

Original Research Article

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On the investigation of decorative elements and architecture of the minarets of the Seljuk period in Isfahan

Abstract

Problem Definition: The minaret is one of the special decorative-functional elements in religious buildings and has an ancient background in pre-Islamic Iranian architecture. During the Seljuk period, which is one of the most important eras in the history of Iran, minarets of different dimensions and sizes were constructed in the city of Isfahan with beautiful decorations of brickwork, tile, plastering and inscriptions, which evoke dazzling majesty and beauty. These minarets have different uses and each of them has provided an appropriate context for the creativity and artistry of its founders and architects. The present research explores the decorative pattern types of these minarets.

Objective: The aim of the present study is to recognize the decorative patterns of the minarets belonging to the Seljuk period in Isfahan.

Research Method: The present study has been conducted based on an analytical-comparative approach and the data has been collected in a combinative (library-field) manner.

Results: The present achievements indicated that the minaret construction has become increasingly important in the Seljuk period in Isfahan and in most of the examined ones, various decorative designs have been implemented using brickwork technique, which are important in terms of the aesthetic visual elements further to the practical aspects.

Keywords: Minaret, Seljuk period, Isfahan, Adornments.

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Introduction

One of the most important physical elements that have an important and special place in the architecture, art, religion and social customs of Iran is the minarets. Minarets are among the most important visual elements in Islamic architecture, as well as, lesser known species, and the material published by researchers is mostly a repetition of the material in the past. The study of the minarets, in addition to the practical, technical and aesthetic aspects, shows a complete picture of the relationship between this type of architecture and the culture, economy, religion and artistic taste of its founders. Studies show that during the Seljuk period, like other architectural activities, many minarets were built in cities and villages of interest such as Isfahan to Seljuk rulers. In this study, eleven examples of surviving minarets from the Seljuk era coinciding with the fifth and sixth centuries AH in the City of Isfahan are studied using the analytical-comparative method. Recognition of decorative arrays is one of the main objectives of this research. Therefore, in the beginning, each of these minarets has been studied and compared by taking its photos and its recording decorative features. In the following, an overview of the examined minarets in relation to the classification of decorations, materials and arrays used in the framework of comparative tables is shown.

Research Method

The method of this research is analytical-comparative. Eleven examples of Seljuk minarets in Isfahan have been studied and compared in the beginning by using field research, photographing and recording decorative features. Then, the decorations, materials, arrays and themes of the inscriptions used in these minarets have been studied by providing comparative tables.

Research Background

Minarets have always been among the topics of research for scholars and researchers of the Islamic era. Although the first comprehensive research and introduction about minarets was carried out by Abbas Zamani (1972) in Persian language sources, specifically in the books of "Godard" (1989, vol. 4) Helen Brand (2012), Hatam (2000) and Mokhlesi (2012) have discussed and researched the history of the minaret, its use, components and decorations more than the others. During studying the influence of the Seljuk bricklaying tradition in Kharazmshahi and Ilkhanid eras, Shokofteh; Ahmadi & Oudbashi (2015) recognize the brick arrangements in the decorations of a number of minarets of this period. Sarikhani; sharifinia & Shakarami (2015) have examined some of the minarets of the Seljuk period in a study of the inscriptions of religious verses. Khazaei & Mansouri (2016) have also researched the morphological classification and analysis of the arrangement of brick decorations in some of the Seljuk minarets of Isfahan and have found the connection between the decorations of the minarets and the

religious beliefs of that period in some journals. Studies show that despite the importance of Seljuk minarets in Isfahan, so far no research has been done in a process that is consistent with the approach that specifically includes all the decorative arrays. Therefore, by examining the decorative elements of these minarets, the knowledge of their use aspects is also considered in this study.

Examples of Research Studies

The studied minarets are eleven examples that are located in the geographical area of Isfahan Province. These works are decorated with various decorations, materials and inscriptions with numerous Quranic verses. Accordingly, while introducing study samples, the types of decorations and their characteristics have been studied.

1. Barsian Minaret

Barsian mosque and minaret are historical structures in Isfahan Province (Honarfar, 1971, 175) (See Figure 1). This minaret is the third oldest monument in terms of antiquity and shows the history of Isfahan (Smith, 1989, 134). Barsian minaret consists of single and circular bars that are about 35 meters high and have a diameter of 5.75 meters above the ground and 4.2 meters above. The lower part of the minaret has simple brickworks and the upper parts have brick decorations. In the upper part or the crown of the minaret, two margins with a slight protrusion that forms the crown can be seen. No tiles have been used in the decoration of this minaret. In the text of the narrow margins above the main body of the minaret, rhombus and round shapes are used one by one. The decorations of the minaret crown are different from its body (Hatam, 2000, 55). In the crown of the minaret, there is an inscription in simple Kufic script with bricks, the subject of which is verse 77 of Hajj (See Figure 2) and in the end, there is the history of the building (491). The method of writing the inscription is very simple and there is no decoration in it, except that the letters have a special elongation (Godard, 1989, vol. 4, 182). This minaret is an example of Seljuk buildings in the fifth century AH that has the best technical tips of brickwork. The arrangement and placement of bricks in the upper and lower margins of the inscription and in the crown of the minaret in Isfahan is rare (Hatam, 2000, 55). Barsian Minaret No. 265 has been nationally registered.

2. Chehel Dokhtaran Minaret

It is located in the northern end of Joobareh quarter (See Figure 3), one of the old quarters of Isfahan (Hatam, 2000, 60). This minaret is the second oldest minaret known in Iran (Smith, 1989, 138). It was built by Abolfath Nujahi in 501 AH (Honarfar, 1997, 109). The circular part of the minaret is 21 meters high, totalling



Figure 1.
Barsian Minaret.
Source: Autores



Figure 2.
Inscriptions and brick decorations of Barsian minaret.
Source: Autores

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26 meters with the base part. About one meter from the height of the minaret from above has been destroyed. The diameter of the minaret was initially 2.9 m, the wall thickness is 55 cm and the diameter of the central octagonal column is 55 cm. Above, the diameter of the minaret bar is 2.3 meters, the wall thickness is 55 cm, and the diameter of the middle pillar of the minaret is 33 cm (Azad, 2014, 47). This minaret is decorated with three inscriptions, two of which are in Kufic script and one in Naskh script. The first inscription in Kufic script is located at the top of the minaret and contains verses 2, 3 and 4 of Taha Chapter of the Qur'an. The second inscription is in Naskh script and consisted of five lines the fourth of which and part of the fifth line have disappeared. The text of the inscription includes the phrase: "In the name of God, the Most Gracious, the Most Merciful, there is no God but Allah. He alone has no partner. Muhammad is the Messenger of God, may God's blessings be upon him, ... Ali Ibn Abitaleb, May Allah be pleased with them all."

«بسم الله الرحمن الرحيم لا اله الا الله ، وحده لا شريك له، محمد رسول الله صلى الله عليه، خير الناس بعد رسول الله صلى الله عليه على بن ابي طالب رضى الله عنهم اجمعين»

The text of the third inscription is written in six lines in Kufic script, which is:

"This minaret is from the house of the unfortunate Lar Abi Al-Fatah Ibn Muhammad Ibn Abdul Wahid Al-Huwaji, close be he to God the Almighty and the Exaltation of His Majesty and the great reward of accepting God from His mercy and the completion of it in the Sunnah of the Al-Hijrawiyah (thus)."

«هذا المنارة بنت من ماله الاسفها لار ابي الفتح بن محمد بن عبدالواحد الهوجهي تقرباً الى الله سبحانه و تعالى و ابتغاء موضاته و جزيل ثوابه تقبل الله منه برحمته و فرغ اتمامها في سنة مانه الهجرية (كذا)

The main value of the inscriptions of this minaret is that one of them is written in Naskh script and this inscription is the oldest text of this type (Naskh inscription) which has been engraved on a building with history in Iran (Godar, 1989, vol. 4, 183). Chehel Dokhtaran minaret has the national registration number 231.

3.Gar Minaret

The village of Gar, which is pronounced "Jar" by the locals, and it is also written "Qar", is located 22 km east of Isfahan on the shores of the Zayande-h-rood (Honarfar, 1972, 182). The minaret has a round, single bar with a brick collapsed tip, which is erected on an octagonal base (See Figure 4). The pedestal of the minaret, which is two meters high, has a crumbly mortar made of sand, gravel, lime and ash. The base, which is gradually decreased in thickness, is 4.8 meters high. The entrance is on the southeast side of the base, just above the ground level. The diameter of the minaret bar at the bottom is approximately 5.5 meters. Its highest point is 4.7 meters in the current situation and the thickness of the minaret wall is 74 centimeters. The height of the base and the minaret pole is currently about 21 meters. There is no trace of tiling in this minaret and the mortar used is a mixture of plaster and soil (Jafari Zand, 1998, 6-8). According to the Kufic inscription in the minaret, this minaret was built in 515 AH by a person named "Sayyid al-Rusa 'Abu



Figure 3.
Chehel Dokhtaran
Minaret.
Source: Autores



Figure 4.
Gar Minaret
Source: Autores

al-Qasim" (Honarfar, 1997, 109). The pole of this minaret is decorated from the bottom to the top with a simple and uniform cover, and the bricks used in it are cut and stacked in such a way that the phrase "Al-Mulk Allah" is repeated on the whole script of the building on a brick checkered background (Hatam, 2000, 63). Gar minaret has the oldest historical inscription written in the orthogonal Naskh script and is known in Iran so far (Smith, 1989, 141). It has the national registration number 270.

4. Ali Minaret

Ali minaret (See Figure 5) from the works of the sixth century AH is one of the specific examples of Seljuk architecture (Sterlin, 1998, 44). The current height of the minaret to the first crown is 40.35 meters, the middle part is about 7 meters and what is left of the upper part is half a meter high. Therefore, its height reaches 47.85 meters. The main body of the minaret is made of bricks. In the body of this minaret, various interesting decorations have been used. The decorations at the bottom of the minaret stem include polygons, crosses, four-pointed flowers, six-pointed and eight-pointed stars, and delicate rhombuses. There are two rings of brick inscriptions with an orthogonal Naskh script, which creates a special variation between the lower designs and the upper crown. At the top of the crown of the minaret, there are patterns such as the middle part of the stem. The inscription adjacent to the second crown, which was constructed by placing tile pieces in a tessellated style and with an orthogonal Naskh script, has a beautiful color and a special effect with turquoise color along with earthen bricks. The second crown and the upper bar are currently ruined and probably had decorations such as the lower crown and bar (Hatam, 2000, 65-66). The minaret of Ali has five inscriptions from top to bottom as follows: The first inscription in Kufic script with a turquoise tile on a brick background in the upper part of the minaret repeats the words "There is no God but Allah". The second inscription in Kufic script with turquoise tiles is repeated under the minarets with the phrase "Al-Mulk Allah". The third inscription is in Kufic script with the turquoise tile "There is no God but Allah, Muhammad is the Messenger of Allah". The fourth inscription is in plaster on a checkered background in large squares, "He is the God with god but He." The fifth inscription in embossed brick building script on gypsum background includes verse 18 of Ale-Imran Chapter of the Qur'an (Rafi Mehr Abadi, 1973, 430). Ali Minaret has the national registration number 96.

5. Seen Minaret

The village of Seen, six kilometers north of Gaz, located in Isfahan, has a mosque and a minaret from the Seljuk period (Hatam, 2000, 68) (See Figure 6). Seen



Figure 5.
Ali Minaret
Source: Autores

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Minaret is the ninth oldest minaret in Iran (526 AH) (Mokhlesi, 2012, 330). For the first time, colored tiles were used for decoration in the upper part of it (Mokhlesi, 2012, 342). Seen Minaret has a base that is elevated and connected to another building, in the shape of a square, one corner of which is circular (behind the fish), on which a high octagonal pedestal is placed, which becomes narrower from bottom to top. In the middle of the minaret bar facing the Qibla, a wide window has been installed, which has a balcony similar to that of the Gar minaret. In the body of the minaret, a high decorative part can be seen, which is decorated with dormant porcelain brick industry with wide blinds, in which intersecting spiral scripts with 45-degree angles show rectangular patterns with a prominent center (Smith, 1989, 152 -153). This minaret has two inscriptions in Kufic script, one of which includes verse 33 of Fussilat Chapter of the Qur'an and the other is a memorial inscription of its construction (NikzadAmirhossini, 1973, 202), history (526 AH). This inscription is the oldest history that has been discovered so far on a building decorated with tiles with enamel ornaments in Iran (Godar 1989, 184). It has the national registration number 281.

6. Sareban Minaret

Sareban minaret is located in Jooybareh quarter, not far from the Chehel Dokhtaran minaret (Riahi; Ghasemi Sichani & Javeri, 2012, 141) (See Figure 7). The trunk of this single and round minaret consists of three floors and its height is approximately 48 meters. The diameter of the minaret bar at the bottom is 6.2 meters, which decreases at the top. This minaret is very interesting in terms of beauty and tile and brick decorations (Hatam, 2000, 68). It has seven distinct parts from bottom to top: The first part is simple brickwork. The second and third parts have masterly decorative brickwork. The fourth part is the first crown of the minaret, which has Muqarnas brick with turquoise tiles that is very interesting and rich. The fifth part has decorative bricks, the sixth part is the second crown of the minaret and the seventh part is the vertex of the minaret. At the base of the two crowns of this minaret, two very beautiful inscriptions of the best turquoise tiles are seen and read (Honarfar, 1971, 199-203). The date of construction of this minaret is not mentioned in its current inscriptions, but it is estimated to have been built between the years 550 to 688 AH (Smith, 1989, 165-166). Although the construction year of this minaret is not known, from the architectural and inscription point of view, it seems that like Ali minaret, it was built between 525 and 550 AH (Godar, 1989, vol. 4, 150). Sareban minaret has three inscriptions in Kufic script (Honarfar, 1350, 200-203). This minaret has been nationally registered under number 232.



Figure 6.

Seen Minaret

Source: Autores



Figure 7.

Sareban Minaret

Source: Autores

7. Ziar Minaret

This minaret (See Figure 8) was erected near the village of Ziar and among the ruins of the city, which, according to the locals, was called the city of "Vandilan" (Godar, 1989, vol. 4, 162). Ziar minaret has an octagonal brick base, single and separate, which also uses turquoise bricks and tiles (Godar, 1989, 69). In this three-story minaret, each floor is made narrower than the lower floor, and a crown or belt can be seen above each of the first and second floors. The upper floor has a platform called the chamber or shelf on the minaret. The height of this narrow and delicate minaret is 50 meters and the diameter of its trunk at the bottom is about 4.8 meters. In the building of this minaret, various brick and tile decorations can be seen. At the bottom bar, these ornaments are decorated with various geometric designs along with small and rectangular turquoise tiles and rectangular inscriptions, and at the top, an inscription in Kufic script and turquoise tiles appears on a brick text. At the top and bottom of this inscription, a prominent belt is carved of brick, and below it, there is a narrow border of turquoise, rhombus and round tiles. The round pieces are concave and the glaze is thicker and darker in the middle. The trunk of the minaret on the second floor is decorated in four parts, the lower part is simple and the second part has rectangular and diagonal inscriptions. The third part is decorated with rhombus shapes and flowers of seven or nine colors. The fourth part consists of Naskh inscriptions of repeated rectangular copies of turquoise tiles, which are written in brick squares and orthogonally placed between the bricks. On the third floor, the stem of the minaret, there are four narrow windows with a rounded Toranj design or so-called crooked round. The fourth window, which is taller, was the door. At the end of the minaret, there is a brick chamber, and an inscription in Naskh script and turquoise tiles can be seen. The date of construction of this minaret is not mentioned in its inscriptions. The importance of this minaret is that it is the only example of three-story minarets in Isfahan that has remained in its original state and has not been occupied or interfered with (Hatam, 2000, 71). The inscription of this minaret in its upper part in embossed Kufic script with turquoise tiles on a simple brick background includes the 33rd verse of the Fussilat Chapter of the Qur'an (Honarfar, 1971, 204). Ziar minaret has been nationally registered under number 285.



Figure 8.

Ziar Minaret

Source: Autores

8. Rahravan Minaret

Rahravan Minaret is located in Rahravan village, eight kilometers north of Isfahan (Riahi; Ghasemi Sichani & Javeri, 2012, 141) (See Figure 9). This minaret is built on a short single base with round bars and it is of brick in two floors. The end of the first floor has a church bell-shaped frame that is built in the style of a train. The length of each of the sides of the base of the minaret is three meters and the shaft of the minaret is made tangential to its sides. The staircase building is an ordinary

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minaret, except that the middle bar is built in a part of the octagonal path. This floor, in addition to the base of the minaret, is 25.28 meters long and the total height of the minaret is approximately 29.50 meters (Smith, 1989, 167). The minaret bar is divided into five parts: The lowest part is made of simple brickwork. The second part has wide vertical curves between the bricks and the third has an inscription in the orthogonal Naskh script, which is normal and diagonal. The fourth part consists of ordinary rhombus motifs and the last and fifth parts are inscriptions in the form of a necklace made of turquoise mosaic tiles. This color can also be seen in the three narrow edges that are located between the upper areas of the minaret. Tile material is weak and the color is not uniform. The construction year of this minaret is not mentioned in its inscription. The upper inscription of this minaret, which is written in Sols script and turquoise tiles, is as follows: "There is no god but the God is true and sincere, Muhammad is the Messenger of God." (Honarfar, 1971, 205). The minaret of Rahrovan has the national registration number 233.



Figure 9.
Rahrovan Minaret
Source: Autores

9. Shia(Shiite) Mosque Minaret

On the eastern side of Hatef Street, in the oldest quarter of Isfahan, where the original mosque called the Khoshnian Jome Mmosque was built, there is a minaret next to Imamzadeh Ismail (See Figure 10). This circular minaret was placed at a height of 3.5 meters from the base, where the rest of the minaret was destroyed and later a tiled garland with a diameter of 2.65 was added. It has an ordinary staircase building. The minaret bar is simple at the bottom and has large cross-shaped and small squares at the top, which are embodied by wide blinds between the bricks (Smith, 1989, 148). The minaret consists of three parts:

1. The lower part of the body of the minaret, which is located between the walls of the mosque, which is made using bricks and gypsum mortar and does not have any brick decorations.
2. Between the lower part and the next part, there is a space using rhombic and circular bricks, which has a few decorations and surrounds the minaret. At the top, there are designs in the form of large crosses and small squares, which are embodied by wide blinds between the bricks.
3. The upper part is decorated with turquoise tiles and is surrounded in a spiral shape. Shia Mosque has the national registration number 112.



Figure 10.
Shia(Shiite) Mosque
Minaret.
Source: Autores

10. Goldasteh Minaret

In the north of Dardasht Bazaar, in an alley called Goldasteh, a small minaret can be seen, which is known as Goldasteh Minaret (See Figure 11). The name of this minaret is derived from a spire that was later built on a collapsed pole of the minaret. Three meters of the mentioned bar can be seen above the small mosque

of Goldasteh and in the lower part of it, which is about 6 meters, it is hidden between the walls of the mosque. Although there should be a blocked entrance near the ground level, now the entrance to the stairs is through the second door that has been opened from the roof. The diameter of the minaret trunk at the same height as the roof is 2.22 meters, the thickness of the minaret wall is 21 cm and the diameter of its central circular pillar is 54 cm. The building of the minaret and its exterior are made of brick. About one meter above the roof surface, a pattern is depicted that has 45-degree angles and orthogonal Naskh scripts. Due to lack of inscriptions, in this mosque or on the minaret, it is not possible to specify a written date. Although this minaret is similar to that of the Shiite Mosque, it seems to be later in history and it apparently belongs to the second period of the Seljuk era (Smith, 1989, 149).

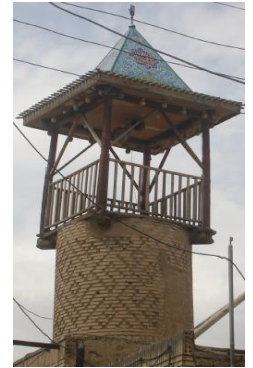


Figure 11.
 Goldasteh Minaret.
 Source: Autores

11. Gaz Mosque Minaret

Gaz village is located 18 km north of Isfahan and has a mosque and the remains of a minaret from the Seljuk period and a caravanserai from the Safavid period (Honarfar, 1971, 189). This minaret, which belongs to the Seljuk period, used to be much taller than it is today, but it has been destroyed and it has collapsed over time (See Figure 12). The trunk of this minaret is decorated with beautiful brick decorations and most likely the minaret inscription was located in the upper part of the minaret, which has been destroyed due to falling. However, according to the architecture of the mosque and the Seen minaret, which is located six kilometers from this village and according to an existing inscription, the year of its construction in the first quarter of the sixth century AH shows that the mosque and Gaz minaret were built in the same era or earlier (Hatam, 2000, 72). Gaz Mosque and Minaret No. 324 have been nationally registered.



Figure 12.
 Gaz Mosque inaret.
 Source: Autores

Table 1. Type of materials and decorations of Seljuk minarets in Isfahan. Source: Authors

The name of the minaret	Materials					Decorations
	Brick	Plaster	Stone	Tile	Wood	
Barsian	✓	✓				Brickwork decorations in the shape of rhombuses and rounds
Chehel Dokhtaran	✓				✓	Brickwork, mosaics, equilateral triangles
Gar	✓	✓	✓			Simple and uniform coverage, the use of cut bricks
Ali	✓	✓		✓		Fermented brickworks, twisted lattice lines, six-pointed and eight-pointed stars

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The name of the minaret	Materials					Decorations
	Brick	Plaster	Stone	Tile	Wood	
Seen	✓			✓		Spiral lines with 45 degree angles, dormant bricklaying, use of turquoise tiles
Sarban	✓	✓		✓	✓	Cut bricks with geometric patterns, turquoise bricks and tiles
Ziar	✓			✓		Various geometric designs, rhombus shapes and flowers of seven or nine colors, use of turquoise tiles
Rahrovan	✓				✓	Decorations in the form of ordinary rhombus patterns and the use of turquoise tiles
Shia(Shiite)	✓	✓				Lozenge and circle bricks, small 45 degree squares, spiral turquoise tiles
Goldasteh	✓					The exterior has worn bricks
Gaz	✓					The exterior has worn bricks

Conclusion

Minarets of Iran have been considered and have evolved in each period from the distant past with the political situation of each dynasty due to various aspects, architectures, cultures and religions. Examples of surviving minarets show culture, initiative, and creativity on the one hand, and personal and ethnic tastes of its founders on the other. During historical periods, especially in the fifth century AH simultaneous with the Seljuk era, there was a dramatic change in the development of minarets. The art of minaret-making reached very advanced stages in terms of architecture, plan and decorations, and numerous minarets were created in most parts of Iran, especially in Isfahan; and this city is famous for its beautiful minarets. The minarets of this century, along with their desire and guidance, became the most important architectural structures of that era due to its importance in connection with religious issues such as prayer and call to prayer and, of course, as the most practical buildings for use in religious duties, as they were considered by architects and artists. The minarets, as part of the works of art and architecture of the Seljuk period and their decorations, were the subjects studied in this article. Therefore, in this study, which was based on the study of eleven minarets of the Seljuk period in Isfahan, the main question of this research, which is to know the

decorations of the decorative elements of these minarets, should be answered using an analytical-comparative approach, making objective observations and library research. Findings confirm that in the Seljuk period, despite the construction of minarets with different materials, architects realized the importance of decoration, as the Seljuk minarets of Isfahan had the most beautiful artistic designs and rich treasures. It is a mixture of taste and talent of their founders and artists. The examples of the remaining minarets, often display different types of brick ornaments, various decorative designs using Quranic verses, various geometric designs, rhombus patterns, small squares, triangles, brick Muqarnas, turquoise tiles and a variety of calligraphies. In general, the Seljuk minarets of Isfahan are of great importance and undoubtedly among the architectural features of this period is extensive use of bricks. Therefore, the artists of this period did their best to give the minaret aesthetic and decorative aspects in addition to its usual functions. As a result, their decorative aspects grew rapidly and the richest designs and forms emerged.

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