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Impression of Plant Motifs Common Contents of Iran's Pre-Islamic Architecture on Islamic Architecture Schemes (Respect to Umayyad and abbasid periods)

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Abstract

The sacredness of plants among nations has led to the apparent and latent implications of these elements in the arts and architecture of various nations. In ancient Persia, the impacts of plant motifs can be seen in the architectural ornamentation, which is also prevalent in other nations. Problem statement and research aim: The current study pursues to find the inherent concepts of plant motifs used in the pre-Islamic Iran architecture and to understand the impacts of pre-Islamic architecture on the architecture of Umayyad and Abbasid periods. In this regard, the symbolic and mythological concepts of plants such as lotus flowers, acanthus, and various trees such as palm and vine, which are commonly used in pre-Islamic Iranian architecture and Islamic architecture, have been deeply scrutinized.

Research Method: This research aims at interpreting the perpetual influence of these plants on the common beliefs and the architecture of the two aforementioned periods and it tries to seek the reasons for conveyance of these motifs from pre-Islamic architecture to Islamic era. Therefore, using the interdisciplinary study methodology, this study aims at comparing the motifs of prominent pre-Islamic buildings of the Achaemenid period (Persepolis) and the Sassanid period (Ctesiphon palace, Taq-e Bostan and Bishapur Palace) with those of Umayyad period (such as Qobbat Al-Sakherah mosque, Al-Hayr palace, Al-Mshatta palace, and Kherbat Al-Mafjar palace), and Abbasid period (including the Belkoura palace, Seymareh mosque and Noh Gonbad mosque). After interpreting the buildings historically by referring to various texts, the common implications of plant motifs were revealed and their manifestations in the architecture of both historical periods are deeply analyzed and discussed.

Conclusion: The results show that the existence of noble concepts such as purity, clarity and sacred force of life, knowledge and wisdom observed at plant motifs is the main reason for their use in architecture, which convey the same implications in the architecture of both periods. Moreover, it is deduced that the use of different motifs such as palmette (palm leaves), lotus leaves in Al-Hayr palace and Kherbat al-mafjar palace, the vine leaves and grape clusters in Qobbat Al-Sakhreh, as well as the triangular and circular forms in Al-Mshatta palace indicate the presence of Iranian art and architecture in the architecture of Umayyad and Abbasid periods. In addition, the geographical adjacency, believing in the same ideals, language, art and partnership in the creation and instructions of scientific schools are other reasons for the conveyance of motifs from Iranian architecture and culture to the Islamic architecture, especially Umayyad and Abbasid periods.

Keywords : *Sacred Plants, Plant Motifs, Lotus, Flower, Palm Leaves, Iranian Architecture, Islamic Architecture.*

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Introduction

The extensive presence of plant motifs in Iranian art should be sought in ancient beliefs that sanctified the plants and respected the nature. In all ages, decorative pictures and flowers were prevalently drawn on objects and buildings (Nadim, 2007: 17). The creators of these works manifested their inner self-perception, and depicted these motifs alone or in combination with other motifs (animal, human, and geometric patterns). The construction of Persepolis is one of the first examples where the plants are used as ornamentation motifs. Plant motifs in Achaemenid works of art include lotus flower, palm, cypress and multi-petal flowers; each of which has its own profound meaning and concept. The influence of Achaemenid plant motifs on the subsequent periods, especially the Sassanid era and other different periods (especially Umayyads and Abbasids), is of interest to the present study. The plant motifs in the Sassanid period included palm, vine leaves and stems, lotus flowers, the grapes and pomegranate (Azami, Sheikhol hokamae & Sheikhol hokamaei, 2013: 15). These plant motifs were seen in the form of significant paintings that were first depicted simply on Achaemenid stone reliefs, especially in Persepolis, and then appeared on the windows and walls of vaults and niches inside the palaces and decorated the unique collections (Kiani, 1995: 96-97). In Islamic period, plant motifs have been used in different realms. However, the ornamentations created during Umayyad and Abbasid periods are of substantial significance due to their influence on later periods. These ornamentations consisted of lotus flowers, vine stems and leaves, grape clusters and palm trees as well as animal motifs (Zamani, 1976: 142-144; Ettinghausen et al., 1999: 48).

Research background

The use of plant motifs with geometric shapes in Iran has a long history. In ancient Iran (the Achaemenid and the Sassanid era), plant motifs were used in the decoration of buildings, and were consequently conveyed to other civilizations in Iran and other countries. With regard to the ongoing studies on Iranian architecture and its

adornments, it is clear that experts such as Arthur A. Pope (2003), André Godard (1998), Hillenbrand (1999), and others only refer to the general description of the progress of this art in different periods, and have disregarded the identification and introduction of their iconic features. Sassanid ornamentations have been studied by many scholars but the interior decoration of the Islamic period (in particular Umayyad and Abbasid) and the symbolic concepts used in their designs are less noticed in scholarly studies.

In Achaemenid architecture, the various elements of stone reliefs are used in the ornamental elements of the buildings. These motifs include various types of plant and animal elements, sometimes in a figurative and symbolic appearance, and sometimes in their exact appearance in different parts of Persepolis. The plant elements used in Persepolis include trees and most flowers, such as cypresses and palms as well as lotus flowers and sunflowers dominantly (Tavakoli, 1999: 95). The Sassanid period has a special place in terms of the sanctity of plants in the creation of thoughts (myths); since myths of this period are based on previous beliefs, including Zoroastrianism, Mehr and Manichaeism, all of which respect trees substantially (Dadvar & Mansouri, 2006: 99-100). In this period, the thick walls were covered with stucco, and their ornamental decoration was considered a great feature, depicting floral, animal and human motifs. Stucco ornamentation in Sassanid period is one of the most prominent and most influential arts. Perfect examples of this art are observed in Sassanid buildings where plant motifs such as vine stems and leaves as well as grape clusters are used (Ansari, 1987: 319-322; Pope, 2003: 147-148).

With the advent of Islam, Islamic arts gradually developed and expanded based on the experiences of the earlier arts. Islamic art style is the product of the artistic industry of the old cultures that were given new stimulants after the advent of Islam. In the early years, Islamic artists tried to adapt themselves to the works of Iranian and Byzantine civilizations; even the mosques built at that time were influenced by the architecture of these two civilizations (Rice, 2005: 3).

The first examples of ornamentation in early Islamic centuries emerged on the stone reliefs of Al-Mshatta palace in Umayyad period. They were a combination of Syrian and Sassanid forms of the new oriental style and have influenced the stucco ornamentation of the subsequent eras, and were followed up for centuries. These ornamentation motifs included lotus flowers, vine stems and leaves, grape cluster and five-leaf palm trees similar to the seven-leaf palm trees of the Ctesiphon palace, as well as animal motifs (Zamani, 1976: 144-142; Ettinghausen et al., 1999: 48). In this regard, the ornamentation and especially the stucco decorations of Umayyad and Abbasid periods played an important role in the conveyance of this art from the pre-Islamic period to Islamic period in Iran (Dimand, 2004: 96). After Islam, Iran was under the domination of Umayyad caliphs (41 to 132 AH) and Abbasids (132 to 656 AH). By the beginning of the third century, Iran was divided into several regions, ruled by independent state dynasties and governed by the Abbasid Caliphs - (Ashtiani et al., 2010: 328-329).

Azami, Sheikhol hokamae & Sheikhol hokamaei (2013) studied the influence of Sassanid art on Islamic architecture of Iran and compared the plant motifs of three mosques in Iran (Nain Jame Mosque, Ardestan Mosque, and Isfahan Jameh mosque) with the plant motifs of Ctesiphon palace during the Sassanid period. Another study by Ahmadi & Shekofte (2012) reviewed the formation process of stucco ornamentation in the early Islamic centuries and its influence from the pre-Islamic art in Iran and other countries. The author concluded that the early Islamic art was influenced by Sassanid stucco ornamentations as seen in Samarra style. Other studies in this field included the studies of Tabaeeyan (2009).

Using the historical-exploratory method, this research studies the order in natural environment in relation to the plant and architecture, and derives the meanings and symbols of various plants. Nevertheless, one can refer to the "Encyclopedia of world mythology" translated by Abolqasem Esmailpour (2007) and "Iranian myths" by John Russell Hinells, translated by Mahnaz Shayestefar (2009).

According to the studies, it was discovered that previous studies have investigated the impact of Iranian architectural ornamentation of pre-Islamic buildings on the ornamentation of Islamic period. They have also studied the order and geometry of plant ornamentations used in building in terms of archeology. However, none of them has studied the common implications of plant motifs and their implicit meanings that have been very effective in conveying of cultures, which is the aim of this paper. The present study seeks to investigate this issue and its focus will be on the common implications of plant motifs.

Questions and hypothesis

The present research seeks to find out what the common implications of plant motifs used in pre-Islamic Iranian buildings and Islamic period are; and how the pre-Islamic Iranian architecture affected the Islamic architecture (Umayyad and Abbasid) in terms of using plant motifs.

Research Method

Therefore, using the interdisciplinary study methodology, this study aims at comparing the motifs of prominent pre-Islamic buildings of the Achaemenid period (Persepolis) and the Sassanid period (Ctesiphon palace, Taq-e Bostan and Bishapur Palace) with those of Umayyad period (such as Qobbat Al-Sakherah mosque, Al-Hayr palace, Al-Mshatta palace, and Kherbat Al-Mafjar palace), and Abbasid period (including the Belkoura palace and Seymareh Mosque). After interpreting the buildings historically by referring to various texts, the common implications of plant motifs were revealed and their manifestations in the architecture of both historical periods are deeply analyzed and discussed.

The symbolic meanings of sacred plants

In all civilizations, the symbolic concepts of plants have affected people's belief and the plants were considered a sacred entity. Regarding the prevailing climate, each nation respects a specific type of tree or plant more than other plants. In Iran, plane and cypress trees are

considered more important (Javadi, 2007). Grape, in Iranian mythology, is a symbol of blood and blood is the main force of life (Tabayeean & Habib, 2009: 321). The Achaemenid kings kept a golden plane and a golden adorned vine tree. Perhaps, it can be interpreted that the golden vine tree that wraps around the golden plane tree is a symbol of blood and durability of the Achaemenid monarchy. Similarly, the ideas that pomegranates are the symbol of Anahita and the lotus is the flower of life or the foundation of creation, (Mobini, Shakarmi & Sharifinia, 2018: 49) originated from religious and mythological beliefs. Therefore, in selecting the plants in the present research, their historical background of being used in pre-Islamic Iranian architecture, especially Achaemenid and Sassanid periods were considered. Having referred to the architectural and archeological texts, the authors selected and analyzed the motifs with Iranian background. In the next step, a number of the selected plants were reviewed in various historical sources in an attempt to find out their meanings and their symbolic concepts. Finally, the concepts, and the symbolic meaning of these plants in Iranian and Islamic architecture and their common implications in these two cultures were deeply scrutinized.

• Lotus flower

The growth and emergence of lotus from clean waters, free of any contamination, is a sign of purity, serenity, and potency. Since the lotus flower opens at dawn and closes at dusk, it resembles the sun and it is considered as a sign of enlightenment, creation, rebirth, and immortality (Bahmani, 2010: 66-68). This flower represents various symbols that are the same in other beliefs, such as being the symbol of prosperity, power, land fertility, world peace, beauty, love, austerity and worship. Lotus is also significant in the ritual of Mehr (Mobini, Shakarmi & Sharifinia, 2018: 49); therefore, despite the fact that people believe that lotus originates from Buddhism, this flower belongs to Mehr ritual or Mithraism which is more ancient than Buddhism (Taba'yan, 2009: 323).

• Cypress tree

This tree, locater in hot and arid climate of Iran, is a

symbol of life showing a permanent and green life. This tree is highly respected by Aryan people and has been used in Persepolis stone reliefs with very precise details. In addition, the cypress tree is the symbol of immortality and after life. During Achaemenid and Sassanid periods, this tree was considered as the tree of life (Dadvar & Mansouri, 2006: 100). Cypress is also a symbol of sunlight and brightness in some other beliefs. Alike the lotus which is the "flower of sun", the cypress is the "tree of sun" (Boroumand, 2002: 186), the geometric form of the cypress, which is a triangular shape, indicates that this tree is a sign of ascending from the earth to the above.

• Palm

The palm is the symbol of possessiveness and a sign of wealth due to being fertile and fruitful. The Achaemenid dynasty was based on capitalism and Imperial kingdom as it is apparent on Bistoon stone reliefs. Therefore, the "palm" was chosen as the symbol of the Achaemenid family governance. (Boroumand, 1381: 183).

• Oak (chestnut)

This tree symbolizes power and victory for the emperors who conquered the lands. The oak tree is a long living tree with a thick trunk. The primitive men made their promises under an oak tree that was a safe tree. Later, the tree became a holy tree for Romans. It is the tree of triumph, virtue and piety (Warner, 2007: 579-580).

• Pomegranate

The pomegranate is the plant that symbolizes Anahita (the goddess of water and symbol of fertility). (Chehri, 2007). The numerous seeds kept in a firm skin also symbolize fruitfulness and blessing (Ahmadi & Shekofte, 2007). Pomegranate has always been considered sacred in the Sassanid period and has been used in religious practices. Its richness and numerous seeds have been regarded as the symbol of Anahita's fertility (Khalidian, 2008: 23). Pomegranate is an ornamental symbol in the oriental art. At the end of Sassanid period, palm trees are split into a pair of wings, symbolizing fertility and abundance, offering a clerical aspect. However, the pomegranate fruit inside the palm leaves is an exclusive symbol of Sassanid art

and architecture.

• **Acanthus**

This plant has large leaves with folded edges. The plant shows a great deal of vitality and it was applied for baptism in ancient times. Therefore, it may refer to rebirth or protection against evil spirits (Soltanzadeh, 1996).

• **Grapes**

Grapes are holy plants in the beliefs of ancient Mithraism and symbolize blessings. According to ancient Iranian mythology, grapes originate from the blood of the cow created by God and killed in a demonic attack. It is believed that 55 crops and 12 species of medicinal plants were grown at the place this cow was slaughtered and grapes came from its blood (Vasheghani farahani, 2010: 243 ; Warner, 2007: 367).

• **The vine leaves and stems**

The vine or grapevine was considered symbolic and sacred in ancient history, like the grapes. The vine tree is sometimes used the same as vines stems in some relics. The vine and the grapevine are mainly related to the power of life and divinity (Warner, 2007: 589). Also in Iranian mythology, it was considered as a symbol of fertility and abundance with a sacred eternal power (Nadim, 2007).

Conveyance of the sacred implications of plant motifs from ancient Iranian to Islamic era

• **Plant motifs in ancient Iranian architecture**

In ancient Iranian buildings, plant motifs were always used according to their particular meanings. In this regard, the two Achaemenid and Sasanian periods have been considered as the two prominent ancient periods in Iran. Plant motifs in different buildings represent different concepts and implications. Therefore, some of the prominent buildings of these periods were chosen in order to find out the meanings and implications the plant motifs used in these buildings.

a) Plant motifs in Achaemenid Buildings

- Plant motifs of Persepolis Palace: Plant motifs in Achaemenid architecture were generally used with symbolic meanings and profound concepts, with the purpose of ornamenting the buildings. In plant

motifs used in Persepolis, the flowers are commonly found in the shape of a circle or triangle that are in congruence with the concepts of sanctity and respect for the plants. Circular forms and triangular forms are both sacred concepts in architecture. The circle is a symbol of divinity and the heavens. The circular plan is still inspiring for the architects for the design of sacred places. The triangular form of the cypress tree can be considered a sign of the world above, since it directs to the sky (Tavakkoli, 1999: 3-4). The lotus flower is among other sacred plant motifs used in Persepolis palace. The lotus flower motif is used in various places in Persepolis, in Apadana palace, in the hands of the elders of the nations, on Achaemenid clothes, on the pillars, and in the general hall. In all of these cases, the lotus is a symbol of peace and life. Other plant motifs have also been used in Persepolis, such as cypress, palm, and multi-petal flowers. In Fig. 1 several examples of motifs used in Persepolis palace are cited based on literature.

b) Plant motifs in Sassanid buildings

- Plant motifs of Bishapur palace: Bishapur Palace is one of the most valuable works of the Sassanid period, and undoubtedly one of the most significant architectural masterpieces of this era. This palace was designed and built at the time of Shapur I (241-272 AD), the second Sassanid king (Ansari, 1987: 349-353). Fig. 2 shows some of the plant designs used in this palace, including the palmette (palm leaves), vine leaves and grape clusters. In this building, the palm leaves are a sign of blessing, the vine leaves are the symbol of immortality and grape clusters are the symbol of life. In addition, the circular forms in geometric abstract mode, in the form of circular arabesques, are observed in the ornamentations (Fig. 2-e). The arabesque patterns are further discussed in section 3-3.

- Plant motifs of Taq-e Bostan: Taq-e Bostan area consists of valuable works of Sassanid era. In the area of ancient archeological buildings, there are columns in the form of a vase, on whose sides gobble-like paintings are seen. On one of the carvings, a lotus motif is observed. In addition, the acanthus and lotus flower motifs are seen in

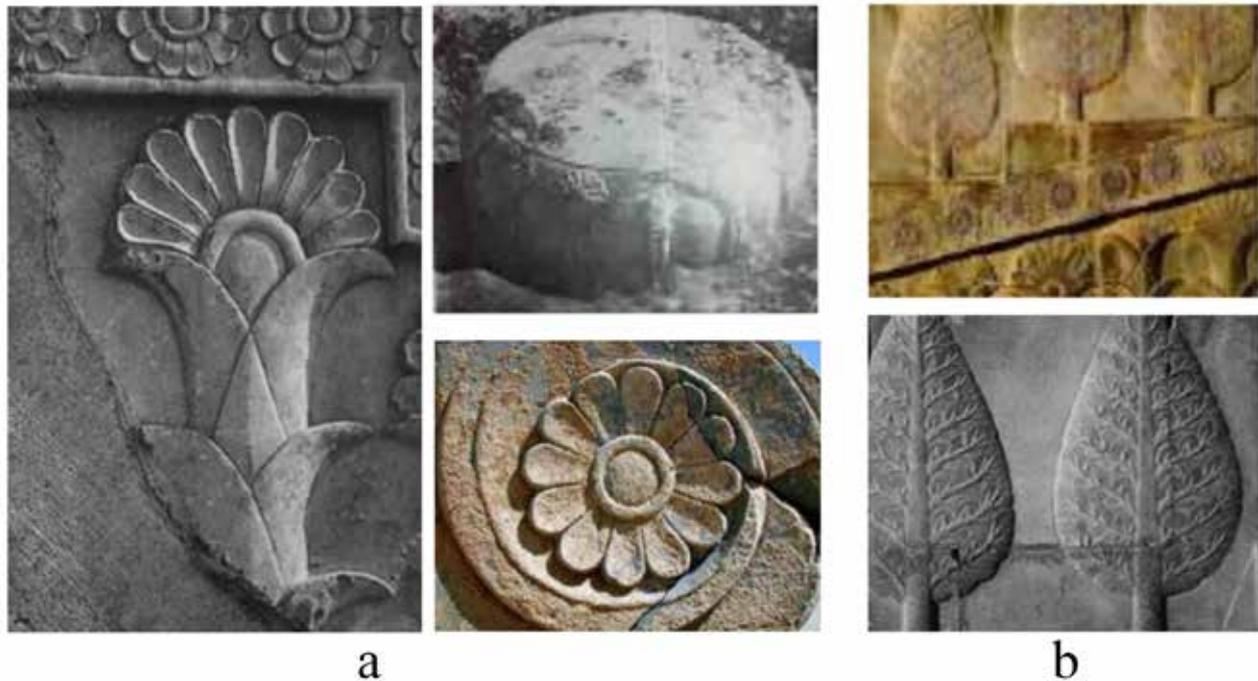


Fig. 1 (a) The lotus flower motif on the pillar base and the ornamentation of Persepolis palace (b) The cypress tree as the plant motifs used in Persepolis palace (Tabayeean, 2009: 323 and Ghirshman, 1991: 220-224)

Ardeshir Sassanid picture under the feet of Mehr god, as shown in Fig. 3. (Ghirshman, 1991). Lotus flowers are seen in two circular and triangular forms, and, as mentioned, they have symbolic meanings of fertility, purity and serenity.

- Plant motifs of Ctesiphon palace: Taq-e Kasra or Ctesiphon palace is the largest Sassanid palace with many stucco ornamentations. The motifs of this palace are the acanthus (acanthus), the lotus, palm leaves, the grapes, as well as the pomegranate covered in palm leaves, which are used exclusively during the Sassanid period. These motifs are seen in forms of stucco decorations in the palace and across the porch. In Fig. 4, five of these motifs with their sacred implications are described (Azami, Sheikhol hokamae & Sheikhol hokamaei, 2013: 18). Additionally, s-shaped motifs are observed in Ctesiphon palace, at the bottom of which there is a leaf or branch of some plants. These motifs can be considered as an introduction to the creation of abstract designs of Arabesque motifs (Ghirshman, 1991: 200); (Fig. 4d).

• Plant motifs of Islamic architecture (the Umayyads and Abbasids)

During the reign of the Umayyads and Abbasids, vast areas of Iran were dominated by the Umayyad and Abbasid caliphs for about three centuries. The capitals of these two dynasties were the center of attraction and meeting of expert artists and artisans all over the world, especially Iranians. This political dominance led to extensive cultural relations and, as a result, Iranian artistic traditions and arts influenced their architecture for centuries (Zamani, 1976: 6). In the following, some of the architectural monuments of these two Islamic periods have been studied by discussing the influence of the ancient Iranian art, especially both Achaemenid and Sasanian periods on Umayyad and Abbasid monuments.

a) Architectural plant motifs of Umayyad building

- Plant motifs of Al-Hayr palace: This palace, built in Umayyad period, dates back to 109 AH (727 AD). The palace was built in Palmyra, an ancient city in the present Syria, and probably was considered as a place of residence on the Damascus-Rassafa route, and as a

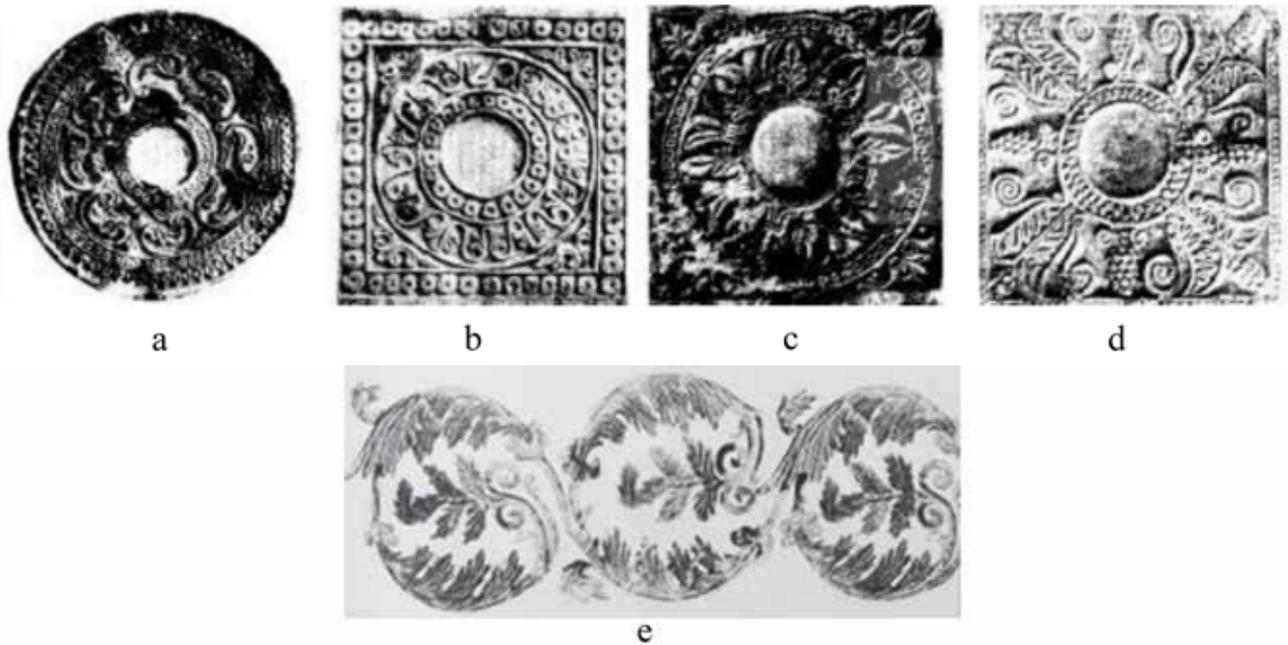


Fig. 2 (a) plant motif of palmette (palm leaves) and spiral motifs in the stucco ornamentations of the Bishapur palace; (b) plant motifs of a five-leaf and seven-leaf Palmett in the frame; (c) plant motifs of vine leaves; (d) grape clusters motif (e) Arabesque patterns with acanthus leaves in Bishapur Palace (Ansari, 1987: 349-353 and Ghirshman, 2011: 140)



Fig. 3 (a) Lotus flower motifs on the remained columns of Taq-e Bostan (b). Mehr god is standing on the lotus flower (c) acanthus motifs in Taq-e bostan (Ghirshman, 1991).

hunting ground. The stucco ornamentations in Sassanid style are seen all over the gates of Al-Hayr palace (Brend, 2004: 26-27). Fig. 5 shows the decorative adorning of the main entrance of Al-Hayr palace with ornamentation features such as abstract leaves, geometric shapes and lotus flowers. Obviously, the lotus flowers and acanthus leaves inspired by Sassanid architecture, with their same holy implications used in

ancient Iran has been transferred to the architecture of Umayyad era.

- Plant motifs of Qobbat Al-Sakhreh mosque: Qobbat Al-Sakhreh mosque which was completed in Jerusalem in 71 AH (691 AD) (Hitti, 1937: 302) is one of the earliest buildings remained from the Islamic era and probably the first major achievement of Umayyads (Grabar, 1959: 71). This building has followed the

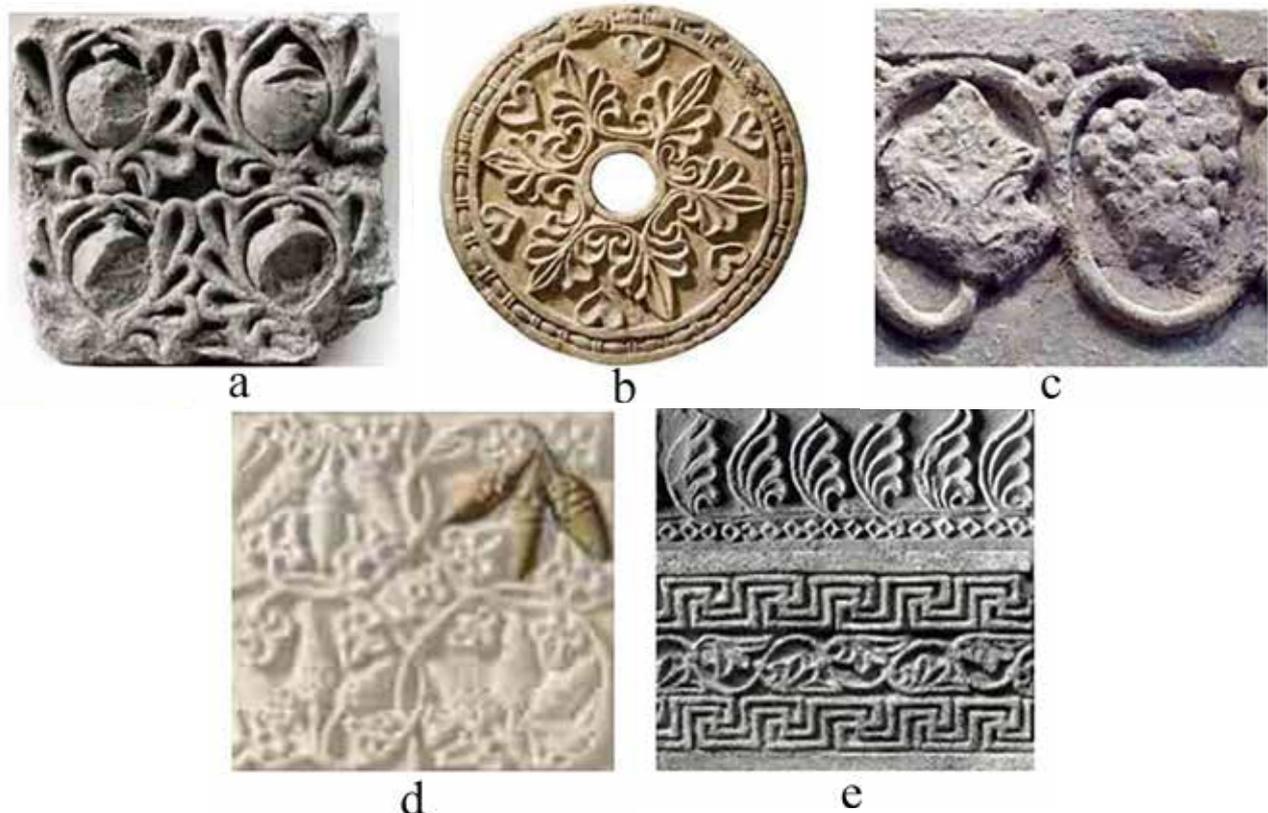


Fig. 4 (a) The pomegranates in palm leaves (b) Palmette (palm leaves) (c) The grapes motif (d) The twisted leaves shaped like S, at the bottom of which are the oak leaf and fruit (e) acanthus leaves in Ctesiphon palace (Azami, 2013: 18 and Mobini, Shakarmi & Sharifinia, 2018: 52-54)

Iranian patterns of mosaic decoration, the architecture and the ornagements, and the elements composition. In addition to their ancient motifs used in mosaics, the Iranian motifs of palm leaves and rose flowers are also used in these decorations. These mosaics represent several other motifs. Plant motifs such as acanthus leaves, vine stems, trees and roses are among the other plant motifs used in the mosaic decorations and ornagements inside the palace. In Fig. 11, a part of these motifs depicted in arabesque style is presented (Ettinghausen, 1999: 20-25).

- Plant motifs of Kherbat Al-Mafjar palace: This palace was built in last decades of Umayyad period around 123 AH (740 AD) near the city of Jericho in the current Palestine. The decorative margins of the outer walls, despite being bold, reflect the influence of nature and the magnificent Sassanid architecture. Fig. 6 shows the details of the stonewalls of the palace adorned with twisting branches and acanthus leaves that are symbols of vitality (Grabar, 2000: 333). The pomegranate motif, the iconic plant of Anahita, is also

used in this palace. In addition, the grapes motif that was predominate in Iran from Parthian to Sassanid period, is seen in some parts stucco ornagements of this building (Fig. 6). The plant motifs are used in form of a circle in this building, which is the symbol of divinity and completion, and is used in pre-Islamic Iranian architecture as well.

- Plant motifs of Al-Mshatta palace: Al-Mshatta palace was built by the Umayyad caliphs in 126 AH (743 AD), 30 km south of the city of Amman in current Jordan. It is part of a single palace and caravanserai in the region known as the "palaces of desert" in Jordan. This palace is perhaps the most significant example of a secular building in Umayyad period due to the existence of stone reliefs on the walls. In terms of ornagements, the facade of Al-Mshatta palace consists a number of carved triangles. Each triangle has a plant shaped margin and a flower in the center (Fig. 7c), with vine stems, vine leaves and grape clusters motifs. Each flower has six circumference margins, a middle floral shaped part and a small flower in the



Fig 5. Stucco ornamentation of the main entrance of the west Al-Hayr palace. source: <http://monumentsofsyria.com>.

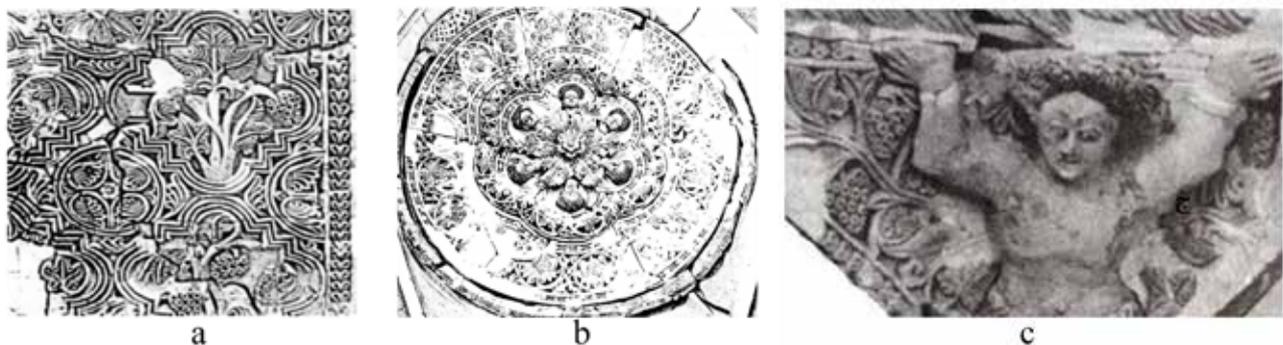


Fig. 6 (a) The ornamented surface of the entrance of the bath including acanthus leaves and the grapes (b) Details of the stone wall of the gate with circular geometric shape; (c) The grape motif in some parts of Kherbat al-Mafjar. source: Grabar and Ettinghausen, 1997.

center (Fig. 7a). Moreover, some ornamentations of Al-Mshatta palace resemble the Palmette motif of the Sassanid period seen in Ctesiphon palace (Zamani, 1976) (Fig. 7b). However, the vine stem motif was used in Iran since the Parthian era and it was used until the end of the Sassanid period. One of the prevalent motifs of Parthian era is the twisting vine stems from which grapes are grown; which is also used in Al-Mshatta palace. Therefore, apart from using the same plant motifs, circular and triangular forms are also used in this palace with symbolic meanings similar to their meanings in pre-Islamic Iran.

b) Plant motifs of Abbasid period

In 132AH, Umayyad reign was overthrown and the Abbasid Dynasty overcame the Caliphate. Consequently, the capital was changed from Damascus to Baghdad, which was close to Ctesiphon. As a result, Iranian artistic and cultural traditions were extremely accentuated (Ibid). Most of the palaces built in this period, including Akheyzar palace, Jousaq Al-Khaqani or Arabic Ctesiphon, and Bolkourah palace were profoundly influenced by Sassanid architecture.

- Plant motifs of Bolkourah palace (Boulqavarah)

Bolkourah palace dates back to 235-245 AH (849-860 AD); it was built on the eastern shore of the Tigris River by Motavelak, the Abbasid Caliph. The ruins of this palace are now six kilometers south of the city of Samarra in current Iraq. This palace consisted of three consequent linear courtyards and it was built according Persian garden style. Each courtyard had its own gate, which would probably lead to the cross shaped chamber where the king's throne was placed (Hillenbrand, 2004: 403). The stucco ornamentation and glass mosaics with vine stem motifs, which symbolize the sacred and eternal power, play an important role on the three entrance of the palace (Omidvari, 2014: 129).

- Plant motifs of Seymareh mosque: The stucco ornamentations of Seymareh mosque dates back to a period between the second century and the fourth century AH, which is the late Umayyad and early Abbasi period (Lakpour, 2010: 67, 125, 193). In a comprehensive review, the decorative motifs used in

stucco ornamentations of Seymareh mosque include plant motifs, geometric motifs, and a type of human motifs depicted artistically in stucco. The plant motifs used include vine leaves, the grape cluster with holes on the leaf surface, acanthus leaves, lotus flowers, palm leaves, pomegranate, chestnut, ivy and the wing motifs (Figs. 8 and 9). The study of Seymareh stucco ornamentations reveals the direct impact of Sassanid stucco decoration on the ornamentations of Seymareh mosque (Pope and Ackerman, 2008: 773-775; Shahin, 2001: 166-314; Foruzandeh Mehr, 2012: 51-76; Hassanpour, 2015: 270; Thompson, 1976). The creation of some motifs such as palm leaves, acanthus and etc. that are circumscribed in geometric shapes for emphasizing symmetry and movement shows that these motifs were imitated from the Sassanid motifs and then evolved in shape and form. Geometric decorations of Seymareh mosque include square and rectangular frames, diamonds, triangular frames,

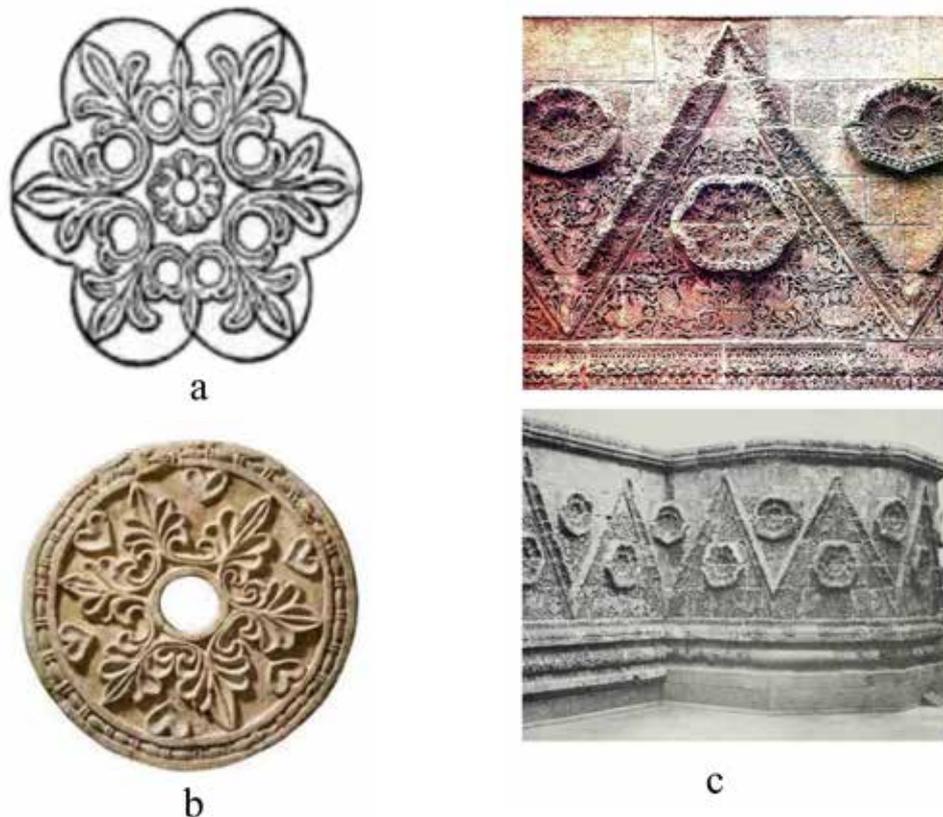


Fig. 7. (a) The flower in the central triangular ornamentation in Al-Mshatta palace resembles the stucco ornamentations of Ctesiphon palace. (b) Palmette (palm leaves) of Ctesiphon palace is very similar to the flowers of Umayyad palaces, Source: Zamani, 1976; Kuhnel, 1968; (c) Geometric ornamentations of Al-Mshatta palace with triangular and circular forms, Source: Hillenbrand, 1999: 33.

trapezoidal shapes, circular shapes, Greek strings and wavy ribbons. Like Seymareh mosque, the history of using of some geometric motifs in the stucco art of Sassanid period is traceable for a comparative study. Examples can be seen in cases such as square and rectangular frames in Bishapur and margins of hollow circles in Ctesiphon palace (Pope & Ackerman, 2008: 173; Shahin, 2011: 66).

- Plant motifs of Noh Gonbad mosque of Balkh: Noh Gonbad mosque of Balkh, known as Haji Piadeh, is located seven kilometers south of Balkh and west of Mazar-e Sharif. This mosque dates back to the 3rd or 4th century AH (9 or 10 AD). The most important features of the mosque are its nine domes (Naji, 2007: 396) and their plant decorative motifs of vine leaves, palm leaves, chestnut and lotus flowers, all over the surfaces. In some plant motifs, including vine leaves, lotus flowers and palms, small holes are created for decoration, and on the palm leaf motifs of the columns, reticular decorations are observed (Fig. 10).

The vine leaves have filled the circular frames independently or with palm leaves. (Fig. 10-a). Similarly, palm leaves (3 to 5 lobes) face each other two by two, either independently or with lotus flowers and other plant motifs. These motifs have been depicted similar to the wing motif decorations of Sassanid era (Fig. 10b). Similar examples of these motifs are observed in the ornamentations of Sassanid and Umayyad buildings (east and west Qasr Al-Hayr,) and Abbasid monuments (Samarra). (Golombek, 1969: 175-177). In Noh Gonbad mosque of Balkh, plant motifs are placed in geometric frames in square, rectangular, triangular, diamond, circular, and polygonal shapes. Some of these geometric frames are created in the shape of stems that twist periodically (Mobini, Shakarmi & Sharifinia, 2018: 15-17). Some scholars believe that motifs can be divided into realistic motifs (vine leaves), abstract motifs (palmette), and a movement from realistic motifs to abstract patterns in this mosque. The mosaic designs of this mosque are the best representative of the first and second styles of Samarra in Iran. (Ibid: 184; Al-Harithy, 2002: 2-3).

The Origins of Arabesque decoration in the architecture of Iran and Islam

The Arabesque decoration, often used in plant motifs, has been used in almost all works of Islamic era. It can be considered as an element of unity and unanimity in the Islamic world of art. However, it is not merely an Arabesque or Islamic decorative pattern, since it has been commonplace before the advent of Islam in different countries, especially in Iran. As mentioned in the analysis section of the monuments, the Arabesque decorations can be seen in the s-shaped designs of Ctesiphon building and stucco ornamentation of the Bishapur palace and some other buildings of Sassanid era.

Arabesque as a plant motif are so prevalent that are observed in singular patterns, in form of twisting branches, palm leaves or rose flowers repetitively. The best place to begin the study of the evolution of arabesque decoration is in Al-Mshatta palace (Kuhnel, 1968: 23). Researchers have come up with a number of sources on the origins of arabesque in Islamic art works: Georges Marcais has shown the influence of Iranian and Greek art traditions on arabesque design. Andre Godard believed that the first Islamic ornamentations (Al-Mshatta palace and Umrah palace) originate from Greek, Sassanid and Byzantine art, and has shown this effect in Abbasid palaces. Carl Duri also underscores the influence of Sassanid art in arabesque decoration (Shaterian, 2011: 284).

Simin Daneshvar, professor at the University of Tehran, has also attributed arabesques design to the Sassanid period. "European anthologists call these decorations arabesque decoration, which does not seem to be the correct term because these decorations are not Arabic. The reason these decorations are known as arabesque is that Islamic artists preferred and reiterated the decorations that were prevalent from ancient times. Moreover, they did not conflict with the religious prohibition using the pictures of living beings as decorations". These decorations date back to the Sassanid period (Zamani, 1971: 17-34). Dimand also believes that arabesque belongs to the Sassanid period, and describes that the combination of

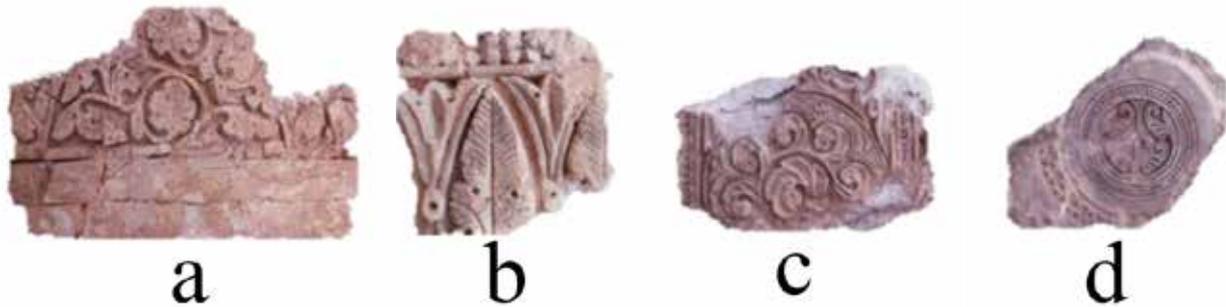


Fig. 8. (a) Plant motif of vine (vine leaf); (b) lotus flower; (c) acanthus leaf (d) palm leaves. source: Mobini, Shakarmi & Sharifinia, 2018.

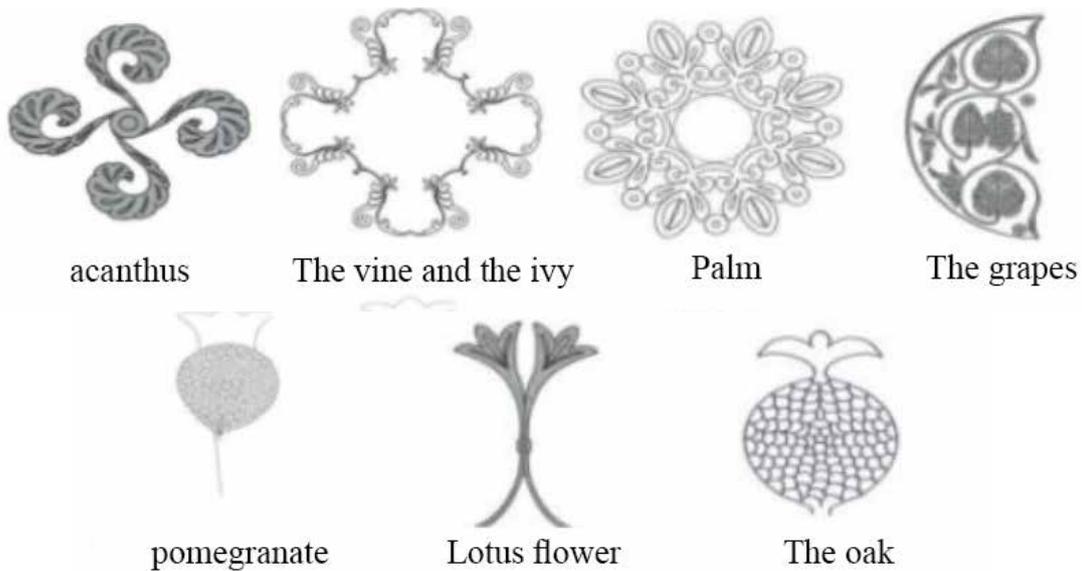


Fig. 9. Some of plant motifs in Seymareh mosque , Source: Mobini, Shakarmi & Sharifinia, 2018: 63.

palm leaves and similar Sassanid motifs were sample decorations for the first Islamic buildings (Dimand, 1937: 34). Therefore, imaginary ornamentation and the use of plants motifs, the principles of harmony and symmetry, and the use of palm leaves as the main features of Sassanid ornamentation shows that twisting palm leaves and similar motifs set an instance for decoration of buildings in Islamic period. As aforementioned, the palm motif is a highly repeated motif of Achaemenid period; however, it was used more frequently in arabesque geometric decorations since Sassanid period.

In the great hall of Bishapur palace, attributed to Shapur I (272-241 AD), sixty-four niches, each with a few decorative margins, were constructed. Above all niches was a stucco acanthus motif that had been painted. These leaves turned to their left and right (Fig. 11),

and created a beautiful arabesque decoration. Similar ornamentations are also observed in Ctesiphon palace; however, palm leaves are used instead of acanthus in this place (Zamani, 1973: 17-34). Therefore, it can be deduced that Arabesque designs were not invented by Arabs or Muslims. They were used in ancient Iran before the advent of Islam; however, they are attributed to Islam and Arabic artists due to more frequent and evolved use of these motifs after Islam.

Discussion

• Common implications of plant motifs and the transference of concepts

According to the results of this study, multiple motifs imply the presence of Iranian art and architecture in Umayyad and Abbasid periods. These motifs include the palm leaves and lotus flowers in Al-Hayr and

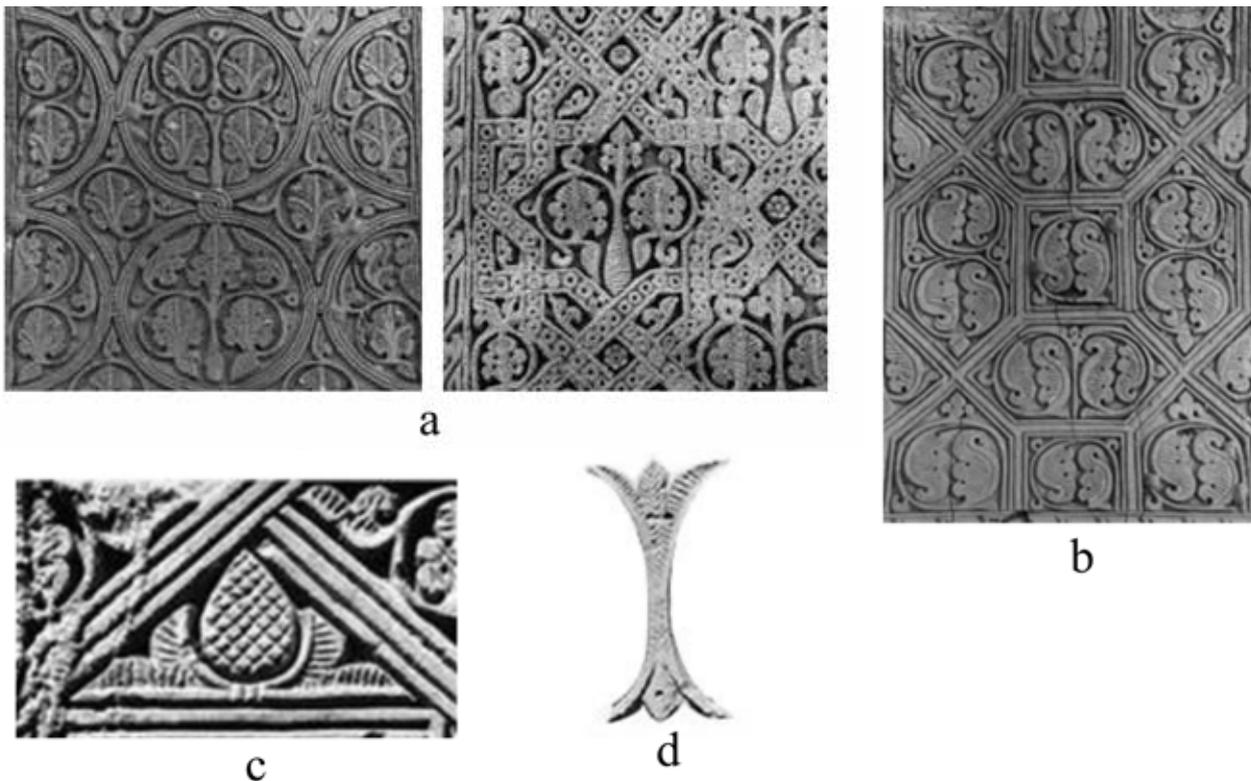


Fig. 10. (a) plant motif of the vine (vine leaves); (b) palmette (palm leaf); (c) chestnut; (d) lotus flower in Noh Gonbad mosque, Source: Mobini, Shakarmi & Sharifinia, 2018: 67-66; Golombek, 1969.

Kherbat al-Mafjar palace, the triangular shapes and the lively movements of the stems, leaves and clusters in Al-Mshatta palace, the grape clusters connected to the vine leaves as well as palm and acanthus leaves seen in Qobbat Al-Sakhreh.

The relative comparison of ancient Iranian buildings (the Achaemenid and Sassanid era) and Umayyad and Abbasid buildings approves the influence of ancient Iranian architecture on the arts of these two historical periods in terms of plant motifs. It is also mentioned that some historians believe in the presence of Hellenistic art along with Iranian art, both in Umayyad and Abbasid period due to the existence of acanthus motif. In this regard, it is worth mentioning that despite being used in Taq-e Bostan and ornamentations of Ctesiphon that date back to Sassanid era, the extensive use of acanthus motif in Hellenistic art due to its existence in Sassanid architecture makes this hypothesis skeptical. Another remarkable point is that alike Persepolis and Ctesiphon palace, the plant motifs in ancient Iranian buildings are used in triangular and circular forms.

These forms imply holy meanings and concepts, in conformity with the ideas of showing respect to plants and making effort to discover pure divine concepts. These motifs are also extensively used in the monuments of Umayyad and Abbasid periods studied in this research. For instance, the triangles used in Al-Mshatta palace and plant ornamentations in circular forms at Kherbat Al-Mafjar palace, as well as the motifs in Seymareh and Noh Gonbad mosque of Abbasid period indicate the use of symbolic motifs. Alike ancient Iranian motifs, these motifs do not have any decorative aspects and are used to imply meaning in a symbolic and influential way. In order to clarify this matter, the plant motifs of Ctesiphon palace and the monuments of Umayyad and Abbasid periods including Qasr Al-Hayr, Qobbat Al-Sakhreh mosque, Kerbat Al-Mafjar palace, Al-Mshatta palace, as well as Noh Gonbad and Seymareh mosques are compared with references to the concepts related to each subject, as presented in Table 1.

In addition to the aforementioned ideas, three



Fig. 11 (a) The symmetrical and looped arabesque decorations in Qobbat Al-Sakhreh in Jerusalem, 71 AH; (b) painted stucco acanthus leaf, Bishapur palace, attributed to the time of Shapur I Sassanid, Source: Ghirshman, 2011: 140.

ornamentation styles are distinguished in the palaces of Islamic period: the first style relates to Hellenistic traditions after the Parthian age, which benefits from a large number of hypothetical classical elements, such as flat acanthus leaves as well as multiple stems. Meanwhile, palm leaves in form of wings with Iranian origins are also seen frequently. According to Georges Marcais theory, referring to Hertzfeld's statements, the first ornamentation style is half-Hellenistic and half-Iranian; however, the Hellenistic style has not been an independent and effective factor in the Sassanid period. In addition, the raised leaves resembling acanthus leaves, the pearls, and other motifs that are considered half-Hellenistic have been commonplace for centuries in Sassanid architecture and art. The raised acanthus leaves at the sides of Taq-e Bostan is undoubtedly an example of raised leaves.

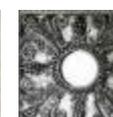
In the second style, the geometric motifs are usually depicted in a free size and scale adorned with a context that resembles fish scales. This style indicates a sign of Sassanid influence. In addition, the lotus flower motif and the palmette (palm leaves), which are seen in the works of Samarra, have been common since the pre-Achaemenid period in Mesopotamia and Iran, and have been used extensively in Sassanid period. In the third style, the elements of the plant are more recognizable. The vine leaves are accompanied with a conic cluster and attached to a stem that forms the decorative frame. According to Georges Marcais, the third style locally originates from Sassanid art, especially the stems and leaves of the vine and grape cluster that are the

dominant motifs used during the Parthian and Sassanid periods (Zamani, 1976). In Fig. 12, some of the palace ornamentation in Islamic period were inspired by Iranian architecture (Ghirshman, 1991).

In this study, the transfer of plant motifs from ancient Iranian architecture to Islamic periods (Umayyad and Abbasi) is explored. The results of studying the geometric plant motifs of pre and post Islamic periods shows that some plant motifs including palm trees, lotus flower and vine trees have been used with their unique concepts during the Achaemenid and Sassanid periods. These motifs are then passed to Islamic period due to their sacred meaning and common cultural and artistic implications. Other motifs with common implication in both periods are the grapevine, pomegranate and acanthus (acanthus) motifs that have been used more in the Sassanid era and then transferred to Islamic period. In addition, the applied geometry of motifs also has a common meaning and concept; the circular geometry indicated evolution and divinity that is used in pre-Islamic Iranian architecture and in Islamic era, and the triangular geometry referred to the above world that was first used in Achaemenid period and then transferred to later periods.

Thus, the implementation of motifs in large or small simple geometric triangular and circular frames (Al-Mshatta palace, west Al-Hayr palace, Kherbat Al-Mafjar, and Seymareh), and the variety of motifs categorized in geometric and plant ornamentation can be studied in Samarra art of stucco ornamentation. Tendency to cover the whole wall and emphasis

Table 1. A comparison of plant motifs of Ctesiphon palace and the monuments of the Umayyad period including Al-Hayr palace, Qobbat Al-Sakhreh mosque, Kherbat Al-Mafjar mosque, Al-Mshatta mosque, with references to the concepts related to each subject, Source: authors.

The oak	pomegranate	The grapes	Lotus flower	The vine and the ivy	acanthus	Palm	Plant motif and meaning
Power and triumph	Chastity and sanctity Blessing and fertility	Symbol of blood, and blood is symbol of life	Purity, prosperity and fertility The manifestation of love, austerity and worship	Fertility and abundance Possessing an eternal sacred power	Birth and protection against evil spirits	Blessing Fertility and fruitfulness possessiveness and capitalism	buildings
							Ctesiphon palace
	✓		✓		✓	✓	Pre-Islamic era
	✓	✓		✓	✓	✓	Al-Hayr palace
	✓	✓	✓	✓	✓	✓	Qobbat Al-Sakhreh mosque
		✓		✓		✓	Kherbat Al-Mafjar mosque
		✓		✓		✓	Al-Mshatta mosque
✓	✓	✓	✓	✓	✓	✓	Seymareh mosque
✓			✓	✓		✓	Noh Gonbad mosque
							Abbasiid Umayyad period

on paradoxes can be seen and studied in Kherbat Al-Mafjar. Hillenbrand believed that around the eighteenth century, Iranian designs and patterns were accepted by Muslims, and were manifested specifically in Umayyad palaces in Syria and Jordan, or more elaborately in Samarra palaces (Hillenbrand & Grabar, 1986: 103). For instance, in Al-Mshatta palace and the altar of Qirwan mosque, some examples of the influence of Sassanid art (palm leaves, wings, vine leaves, pine fruits, etc.) are observed in the formation of the ornamental surfaces of stone and wood buildings (Dimand, 1937). It seems that Achaemenid and Sassanid Achaemenid art, initially started and flourished in the artistic atmosphere of Umayyad in

his Sham region, and then emerged on the ornamental surfaces of Abbasid period. Examples can be seen in the full-palm or half-palm motifs and three-leaf lotus in the column ornamentations in Syria and Samarra. Other plant and geometric motifs and their comparison in both periods are described in Table 2.

Finally, it should be noted that the influence of Iranian art and technique, especially Sassanid art is seen in the monuments of Umayyad and Abbasid periods, due to the sacred implications of using plants motifs and due to the cultural and geographical similarities of these two periods. The prominent ornamentations of Umayyad period are the clothes of the person standing at bath gates of Kherbat Al-Mafjar, Sassanid crowns

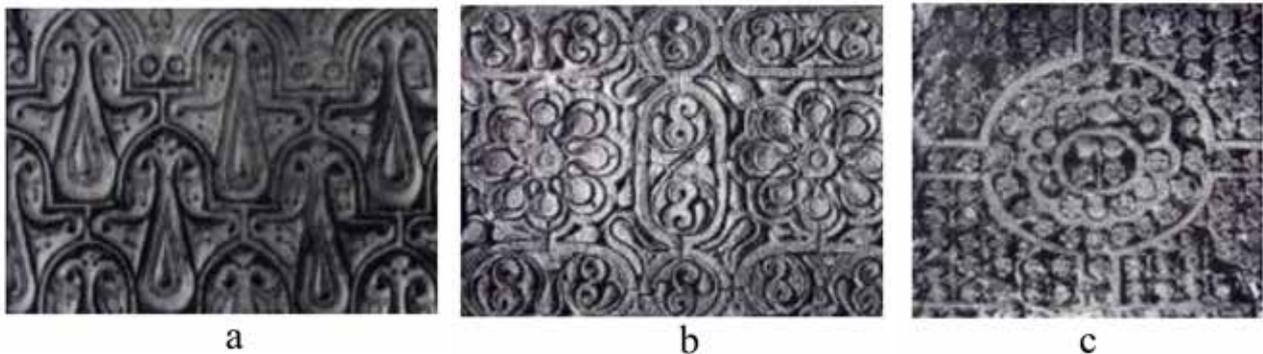


Fig. 12. (a) Stucco ornamentation of Samarra-the third style (b) Stucco ornamentation of Samarra – the second style (c) Stucco ornamentation of Samarra- the first style. Source: Hillenbrand, 1999: 42.

Table 2. Comparison of pre-Islamic (Achaemenid-Sassanid) and post-Islamic (Umayyad-Abbasids) plant motifs, Source: authors.

Geometric motifs			Plant motifs							dynasty	Historical Period
circle	triangle	Oak tree	pomegranate	grapes	Vine tree and vine stems	Lotus flower	acanthus	Palm (palmette)			
*	*	--	--	--	*	*	--	*	Achaemenid	Pre-Islamic	
*	--	*	*	*	*	*	*	*	Sassanid		
*	*	--	*	*	*	*	*	*	Umayyad	Post-Islamic	
*	*	--	*	*	*	*	*	*	Abbasid		

and jewels in Qobbat Al-Sakhreh, and plant and geometric motifs of Al-Hayr and Al-Mshatta palaces. In addition, the significant ornamentations of Abbasid period are the construction technique of Akheyzar palace following Sassanid technique, the cross-shaped arrangement of official chambers in the courtyards of Josaq Al-Khaqani and the Bolkourah palace. Other examples of using plant motifs in Abbasid period is the tradition of using gardens based on the ancient tradition of the near east, and big mermaid images with the predominance of red and light blue colors in Josaq Al-Khaqani palace.

Summary and Conclusion

The inner feelings and excitement of a nation at its highest is manifested when the nation relies on its past human achievements and social culture as the most original and indigenous attributes, and this will lead to the persistence and continuity of each generation by the desires and intentions of a nation. Governments have always played an important role in generalization

and continuation of various arts. It is for this reason that over the course of centuries we understand how the art is created, sustained, accentuated existing arts, and penetrated beyond the intellectual boundaries of any ethnic group. It affects the arts of other territories and creates outstanding innovative works of art.

The art of Iran from the very beginning of its life in prehistoric period to the beginning of historical period and then to the Islamic era has undergone great changes and has left tremendous impacts on the arts and architecture of other territories. Therefore, according to the conducted studies comparing the motifs and studying various numerous texts, it can be clearly interpreted that plant motifs used in buildings imply common concepts such as purity, clarity, the sacred power of life, knowledge and wisdom, etc. The continuation of the concepts implied in these motifs and common implications of these concepts in both types of architecture has led to the continuity of these motifs after Islam. The study of the related examples also indicates

that repetition of the motifs in pre-Islamic Iranian architecture has influenced the arts of Islamic period (Umayyad and Abbasid). Finally, it should be noted that plant motifs in architectural monuments have independent meanings that have made them interesting for people so that they were passed from one civilization to another.

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