accessories and small architectural forms of them. Moreover, they learnt how to create “wall papers”—solid coating of walls and ceilings with ornaments consisting of the patterns of large and small mirror fragments. When put together, they created the shining ensembles of perfect flat pictures and convex details.

Amalgamated glass fragments were fixed on the wet whitewashing. The peak of this kaleidoscopic art in Iran was observed in the times of Qadjar dynasty (1779–1925). This tradition to decorate holy places and beautiful palaces is still actual. Among others, the interior of Shah Cheragh mosque in Shiraz is strikingly beautiful. Now the entry to this mosque for the people of other religions is not allowed. Environment ensemble of this mosque is believed to be the Eighth Miracle of the World. Internal walls of this religious centre are decorated with mastery and generosity, not only with the pieces of glass, but with precious stones and silver plates as well. The synergy of all these elements completes the variety of above mentioned elements by perception of surprising colours.

Shining mirrored mukarnases (also known as cell or stalactite vaults) amplify the beauty of iridescence and refraction of the light with the help of irregularly engraved components. Their particular feature is geometric accuracy. The function of these elements is not only to divide the ornamented pictures of structural elements, and therefore to underline architectonics of the building, but to add strength to the structure of uniform glass coating which is rather heavy. They are mainly located at edges which cover junction of the walls and ceiling [9].

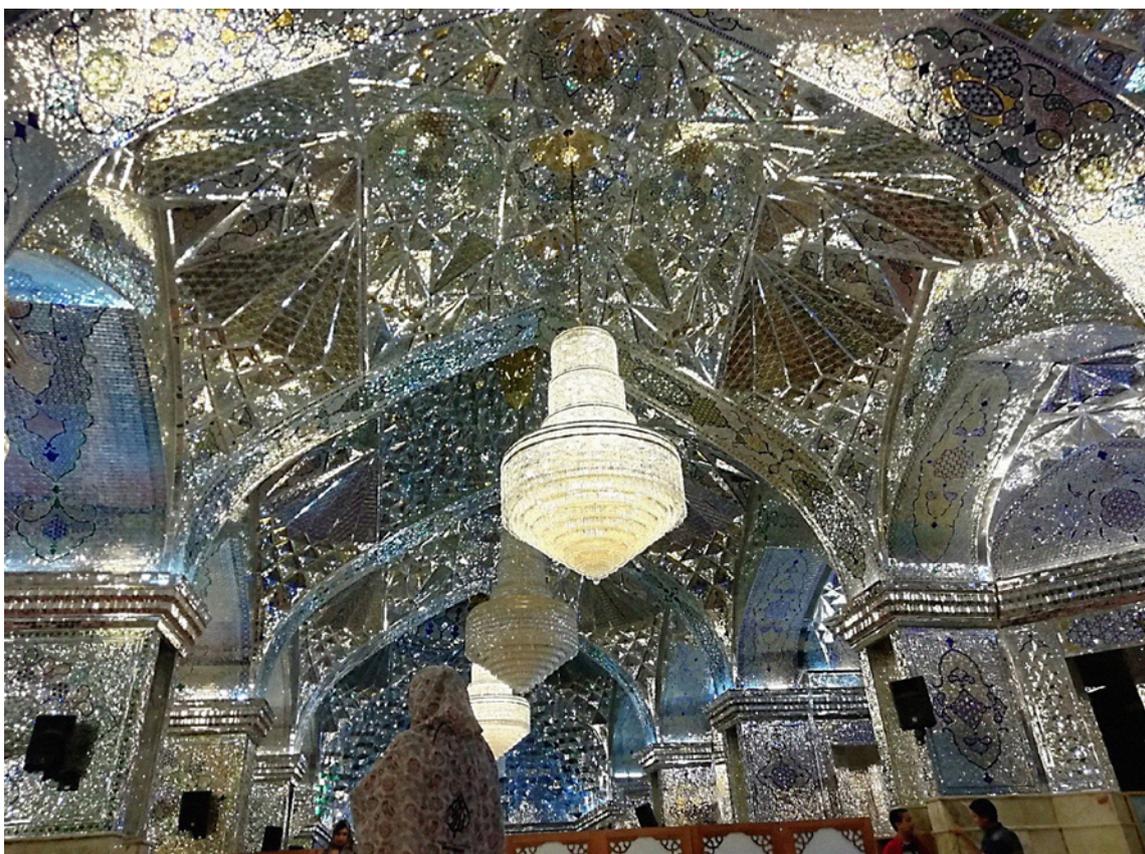
Mukarnases are the most characteristic load-bearing elements of this “uniform roll” of multi-ton decorations of mosques and holy places. In addition, each of these fragments of interior were produced according to the individual plan. The shape of such junctions in Shah Cheragh is similar to hornet’s hive with repeating cascade of ledges. Stalactite cornices are designed according to certain rules, in particular — considering distribution of weight of the ceiling in such “membranes”, because dimensioning of whole structure, were calculated by architects according to sophisticated math formulae, and each millimetre of such structure should have been checked [9].

Local artisans specialised in mukarnases, engraved stucco and “crystal” surfaces made sophisticated ornaments from pieces of fragile mirrors with geometric accuracy. As a result, design of many interiors of this type in ceremonial halls of the palaces and mosques / holy places became not only refined, which was typical for works produced skilled masters, but also unique for this region, because they have no equivalent in any other place in the world. Solemnity felt in such interiors impresses by magic and delicacy at the same time, by high excellence of performance of all details in the same style and perfect pattern of mirror lines and fractions presented as the facets of the most precious gems.

The typical example is Talar Salam (Reception Hall) of Golestan, Qadjar Shah palace. One of the most well-known representatives of Nasreddin dynasty who ruled in 1848–1896, ordered to decorate the walls and ceilings in Reception Hall and neighboring Talar Aianekh (Mirror Hall) with mirror mosaics. Along with that, these halls are decorated with large crystal chandeliers and their facets distribute the light all over the space of these halls (fig. 1) [7].

In other halls of this palace interior is also decorated with mirrored sculpture elements and stucco work, making environment slightly phantasmagoric because of thousands of refracted sunbeams. Talar Almas (Diamond Hall) is one to be noted in this context: one of its parts is decorated with large wooden windows of orosi shape. These windows open upwards, they have grides and coloured glass. The combination of mirror and glass pictures with stucco work [7] in these halls in combining with refined solutions of certain areas in halls which are decorated with wall and lintel mosaics consisting of sophisticated ornaments made of glass particles, is interesting as well.

Further on, many architects and designers used decoration of interior with mirror mosaic surfaces. Such interiors include several halls in Saadabad Tehran palace (summer Shah



3. Interior and stalactite vaults of Mirrored Mosque in Shiraz. Photo made by O. Shkolna

residence), Gavam palace in Shiraz (in combination with refined and delicate stucco), and large number of religious monuments in different regions of contemporary Iran. At the present time the total number of such monuments amounts to several hundreds. Mirrored-style interior of some of them was designed and implemented just recently, at the beginning of the 21<sup>st</sup> century.

In this context we should mention the following monuments. Religious constructions of Qazvin — Hossein Imamzadeh grave mosque, where mirror elements are located at the front of the building; Friday mosque; the interiors of mausoleum of Abraham descendant, the prophet Keydar in Zanjan province (fig. 2), Sayed Alaeddin Hussein mosque and unique monument of Shah Cheragh (Blue or Mirrored mosque) (fig. 3), Ali Ibn Hamzeh mausoleum in Shiraz (fig. 4).

Some names give the idea about colour range of interior of these complexes with dominant silver white, greenish and blue colour.

In addition, Iranian shahs left “mirror” tracks in areas neighboring to Persia. One example is the building of Tbilisi State Academy of Art named after A. Kutateladze. In 2019, upon completion of large scale restoration works of 2015–2018 obtained national heritage status. This building was constructed in 1850s. by the member of Iran Shah family. It has the decorated mirror halls which are the unique landmarks produced by Persian masters [3].

In general, Islamic interiors of the 17<sup>th</sup> century, were common in wealthy Georgian buildings. In the nineteenth century, some wealthy families within the limits of historicism tried to continue the tradition of exotic interiors in Tiflis, including those that were carried out in traditions



3. Interior and stalactite vaults of Mirrored Mosque in Shiraz. Photo made by O. Shkolna



4. Interior and mukarnases of Ali Ibn Hamzeh in Shiraz.  
Photo made by O. Shkolna

of neighbouring countries. Thus, house built around 1856–1857 by architect Grigory Ivanov's (on Hriboyedov street, 22), now owned by Tbilisi State Academy of Arts named after A. Kutateladze, was partially destroyed in the second half of the nineteenth century. At that time, the building was owned by members of the Armenian royal dynasty Arshakuni, which ruled in Great Armenia in 1–5 centuries, the youngest branch of the Parthian dynasty of the Arshakids. Obviously, the design of interiors of buildings with Iranian mirrored patterns was carried out by Persian masters working in Tbilisi. Around 1886 a Georgian princess Nino Kobulashvili bought a building with Gothic, Baroque and classicist motifs. It is known that the reconstruction of the building was carried out by Georgian architect Simon Kldiashvili, who since 1899 worked mainly in Tiflis (the old name of Tbilisi) [1].

In general, it should be noted that mirror interiors of palaces, mosques and holy places of Iran are not only extremely

picturesque and identifiable along the background of contemporary design. Today they became particularly expressive brand of this country, the brand which is traditional and innovative at the same time. Indeed, they transform the impression of exclusively conservative and non-hedonistic sacral traditions of Muslim world.

The general **conclusion** is that tradition of such interiors, which was especially popular in Persia since 19 century, is continued and actively developing at the present time. Moreover, the certain unity in style and aesthetics of early prototypes and contemporary solutions should be noted, because in construction and imagery features they follow the achievements of Qadjar epoch, mainly of legendary Nasreddin Shah. In line with that, the mosques and holy places with more modest decoration have mirrored elements in women's and men's praying parts. The alcove is built inside such premises; it is often decorated by applied friezes with glass flowers and small mukarnases.



4. Interior and mukarnases of Ali Ibn Hamzeh in Shiraz.  
Photo made by O. Shkolna



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**Школьна О. В.**

**Дзеркальні інтер'єри архітектури Ірану XVIII–XXI століть**

**Анотація.** У статті розглядаються типові дзеркальні інтер'єри Ірану XVIII — початку XXI сторіччя. Естетичні, пластичні, архітектурні та дизайнерські особливості існування таких місць у перській традиції досліджуються на прикладах: королівських комплексів Голестан і Саадабад у Тегерані, релігійних пам'яток Казвіна (святе місце — мавзолей Хосейна Імамзаде та П'ятнична мечеть); мавзолей нащадка Авраама, пророка Кейдара в остані Занджан; Мечеть Алаеддіна Хусейна, мечеть Шах Черрах (Блакитна або Дзеркальна мечеть), мавзолей Алі Ібн Хамзе в Ширазі. Уточнено особливості синтезу скляно-дзеркальних скульптурних елементів, дорогоцінних каменів і срібних пластин у таких комплексах.

**Ключові слова:** Іран, дзеркальний інтер'єр, палаци, мечеті, святі місця, XVIII — початок XXI століття.

**Школьная О. В.**

**Зеркальные интерьеры архитектуры Ирана XVIII–XXI веков**

**Аннотация.** В статье рассмотрены типичные зеркальные интерьеры Ирана XVIII — начала XXI века. Эстетические, пластические, архитектурные и дизайнерские особенности существования таких мест в персидской традиции исследуются на примерах королевских комплексов Голестан и Саадабад в Тегеране, религиозных памятников Казвина (святое место — мавзолей Хосейна Имамзаде и Пятничная мечеть), мавзолея потомка Авраама, пророка Кейдара в остане Занджан; Мечеть Алаеддина Хусейна, мечеть Шах Черрах (Голубая или Зеркальная мечеть), мавзолей Али Ибн Хамзе в Ширазе. Уточнены особенности синтеза стеклянно-зеркальных скульптурных элементов, драгоценных камней и серебряных пластин в таких комплексах.

**Ключевые слова:** Иран, зеркальный интерьер, дворцы, мечети, святые места, XVIII — начало XXI века.