

Investigating the Visual Characteristics of the Designs of the Abbasi Great Mosque in Isfahan (Configurations, Compositions, and Motifs)

Mohammad salehi marzizarani

Master student of architect, College of Arts and Architecture, Razi university of Kermanshah, Iran

Abstract

Abbasi Great Mosque or Shah Mosque, which today is known as Imam Mosque, is one of the most beautiful mosques in Iran and is the most important mosque of the Safavid era, whose architectural style is Isfahan and Iranian. This mosque is located on the south side of Imam Square in The year 1020 Hijri began by the order of Shah Abbas I in the twenty-fourth year of his reign And its decorations and additions were completed during the period of his successors. The purpose of this research is to examine the motifs of the Abbasid Great Mosque of Isfahan, which gave unity to its structure and space and made them eternal. From the results of the research, it seems that There has always been a very close connection between art and spiritual etiquette derived from religion in the history of Iran. In fact, religion has been one of the most important constituents of art, and the art of language has been the deepest human wisdom and the manifestation of the most beautiful theosophical feelings.

Keywords:

Abbasi Great Mosque, Architecture, Decorations, Configurations, Compositions, Motifs

INTRODUCTION

Abbasi Great Mosque is definitely called the shining star of the Safavid period and the symbol of the peak of Islamic architecture in Iran, which has decorated the southern side of Naqsh-e Jahan Square. There are seven Sangabs which are made of granite and marble. The walls of the mosque are mostly covered with green marble from below along the mosque and then beautiful and unique tiles with seven colors adorn the walls of the mosque. Placing a layer of lead at a height of 2 and 3 meters on the rocks is one of the interesting things that architects did at that time, which was due to their experience and high knowledge of architecture. This was done to achieve two goals: The first is to connect in a piece of stone, instead of cement mortar, and the second is to use the elastic property of lead to prevent earthquake damage in the corners of the south porch walls.

Abbasi Great Mosque

The Shah Mosque (Abbasi Great Mosque or Imam Mosque) was built commissioned by Shah Abbas I Safavid and with the support and supervision of the Safavid dynasty (Babaie & Haug; 2012) in the middle of the south side of the newly established Naghsh Jahan Square with the architecture of Ali Akbar Isfahani as the

new great mosque in Isfahan city. The construction of the mosque began in 1600 and continued until 1619 (Helen Brand; 2008: 141). However, the decorations and tiles were completed according to the extension of the construction time during the reign of Shah Abbas's successors (kiani,2000, 109). Mosque architecture is in the form of four porches and consists of sections of the entrance and forecourt, harem, porches, and two schools with a courtyard and a room. The mosque courtyard is approximately 50 × 70 meters in length and width (Mulazadeh; 1378: 53). When Shah Abbas began to develop Isfahan, neither Georgia was occupied, nor Khorasan was independent. According to Iskander Beyk Turki in her book Alam-e-Arai Abbasi, after the conquest of Georgia and gaining great wealth and prosperity, as well as independence in Khorasan, Sheikh Lotfollah Mosque was inferior from Shah's point of view. On the north side of Shah Square (Naghsh Jahan) was the beautiful entrance of Caesarea and also on the east side, where the beautiful dome of Sheikh Lotfollah Mosque was located, a tradesman Karvansara on the south side did not allow the Shah to have a view from the top of Aali Qapo Palace. Therefore, Shah Abbas ordered Moheb Ali Beykullah, the steward of the royal buildings, to liberate the caravanserai located in the south of

the square, which was King Allah Beyk, along with the surrounding gardens that had different owners (Janab, 1997: 54).

It is not clear whether the naming of this mosque as Shah Mosque is related to Shah Abbas (builder) , or its vastness and grandeur. As in dictionaries, the word Shah means: "everything that is superior to its peers in terms of size and goodness, such as Shah Beyt, Shahrah, Shahkar, etc." (Farhang e Amid). In the famous books of the Safavid era, such as " Tarikh-e Alam Ara-ye Abbasi " and " Vaghaye' al-Senin va al-A'vam, "this mosque is mentioned as the Abbasi Great Mosque and the new Abbasi (Soltani) Great Mosque. (Dadkhah, 2013: 79).

The entrance of the mosque is 29 meters high in the north direction and close to the square, but the building of the mosque is necessarily oriented to the southwest(toward the qibla), and the problem of changing the direction in the

corridor and entrance has been solved such masterfully that the viewer does not feel it. (Nasiri Ansari, 1971: 258). The mosque is built into a four-porch building, and a courtyard, porches, and a pavilion with two floors are also built around. The porch that leads to the space under the dome has a minaret approximately 48 meters high on each side. (Hatem, 2007: 136). The prayer in the mosque is located behind the entrance facing the qibla. All the walls, domes, and minarets are decorated with beautiful and colorful tiles. The seven-color brick tile decorations of this mosque with turquoise screws, tiles, and Mogharnases on the inner part of the entrance of the mosque is one of the most beautiful arts of Safavid tile work. The inscription on the main entrance of the mosque is on a white mosaic tile with a blue background and was handwritten using Thuluth Script by Ali Reza Abbasi in 1604.

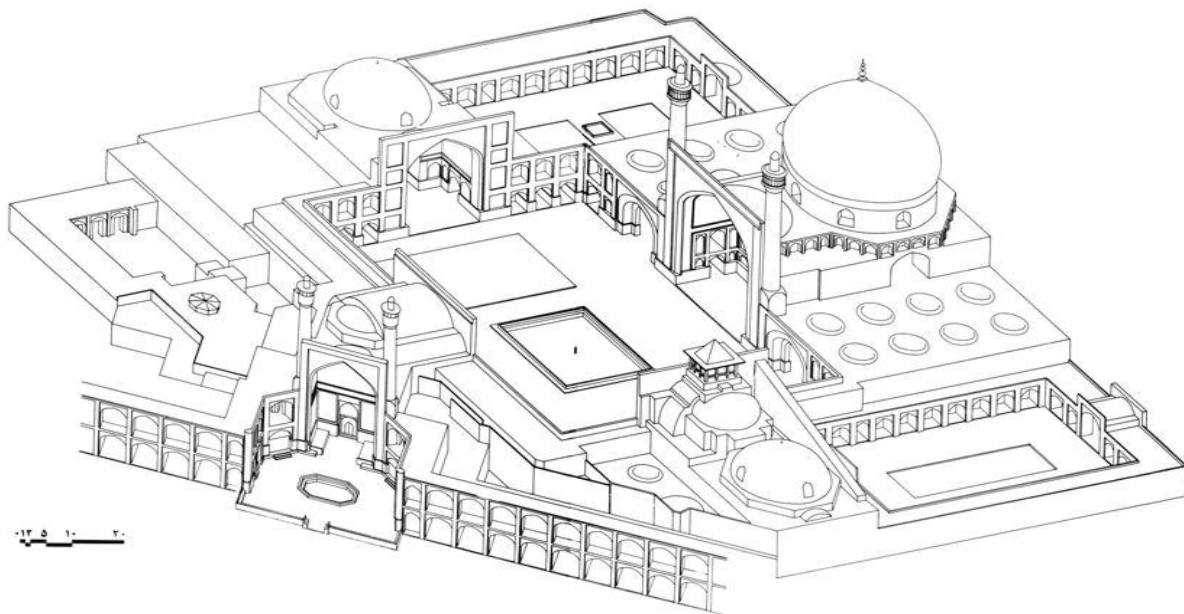


Figure 1: Abbasi Great Mosque of Isfahan, source: Ganjnameh, 1996

Architectural values

Isfahan Great Mosque has thousands of years of architectural experience in Isfahan. In this regard, many styles of the architectural history of Iran and neighboring countries can be identified inside it. Formation of various types of load-bearing brick walls decorated with geometric patterns, brick columns with different sections, including two-part, three-part, and four-part forms, which is obtained by combining circles, arches, and covering springs with various executive methods (Galdiri; 1392: 75-22). Quaternary porches with different

decorations, huge domes with innovative methods in the form of two continuous shells, rhythmic and decorated views around the courtyard, and ten entrances, each of which opens to a passage around the mosque. All of these works in the final composition form a unique collection that Mit Van considered as a continuous history and encyclopedia of the architecture of Iran and some other places, especially Central Asia. In addition, during the developments that took place in the mosque in the 5th century AH (12 A.D), the former Shabestani mosque became a four- porches mosque. This new style was named "Iranian Mosque" in comparison with the Shabestani

design (focusing on Arabic culture), and since then, most of the great mosques in Iran's major cities have been built in the same four-porch plan. In some existing mosques, changes were made to turn it into a four-porches mosque.

This pattern also spread to Muslim lands outside Iran. Therefore, the most important value of the architecture of the Isfahan Grand Mosque is that it has played the role of a leading pattern in the history of Iranian architecture (Figure 2).

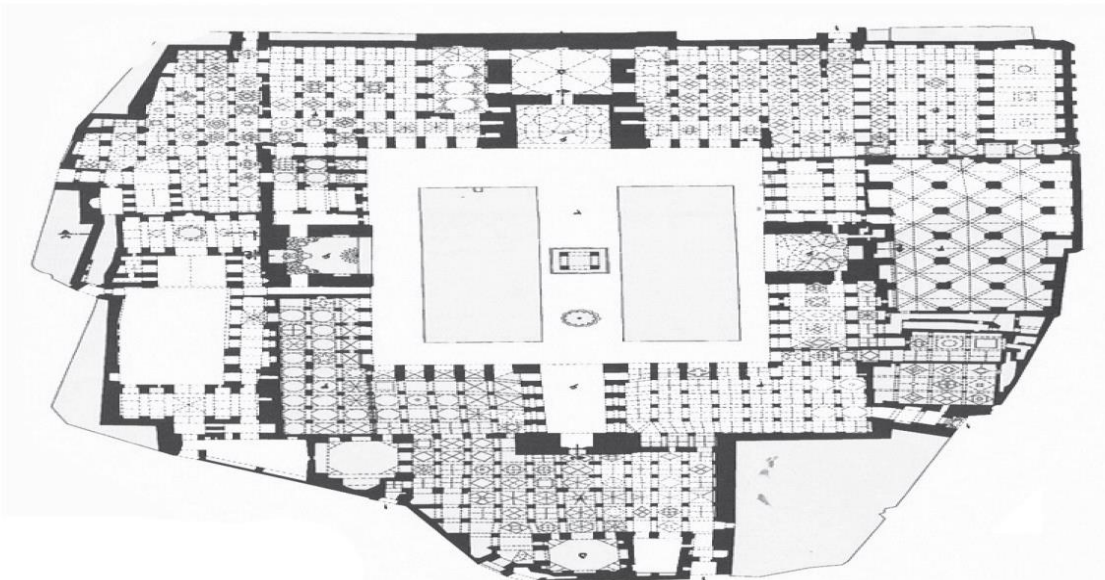


Figure 2. Plan of Isfahan Grand Mosque (Source: Schroeder, Galdiri; 2013: 325)

Structural and building values of the mosque

The most important principle known in architecture is the creation of interior spaces, and the most important mosque interior is the space in front of the adytum (Maqsurah). The space design in the mosque is of particular importance, but the structural buildings and the building execution technology are equally important.

The dome chamber in the great mosque is the most magnificent part of the mosque, which in the developments of the 5th century AH, the nave space has become a uniform and open space with numerous columns in front of the altar. Of course, dome construction has been in Iran since the pre-Islamic period, but the techniques used in the huge domes of the Isfahan great mosque have architectural features of the Islamic period in Iran. Buildings a load-bearing skeleton in these domes, which we call Turkinah domes, is one of the techniques that Iranian engineers and architects have invented to perform with bricks and have made it possible to build hundreds of types of domes (Galdiri; 2013: 232).

Decorative values in Isfahan great mosque

Decorative layers and surfaces are always considered important pillars of architecture.

Painting images of individuals or personalities in Islamic mosques was not allowed at the beginning of Islam, and the use of other motifs, such as geometric motifs or abstract nature, was considered decorative. In Isfahan Great Mosque, many surfaces and spaces are decorated with different methods that belong to different historical periods;

* In the third century A.H (10th century AD), brick walls were covered with wire mortar (very soft thatch), and the circular columns made of PreCut bricks (with a trapezoidal cast) had a brick facade with gypsum sealing.

* In the fourth century A.H, brick facade extensions (two-part columns and three-part columns) have been decorated with brick motifs from the Al-Buwayh period in muddy form (convex or concave).

* In the fifth century A.H, the Seljuk period, the surfaces were decorated with a combination of geometric motifs and a masonry font with letters perpendicular to each other.

* In the seventh and eighth century A.H, the period of the Ilkhani period, the decorative method has been mainly the creation of plastering surfaces with the use of various writing styles, and especially the construction of altars and their decoration with the plastering method was

accompanied by the use of abstract patterns nature.

* In the ninth century A.H (the Timurid period), the use of coatings as a method of formalizing and decorating surfaces with colored tiles has been common, especially in the facades around the yard.

In the tenth and eleventh centuries A.H (the Safavid dynasty), the Timurid style in decorations has continued to be used in decorations. Mogharnas in the east porch and the use of a combination of brick and tile with skill and elegance in the four porches around the courtyard are other measures in decorating the building in this period (Galdiri; 1392: 245).

Documentary values in Isfahan Great Mosque Inscriptions

Inside the southern dome known as the dome of Nizam al-Mulk, around the neck of the dome (interior space), there is an inscription in Kufic script from the Seljuk period in which this king and his minister, Khajeh Nizam al-Mulk, are mentioned. The origin of this inscription is at the end of the fifth century AH (1100 AD) (Honarfar; 1971: 95).

* Inscriptions with dates of 880, 937, 1070 AH can be seen inside the south porch connected to the Nizam al- Mulk's dome (Ibid; 91).

* There are two decrees, one by Shah Ismail Safavi dated 911 A.H (1531 A.D) and the other by Shah Tahmasb Safavi at the entrance of the south porch to the dome of Nizam-ol-Molk. On both sides of this entrance, there are two altars in the wall at the end of the porch, both of which have a date of 918 A.H (1538 A.D) (Ibid; 91).

* The inside of the west porch of the mosque, known as the Master's Sefa, is decorated with several inscriptions in the year 1112 AH (Honarfar; 1971: 109).

* In the north porch of the mosque, known as the Darwish porch, there are inscriptions with the dates 1093 and 1098 AH (ibid; 124 -127).

* The eastern porch of the mosque, known as the student porch, has an altar dating to 992 AH (1610 A.D) and an inscription dating back to 1093 A.H (ibid, 135).

* An inscription can be seen inside the Taj al-Mulk dome (northern dome) dates back to 481 A.H (Ibid; 77).

* The famous and very beautiful Al-Jatio altar decorated with various plasters and numerous inscriptions is located inside the Al-Jatio prayer on the western side of the mosque that dates back to 710 A.H (1330 A.D) (Ibid., 119).

* An inscription dates back 851 A.H (1371 AD) can be seen at the entrance to the Al-Jatiyo prayer inside Hayat on the western facade of the mosque (Ibid. 122).

It is clear from the content of the inscriptions that Shah Abbas used his property to build such a huge historical monument, which is, in fact, a destination for people with taste and lovers of fine industries and in addition, he has given the reward of completing this good and excellent building as a gift for the soul of his grandfather (Shah Tahmasb). However, as is clear from the history of the mosque building, this Safavid king did not succeed in completing the mosque in his life, and after him, mosque construction was completed by Shah Abbas Safi. (Mashkuti, 1967: 48).

South porch

The large south porch of the courtyard with rich decorations of tiles and muqarnas and two minarets with a height of 48 meters is the most important and glorious porch of the mosque. The floor of the porch is covered with turquoise tiles, and its plinths are covered with marble. The national inscription of the porch is written in white thuluth font on azure background by Abdul Baqi Tabrizi. The porch arches and the covering of its cracked tile were superficially restored during the reign of Mohammad Shah Qajar in 1261 A.H by Manouchehr Khan Motamed Doleh, governor of Isfahan, and in the recent period were completely restored during the Mohammad Shah Qajar period in 1261 AH. AH by Manouchehr Khan Motamed Doleh Gorji, ruler of Isfahan, superficially repaired in the recent period. The porch minarets are covered with tiles, and there are inscriptions in rufous-colored raster masonry font on a turquoise background. Also, in the upper part of the minaret, Quranic verses are written in the thuluth font on an azure background (Honarfar; 1971: 462-460).

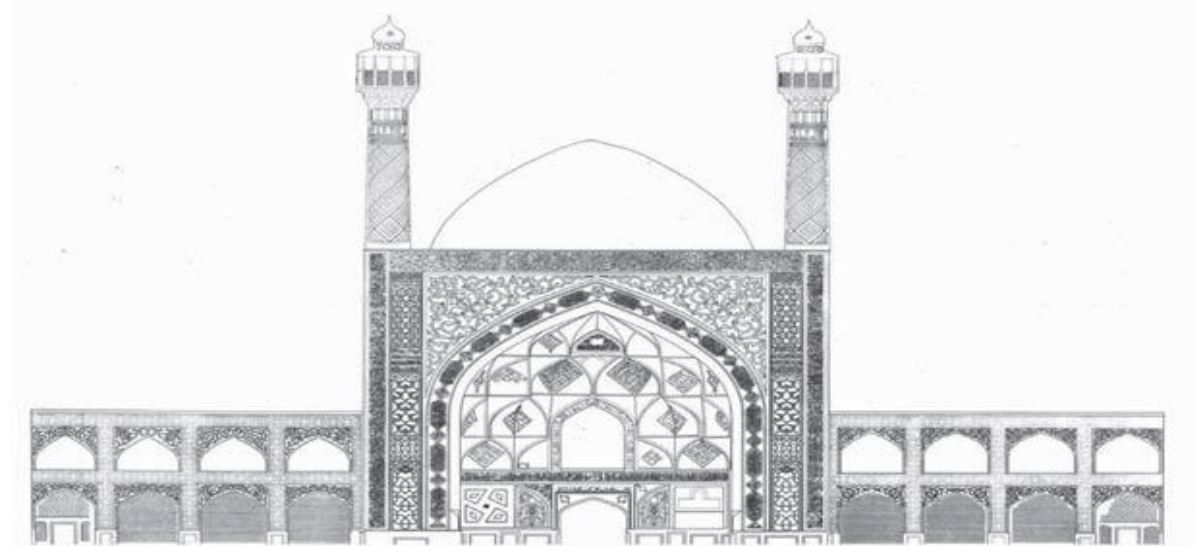


Figure 3. View of the south porch of the mosque (Source: Isfahan Cultural Heritage, Handicrafts and Tourism Organization).

The southern dome, well-known as the Khaje Nizam al-Mulk dome

Khaje Nizam al-Mulk dome has been built individually and freely after the destruction of a part of the harem located on the southern front of the mosque (1080 A.D) so that the covered spaces on both sides are separated from the mosque building, and the outer space of the dome has been completely free on three northern, western and eastern fronts. The current indoor spaces have been created after dome construction. This huge dome with an opening of more than fifteen meters and a height of about 30 meters with an eight-Turkish structure is placed on a cylindrical tambour (throat of the dome). This cylinder is built on very beautiful and skillful angles

that are defined as intermediate load-bearing elements. These corners transfer the load of the dome and the tambour to the eight columns. The cross-section of the vertical load-bearing columns is designed from a combination of four circles to show more elegance instead of a large and heavy cubic column. The structure of the dome has two brick shells: the outer shell that covers the sealings and the inner shell, which is the shell that is located between the sealings. A dome with the kufic font king of Seljuk and his minister Nizam al-Muk as the founder of the dome is located on the inner facade of the cylinder. In the space between the bricks, gypsum beads have been made, which is a symbol of the architecture of the Malik-Shah I era (Galdiri; 2015: 163-162) (Figures 4 and 5).

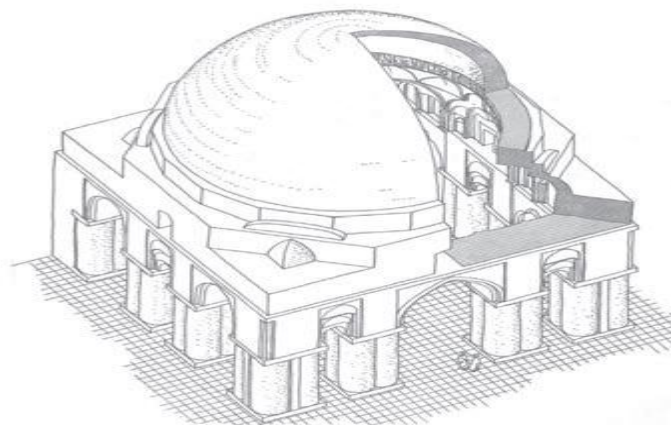


Figure 4. Three-dimensional design of Nezam-ol-Molk dome (Source: Galdiri; 2013: 163).

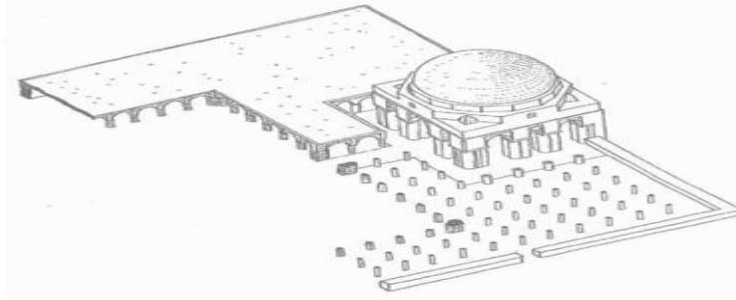


Figure 5. Three-dimensional design of Nezam-ol-Molk dome (Source: Galdiri, 2013: 216).

The northern dome is known as Taj al-Mulk

This dome is located on the north side of the mosque and exactly on the axis of the south dome with a distance from the north wall, and at that time, it was built outside the mosque. The Taj al-Mulk dome was certainly not built as a separate and independent building but was part of a large series of government buildings that were connected to it in the south and west directions, but its south and east facades were open. The entrance of the dome is built as an independent entrance on the eastern side of the dome in the next period. It seems that the land use of this dome was mainly ceremonial due to the lack of an altar and the open mouth facing the qibla. This dome is known as one of the most beautiful domes in the

Islamic world due to the use of various bricks in creating various types of geometric decorative designs and the very skillful and artistic execution of its walls and rafters. The construction technique of the Taj Al-Molk dome, like the southern dome, has been performed by turning a square plan into an octagon and then into a hexagon by creating four corners and placing a cylinder under the dome. The dome is still built in a continuous double form, and the outer and inner shells of the dome are covered with cracks or load-bearing skeletons of the dome. The inner shell with a geometric design decorated with brickwork is unique. There is a prominent brick inscription in Kufic script inside the dome that introduces the date of construction of the dome to 481 AH (1103 AD) and its founder is Taj Al-Molk (Jabal Ameli, 2013).

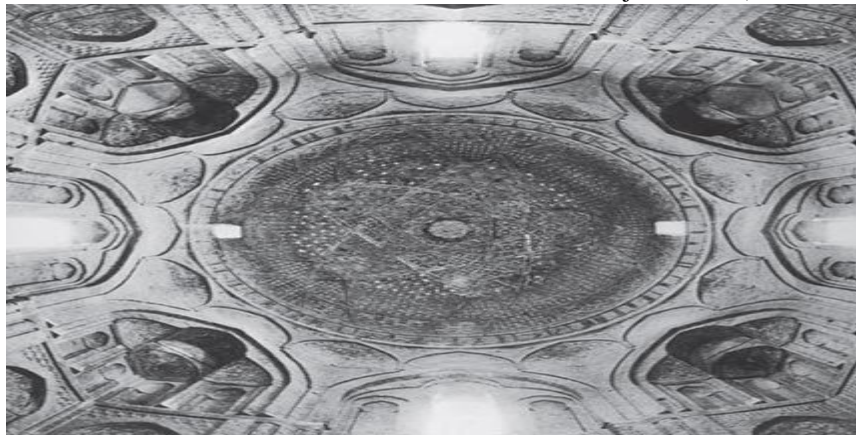


Figure 6. Inverted plan of Taj Al-Molk dome (Source: Isfahan Cultural Heritage, Handicrafts and Tourism Organization).



Figure 7. Interior perspective of Taj Al-Molk dome (Source: Isfahan Cultural Heritage).

Visual features of the decoration index of the Abbasi Great Mosque

Abbasi Great Mosque is definitely called the shining star of the Safavid period and the symbol of the peak of Islamic architecture in Iran, which has decorated the southern side of Naqsh-e Jahan Square. There are seven Sangabs which are made of granite and marble. The walls of the mosque are mostly covered with green marble from below along the mosque, and then beautiful and unique tiles with seven colors adorn the walls of the mosque. Placing a layer of lead at the height of 2 and 3 meters on the rocks is one of the interesting things that architects did at that time, which was due to their experience and high knowledge of architecture. This was done to achieve two goals: The first is to connect in a piece of stone, instead of cement mortar, and the second is to use the elastic property of lead to prevent earthquake damage in the corners of the south porch walls (Makinejad, 2002: 38).

Elements and characteristics of Tessellation of Abbasi Great Mosque

As the mosaic became the superior and common technique of the Timurid dynasty, the seven colors tiles became the first priority of decoration in the Safavid period. The reason for using seven-color tiles is considered to be increasingly advancing of architectural works, especially during the Shah Abbas I period in Isfahan, and economic problems. Although the seven-color tile was not invented by Safavid artists, and its formation began long ago, in the late patriarchal and Timurid periods, its real evolution was achieved in the Safavid period. The ability to easily install and the variety of colors that were achieved in the seven-color tiles of the Safavid period increased the power of artists to choose the most beautiful exterior and interior of architecture (Makinejad, 2002: 40).

Tiles decoration (graffiti walls) of Shah Shah Mosque in Isfahan shows unique elegance and tranquility. It was clearly derived from the simple color of the brick in surrounding buildings with natural landscapes and integrated delicacy of color configurations and fluidity of designs including Papyrus and Calligraphy (Michel; 2001: 65).

Observe the positive and negative space between the motifs

Most thinkers and art experts believe that Islamic decorations are more than just a cover and decoration. There was no need for a variety of colors, differences in designs, and a wide range of designs with different techniques if the purpose of decorating tiles was only building strength. Islamic aesthetics pays special attention to issues such as positive and negative atmosphere, the principle of symmetry and abstraction, timelessness and immateriality of proportion and types of composition, texture, balance, calmness, unity, light, color, spiritual elegance, and immortality of decorations. Both positive and negative atmospheres are important in Islamic tile decorations. Negative space does not mean a vain and vain space, but these two spaces as complementary souls and bodies, and their lives are Correlational and complementary with each other. (Makinejad, 2002: 69-70).

Proportions and combination of plant and arabesque motifs in tessellation

Observance of proportions is well seen in Islamic decorations. In decorations, it should be a logical proportion between the design and the dimension of place; that is, we can not implement every design and motif in any size, but we should consider points such as the thickness of the design and the motif, their distance from the observer and the degree of attraction (Makinejad, 2002: 69-70). The combination allows us to expand the designs and motifs. In tessellation decorations, the most combination in between geometric motifs and plant motifs. The combination is possible in a variety of materials, such as combining bricks with tiles or bricks with plaster. It is also implemented in designs such as geometric nodes in which plant motifs are (ibid).

Proper use of symmetry in plant motifs and colors

Symmetry, which has a long history and is one of the characteristics of the immigrant tribes of northern Iran and then the Kassites in Lorestan, is significantly visible in Sasanian art. And since then, it has been accepted as a principle

and implemented in Islamic architectural tile decorations. The basis of geometric and plant motifs is in circles. The circle is the complete geometric shape that has an image of completeness in Islamic art. Therefore, plant motifs have a continuous movement in time and place and are always reminders of unity in plurality and plurality in unity (Makinejad, 2002: 69).

Use of thuluth and naskh fonts in tiled inscriptions

In Quranic inscriptions, which are usually written in thuluth and naskh fonts and often in white, a long word such as alef(Persian) tends to flare up towards the sky, and they are so complex and intertwined that they evoke a halo light. The increase of white space on a dark background also seems to be the dominance of light over darkness. (Makinejad, 2002: 69).

Calmness and tranquility

Islamic art always seeks calmness. In architecture, nothing expresses struggle, there is no conflict, and there is no contradiction between heaven and earth. (Burkhart, 2011: 139). Muslims should feel comfortable and relaxed in the environment in which they live, just as the environment of a mosque is distinguished from anything transient and unstable by its stability (Helen Brand, 2001: 60).

Characteristic of the circular motion of the arabesques spiral

The creation of cyberspace in two two-dimensional levels is proved based on the relationship between curved motion and physics and the resulting ascent and descent; It is clear that mental cyberspace, in turn, can create spiritual worlds, especially with the mystical definition of Plotinus. In the sense that arabesque penetrates inside with its spiral movement, the same interpretation that considers inner discovery as equivalent to the true life of the soul, and on the other hand, arabesque movement and dynamism can be considered equivalent to live(Pourjafar-Mousavi Lor, 2002,191). The arabesque movement of a snail was not only to decorate different types of surfaces of buildings, books, handicrafts, and objects but also had sacred symbols. Originally, the characteristic of

rhythm and proliferation of elements, "Mystic remembrance and movement," is the religious and sacred concept of decorative motifs. (Ibid: 203). Arabesque is allowed to attend the mosque in full multiplicity. Arabesque can strengthen the sense of liberation from the material world, spiritual companion of a worshiper who is traveling and praying. In fact, arabesque has a sacred aspect and the concept of liberation from the Acheron (Ibid: 193).

Symbolic concepts between Arabesques and Khatai

The decorations are completely traditional and repetition of the symbolic roles of ancient Iran in the field of blessings. Almost the entire building is covered with glazed tiles, which are full of flower and plant motifs in an abstract and imaginative way. All these arrangements emphasize the Iranians' interest in germination and poetic love to flowers, from the great golden sun at the top of the dome, whose vitality effect spreads through the massive mass of flowers and bushes, to the high arches and frames adorned with thousands of fluid bindweeds and flowers of window nets as it is a desire for longevity. Although the design of the inner and outer motifs, the repeated arabesque rings differ in size and arrangement, is essentially the same. (Pope, 2009: 211).

Extensive use of arabesque clauses, arabesque head, dragon span arabesque, snake arabesques and proboscis arabesques

Pre-Islamic arabesque motifs have been used in the arts of various nations, especially Iranian arts, but its various and advanced forms can be seen in Islamic countries from the fourth century A.H, and its arabesque name is derived from Islam. Arabesque motifs have a soft and fluid movement that makes the viewer look happy and move around the decorated surface that draws the viewer's gaze happily to the movement and immovability across the decorated surface. In Iran, the Seljuk period and the Safavid period are the peak period of arabesque usage. Arabesque classification is based on their appearance. The dragon span is the most common arabesque, at the end of which is an arabesque like the open mouth of a dragon, and usually, one part is larger and the other is smaller. If this asymmetry is high and

one of the edges has a long elongation similar to an elephant proboscis, it is called a proboscis arabesque or an elephant proboscis, which is sometimes seen as two-headed. Another arabesque that is similar to the serpentine movements of the snake's body is called the tortuous snake body of the snake and manifests itself individually on the decorated surface (ibid.; 220).

Extensive use of the role of Shah Abbasi flower motif, hair leaf, five-feathered flower, almond and bud

During this period, the prolific Islamic and floral arrays largely replaced the geometric style, in which the formal elements blended well with the semi-naturalistic elements and with any moderate degree of customization. The designers of the Safavid period also depicted with a logical process any conceivable work that was possible with an arabesque plan on it. Thus, the prominent species of lotus flowers became the most impressive, and an eclectic combination of plant forms has emerged that has created new unique effects (Pope, 2009: 304).

Architectural decorations in the Safavid period and in the Abbasi Great Mosque

Safavid artists have inherited valuable experiences and works of past artists, and the path from the early Islamic centuries to the Timurid period in the field of architectural decoration continued by Safavid artists in a favorable manner with a remarkable trend. In this period, the companion and harmony of all kinds of decorations with architectural spaces also reached its peak, and the best decorative works are used in Chahar bagh school, Sheikh Lotfollah Mosque, Imam Mosque of Isfahan. It seems that in this period, decorations are as important as architecture (Makinejad, 2002: 40).

Techniques and methods

As the mosaic became the superior and common technique of the Timurid period, the seven-color tile became the first priority of decoration in the Safavid period. The reason for using the seven-color method is considered to be the increasing development of architectural works, especially during the Shah Abbas I period in Isfahan, and economic

problems. Although the seven-color tile was not invented by Safavid artists and its stages of formation had started from the late Mongol Ilkhans and Timurid stages, its real evolution was achieved in the Safavid period. The power of choosing artists to make the exterior and interior architecture more beautiful with the ability easy to install and a variety of colors that were obtained in the seven-color tiles of the Safavid period. The seven-color tile that is used for decoration today is a factory product and very thin with a thickness of about half a centimeter. However, the seven-color tile used in the Safavid period is a type of brick that all the steps of work and glazing were done by hand, and its thickness is not less than one centimeter. (Makinejad, 2002: 40).

The use of seven-color tiles in the decorative works of the Safavid period did not obsolete mosaic tiles, and mosaic was still popular in Safavid architecture. Examples of mosaic tiles include the outer covering of the dome of Sheikh Lotfollah Mosque and the Imam Mosque dome in Isfahan, the outer covering of the dome of the Shah Nematullah Vali tomb in Mahan Kerman, and Quranic inscriptions in the thuluth font in Imam Mosque, Hakim and Sheikh Lotf Allah, Harun Velayat Mausoleum and the Chahar Bagh school in Isfahan. These mosaics have been designed and executed with unique precision and skill (Makinejad, 2002: 40). One of the other methods that became popular in this period is Moqelli tile, which is one of the most convenient and least expensive decorative methods in Iranian architecture. Moqelli's Tessellation of this period is the same as the period before the combination of conventional brick with tile or full tiles. Moqelli tile is designed in a tabulated network and is easily installed in the same way. This method can be used for all different parts of architecture, from porches and harems to domes. A good and excellent example of this type of decoration can be seen in Hakim Mosque in Isfahan. In this mosque, almost all the spandrels are decorated with the Moqali method, and various types of glazed and unglazed pottery with embossing and also the method of combining mosaic tiles with bricks have been neglected. The reason for this was the problem of production, the need to spend a lot of time and skill, their inefficiency, and the fact that in these methods, artists did not have

enough power and background to express their artistic goals and creativity (ibid,41).

Tessellation

In the Islamic period, the art of Tessellation, such as bricklaying and plastering, gradually began with a new style, and in all Islamic periods, it was used for two reasons (layout and strengthening of the building). Many scholars believe that Iran is the first country to use Tessellation as the two mentioned factors, and almost from the end of the fourth-century A.H, very few buildings can be found that are not decorated with tiles. The use of tiles as a decorative element first became common in buildings from the Seljuk period. After the Mongol invasion, Iranian industries, especially Tessellation, entered a new phase. The use of pearl or glaze tiles became common in Ilkhanid buildings. (Hatem, 2007: 28-29). There are two types of tiles used in Islamic architecture decorations:

- * The body or body tile is made of flint, silica, and some salt mud.
- * Clay body or mud tile made of high-quality clay.

Monochromatic tile

Studies and excavations of Islamic sites and cities indicate that artists have been familiar with the construction of tiles and how to glaze them since the late fourth century A.H. Some historical and literary sources show that the use of tiles in buildings arrangement was common in early Islam (Kiani, 2017: 130). As the name implies, only one color is placed on the surface of the tile, such as turquoise or azure. Usually, the flat type of these tiles is used in the pedestals and floors of buildings. Later, these types of tiles were used in the mosaic method. Continued use of monochromatic tiles in the building led to the use of other colors, and colors such as brown, blue, garlic, indigo, white, and black like turquoise tiles, were common in the interior and exterior of the building in later centuries. Interesting examples of primary monochrome tiles include the tiles of Heydariéh Mosque, Qazvin Mosque, the mosque, and the minaret of Sin (Kiani, 1997: 130).

Mosaic tile

The creation of mosaic tiles (mosaic) began in the 6th and 12th centuries AD during the Seljuk period, but in the 8th-14th century A.D, craftsmen excelled in this field. They were able to make very small pieces of mosaic and create the most precise plant and geometric shapes in a collection of colorful glazes that can not be seen like them except in the oriental arts and especially Iranian arts (Hassan, 2019: 58). Mosaic 7Lm v c nh9o, also known as flower and plant tile, was used shortly after the spread of monochromatic tiles in Iranian architecture (Kiani, 1997: 132). Tessellation, mosaic, and their use in the architecture of Islamic Iran are very important from two aspects: extraordinary beauty and strength. It seems that the beginning of using mosaic tiles in the decoration of buildings was a combination of plastering and was gradually developed and completed. Placing small pieces of tile next to plaster pieces in various shapes, especially geometric designs, allowed the masters to make another change in the development of tessellation (Kiani, 1997: 123). During the Timurid period, the use of mosaic tiles continued, and most of the large surfaces were covered with it. During this period, the tessellation technique reaches its highest stage of evolution. (Hatem, 2007: 209). Buildings such as Ghiasieh Khorgard (848 AH), Goharshad Mosque (821 AH), Kaboud Mosque (870 AH) are some of the interesting examples of Iranian architecture that are accompanied by mosaic tile arrangement. The mosaic tiling method was developed in the Safavid period with extensive use, and many buildings were decorated with this method. Buildings such as Sheikh Lotfollah Mosque, Shah Mosque or Imam Mosque, Chaharbagh school, which are considered as masterpieces of the Safavid dynasty, have mosaic tiles.



Picture 8: Mosaic tiles, Abbasi Grand Mosque entrance. (Source: Author)

Seven Color Tile

Seven-color tiling became common from the 11th A.H because the continuation of the method of mosaic tile was not cost-effective. The development of seven-color tiles can be partly due to economic changes in the Safavid period. Considering the importance of architecture and the increasing construction of religious and non-religious buildings in the Safavid capital and other cities of the country, masters of architecture decided to use the method of arranging buildings with seven-color tiles in decorating various buildings. (Kiani, 2007: 133). In seven-color tiles, the work surface must be glazed because all the work steps are performed on a polished surface. Various designs of seven-color tiles are Islamic motifs that have been executed with special skill by Safavid artists in many buildings of this period. The seven-color tiling technic continued until the Qajar period. (Kiani, 2007: 136). The construction of large entrances with transparent tiles was very advanced in the Safavid period. The semi-dome of the entrance was usually decorated with Mogharnas plaster, and its surface was often decorated with tiles. At this time, instead of using glazed pottery, decorative tiles, which were created at the same time as the Isfahan School of Painting, have been used.



Figure 9: Seven-color tile, the entrance of Abbasi Great Mosque (Source: Author)

The decorative glory of the concave tiling of this head is so great that its density and abundance from a distance seem to form an integrated background. The details and complexity here are simply linked. The north porch, which its design is created from a

combination of two overlaid squares with an angle of 54 degrees.



Figure 10: Triangular cover above the north porch (Source: Author)

The dome is marked with a very light pea color. Around the turquoise semi-dome on the entrance of Mogharnas, the words of Allah, Ali, and Mohammad can be seen, which decorate the wall connecting the two minarets. Spiral drawings around complex columns have a text feature. All these writings are a type of propaganda for the religion of Shi'a Islam in Iran.



Figure 11: dome cover (Source: Author)

The altar of Chahar bagh mosque is located in the Nave. It is one of the most magnificent altars in Isfahan.



Figure 12: Altar of Abbasi Mosque (Source: Author)

East porch roof covering, which is designed from a semi-decagon with an angle of 11 degrees.



Figure13: Roof cover of the east porch of Abbasi Mosque (Source: Author)

Roof cover of a porch that design is created from a combination of two overlaid squares with an angle of 54 degrees.



Figure14: Roof cover of the west porch of Abbasi Mosque (Source: Author)

Mogharnas

Mogharnas is a kind of Karbandi consisting of tasses that are arranged in rows, and each row has another row that comes out from above. The result is a combination of steps, sometimes called "hive" or "septatic" arching. One of the most striking features of Mogharnas is geometry. Geometric analysis requires the analysis of Mogharnas into its components, namely rows and tools. The main plan of Mogharnas arrangements includes triangular and quadrilateral instruments. Each Mogharnas geometric analysis is considered as a volumetry due to its three-dimensional nature. Mogharnas always deals with three dimensions of width, height, and depth in different levels, from a single tasse to a row and to the whole composition (Najib oglu; 1956: 408).

Considering the Mogharnas of the mosque and its connection with architecture, it is stated as follows: Bricks and tiles have a high degree of flexibility so that the tile can be cut into the smallest possible pieces (mosaics) and the largest pieces. These pieces can also be used in curves, arches, and Mogharnas decorations. The muqarnas under the dome of Masjid Abbasi is a part of the arch that uses other similar or related components to create a three-dimensional effect that can be used to meet various needs from the wide niches under the entrance to the smallest building details (Helen Brand; 2008: 110) so that some special arrangements for decorating Islamic architecture (Graffiti)such as Mogharnas with a technique to solve the barriers between the structural elements of the building (heavy bearing) and the elements of its layout have been considered (Michel; 2001: 162). From this, it can be seen that graffiti such as mogharnas has been used for architectural purposes with fractures on its floor (Figure 18).

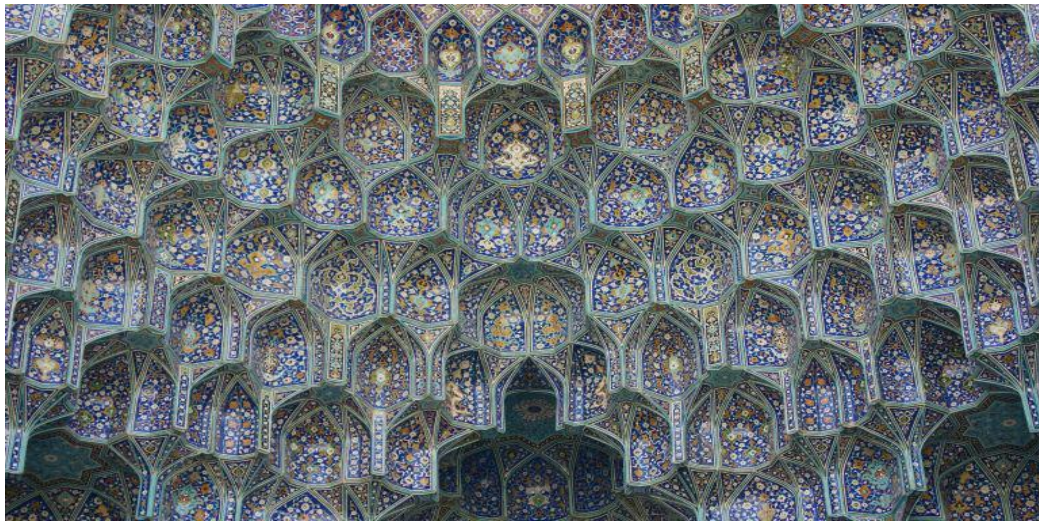


Figure 10. Graffiti in a visual unity with architecture, part of the Mogharnas under the Abbasi Mosque dome (Source: Isfahan Cultural Heritage, Handicrafts and Tourism Organization)

Conclusion

There has always been a very close connection between art and spiritual etiquette derived from religion in the history of Iran. In fact, religion has been one of the most important constituents of art, and the art of language has been the deepest human wisdom and the manifestation of the most beautiful theosophical feelings. The relationship between art and religion developed more than ever during the Islamic era. At a glance, all the motifs used in the Abbasi Great Mosque, including the types of Arabesques and Khatai, have been used in each part with a special feature and a difference, although they have been used jointly in all parts of a building. Among these properties, the following can be mentioned: the motifs used in the entrance gate are very delicate due to the use of mosaic tiles, which can be seen in the azure mosaic screw in the east porch. Of course, the designs in these parts are not very diverse due to the use of mosaic tiles; for example, hair leaves or flowers are not used, and they even have a simple nesting.

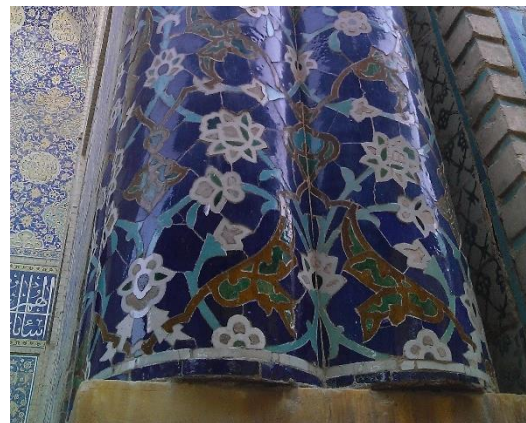


Figure 11: East porch of Abbasi Great Mosque. (Source: Author)

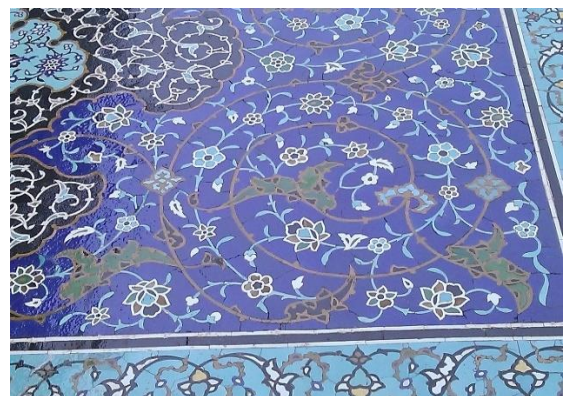


Figure 12: Entrance gate of Abbasi Great Mosque. (Source: Author)

Animal motifs have been used in only three parts of the mosque, including at the bottom part of the main mosque door, which shows two birds with the etching and reticulation techniques, or it is engraved on the main

entrance gate of the mosque, where two peafowls are symmetrically engraved on both sides of water jug from which the tree of life has grown, and another is in the eastern Nave. Of course, there are differences in depicting animals in all three places, including the peafowl role at the entrance gate of a mosque in a simple and far from non-naturalist techniques, while it has been tried to work the role of animals and birds in the east porch as well as in the main entrance gate in a naturalistic technique.



Figure 13: Entrance gate of the Abbasi Great Mosque. (Source: Author)



Figure 14: Entrance gate of the Abbasi Great Mosque. (Source: www.makanbin.com)



15: East nave of Abbasi Great Mosque. (Source: Author)

In the Safavid era, the peafowl, in addition to being considered a bird of paradise, was considered to be the gatekeeper and guide of the people to the mosque, and at the same time, it repels the devil and welcomes the theists. In

principle, Arabesques and Khatai are simple without decorations and embellishments. It can be seen the influence of the West in the composition, colors, and flowers in the floor motifs of the north porch. Also, other motifs such as Arabesques and Khatai are more elaborate and larger. The influence of Chinese art can be seen in the motifs, including arabesques, buds, and framed motifs on the west porch of the mosque. Sometimes the Chinese cloud is used directly.



Figure 16: West porch of Abbasi Great Mosque. (Source: Author)

Geometric motifs such as eight-pointed star, dice, and lilies, bergamot, mavis have been used only in the western and eastern naves, the entrance gate of the mosque, the minarets.



Figure 17: West nave of Abbasi Great Mosque. (Source: Author)

The Islamic motifs under the dome are repeated in the form of a dragon span with the heads of the Arabesques in the delicate configurations of Khatai and indicate a beautiful and coherent composition. The influence of Chinese art can be seen less in the vault. Cypress tree and plant motifs such as tulips, lilies, carnations can be seen in addition to animal and bird motifs in the eastern nave.



Figure 18: East nave of Abbasi Greate Mosque. (Source: Author)



REFERENCE

- Helen Brand, Robert (2008). Iranian architecture in the Safavid period, History of Iran), translated by Yaghoub Azhand, Jami.
- Kiani, Mohammad Yusuf. History of Iranian Architecture in the Islamic Period, SAMT Publications, Tehran, 2000.
- Mulazadeh, Kazem. Imam Mosque of Isfahan. Encyclopedia of Historical Monuments in the Islamic Period, Volume 3, Research Institution of Culture and Art, Tehran, 2008.
- Jenab Mir Seyed Ali Historical monuments and monuments of Isfahan. Editing: Rezvanpour Assar. First Edition. Published by: Isfahan Municipality. 2007.
- Dadkhah, Pezhman (2013). Historical study of artistic and architectural values of Imam Mosque of Isfahan. ketabmah, No. 180; 84-78.
- Pope, Arthur Upham. Iran's architecture. Translated by Gholam Hossein Sadri Afshar. Akhtaran Publishing. Tehran, 2004.
- Nikzad, Karim and Hosseini, Amir. History and buildings of Isfahan. Dad Printing House, Isfahan. Esfahan. 1959
- Nasiri Ansari, Mahmoud. History in Iranian architecture. Iran University of Science and Technology. Tehran. 1971.

Figure 19: Decorations under Abbasi Greate Mosque dom. (Source: Author)



Figure 20: north prach. (Source: Author).

- Hatem, Gholam Ali. Islamic Art and Civilization. Payame Noor Universit. second edition, Tehran, 2007.
- Honarfar Lutfullah. Isfahan treasures: Saghafi, Esfahan. 1971.
- Galdiri, Eugene. Isfahan Great Mosque, translated by Abdullah Jabal Ameli, vols. 1-3, Farhangestan-e Honar, 2013.
- Mashkuti, Nusratullah. List of historical monuments and ancient sites of Iran. Organization for the Protection of Antiquities Publication of Iran. Tehran, 1967.
- Jabal Ameli, Abdullah (2013). History of Isfahan Grand Mosque. Journal of scientific, technical and artistic sciences, No. 61
- Ganjnameh, Second Office, Isfahan Mosques, Shahid Beheshti University. 1996.
- Makinejad, Mehdi, (2002), The role of decorations in the Islamic architecture of Iranian tiles, Book of the Month of Art, No. 45 and 46, pp. 68-71.
- Michele, George. The architecture of the Islamic world. Translated by Dr. Yaghoub Azhand. Iranmosavar Publication. Tehran. 2001.
- Helen Brand, Robert. Islamic Art and Architecture. Translated by Ardeshir Ishraqi.: Tehran, 2001.

Pourjafar, Mohammad Reza, Mousavi Lor, Ashraf (2002), A study of the characteristics of helical rotational motion, *Journal of Humanities*, No. 43, pp. 184 - 207.

Chardin, Jean. *Travelogue of Isfahan*. Translated by Hossein Arizi. Published by: golha. Esfahan. 2000.

Pope, Arthur Ebham, (2009), *Iranian Architecture*, translated by Zahra Ghasem Ali, Samira, Tehran, 2009

Kiani, Mohammad Yousef, *Decorations related to Islamic architecture*, Cultural Heritage Organization, Tehran, 1997.

Ibrahim Hassan, Hassan. *Political History of Islam*, vols. 1 and 2. Translated by Abolghasem Payende, Javidan Publication, Tehran. 1987.

Najib Aghloo, Golro. *Geometry and Decoration in Islamic Architecture*, Nashr_Nahadgara, Second Edition, Tehran, 2010.