

Original Research Article

A Study on the Stucco Decorations of Hossein Khodadad House (Time Museum, Tehran); A Relic from the Pahlavi II Era

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Abstract

Introduction: Although stucco in Iran has a long history and traces of it have been left behind, it followed a different trend in design and technique during the Qajar and Pahlavi periods. At the same time, it experienced Western tendencies, such as stucco artworks attached to the designs and motifs of ancient Iran. The stucco design of Hossein Khodadad House (Time Museum) is in the same category; a house full of stucco decorations that represent various influences. This research aims to study the visual structure, typology of stucco motifs, and implemented techniques, as well as to investigate how the stucco motifs of Iranian architectural history persist in the stucco decorations of the mentioned building. Therefore, this study seeks to answer these questions: «How can the visual characteristics and typology of stucco motifs and techniques of Hossein Khodadad House be classified?» and «What are the influencing factors on the formation of the set of stucco motifs of the mentioned building in the Qajar and Pahlavi periods?»

Research Method: The current study is descriptive-analytical. In terms of purpose, it is developmental research with a qualitative approach. Data collection is based on library studies and especially field research. To achieve the research goals, after examining and analyzing the stucco decorations of the mentioned house, the results were compared with the types of motifs and stucco techniques used in the periods of Iranian architectural history.

Findings: The research findings show that the motifs used on the stucco surfaces of Hossein Khodadad House can be classified into four categories: Plant, geometric, animal, and human motifs. The implementation of stucco patterns on the building has been carried out utilizing seven execution techniques such as high-relief, semi-relief, stucco on a flat mirror, combining stucco with glass, Koshte Bori, Tong Bori, and Kop Bori. The design structure and the overall composition of motifs have also been made by following the pattern of repetition and symmetry. The history of several motifs, including artichoke leaves, palmettes, lotus flowers, grapes, and geometric motifs such as square and rectangular frames, Meander, and string of pearls, goes back to the motifs of ancient Iran. Other parts, such as Arabesque and Khatai motifs, which are delicate and low-relief, all kinds of flowers and leaves interwoven on broad surfaces, as well as the stucco decorations of the Isfahani room, are derived from the motifs of Islamic periods, especially the Safavid period. Also, the use of European motifs, the naturalistic design of plant patterns, the execution of motifs in a relief and realistic manner, as well as the use of techniques such as stucco on flat mirrors, patina work, and stucco cornice in the building have been influenced by the trends of European design in the Qajar and Pahlavi periods.

Conclusion: In general, it can be said that the stucco decorations of Hossein Khodadad House were formed under the influence of three primary factors of preserving the Iranian national identity, Islamic Iranian identity, and the European trends of the Qajar and Pahlavi periods. In addition to its eye-catching architecture, this building has kept a rich and original collection of stucco decorations from different periods of the history of Iranian architecture alive before the eyes of today's viewers.

Keywords

Stucco Decorations, Hossein Khodadad House (Museum of Time), Ancient Iran, Islamic Art, Qajar, Pahlavi

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Introduction and Problem Definition

The art of stucco is one of the most used and beautiful decorative elements of buildings in all periods of Iranian architectural history. Many orientalist consider Iranian stucco works among Islamic art's masterpieces. Since the end of the Safavid period, due to the lack of attention to preserving the originality of stucco and its significant influence from European art in the Qajar and Pahlavi periods, Iranian stucco underwent changes and transformations. This influence in the second Pahlavi period was to the extent that, following European architecture, the arrays related to Iranian architecture, including stucco, were considered redundant. In the meantime, Hossein Khodadad House, with its Qajar foundation and Pahlavi architecture, has gathered a unique collection of motifs and stucco techniques from the periods of Iran's architectural history. The manifestation of authentic Iranian art in this building is not only in the form of its stucco arrays but also the spirit governing the elegance and beauty used in all the arrays of the building, such as Girih tiles and mirrorwork, which shows an admirable effort to preserve the art treasure of this land. The stucco decorations of the exterior and interior of the building with Arabesque designs that grow like branches full of flowers and leaves on the body of the building, lotus flowers, roses, and chamomiles, as well as the stucco motifs of the Isfahani room, has provided an exquisite collection of authentic Iranian stucco art. In addition to the importance of studying the stucco arrays of the periods of Iranian architectural history to recover the origin of the stucco patterns of the Qajar and Pahlavi periods, the necessity of the present research is also essential in identifying and classifying the different types of stucco patterns of the mentioned building to introduce better and protect these valuable works. The aim is to investigate the visual structure and typology of the stucco motifs and techniques of Hossein Khodadad House and how the stucco motifs of the history of Iranian architecture continue in the stucco arrays of this building. Therefore, the current research seeks answers to these questions: «How can the visual characteristics and typology of the motifs and stucco techniques of the Hossein Khodadad House be classified?» «What factors influence the formation of the set of stucco motifs of the mentioned building in the Qajar and Pahlavi periods?»

Research Method

The current study is qualitative. In terms of purpose, it is developmental research with a descriptive-analytical approach. Data collection is based on library studies and especially field research. First, the stucco decorations of the mentioned house were described and analyzed to achieve the research goals. In the next step, in light of the historical information and the results of field observations, the analysis of the data and the comparison of the obtained results with some of the remaining stucco works from the periods of the architectural history of Iran as well as the European (Farangi) motifs have been conducted.

Research Background

The article entitled «Historical analysis of the role of Qajar government policy on the influence of architectural decorations from the West with emphasis on motifs», «Amiri, Fanaie, Khodakarmi, & Massoud» (2021), investigated the role of the Qajar government's policy on the effectiveness of decorations related to architecture, including stucco and motifs used in it, from Western art. In the article entitled «A study of the significance of traditional plaster design in the architecture of the Qajar dynasty era (case study: Bagh-e-Ferdows building in Tehran)», «Shapourian» (2017) investigated the effectivity of Qajar period stucco design from European art. In the book entitled «Foreignization in Iranian Architecture», «Ashrafi» (2016) examined the architectural works in the historical periods

of Iran from the Achaemenid to the Pahlavi period and studied the wave of modernism and its effects on architecture and decorations related to it in the Qajar and Pahlavi periods. In the article entitled «Modernism movement and contemporary architecture of Iran», «Mahdavinejad & Mansouri Majomerd» (2015) explained how modernist trends entered Iranian architecture in the Qajar period and the extent of its influence on various aspects of architectural elements and decorations. In the article entitled «Decorative arts and amazing stucco phenomena in Iranian architecture», «Zamrashi» (2013) investigated the use of stucco art in the design of exterior and interior residential facades in Iranian and Islamic architecture in the periods of Iranian history. In his master's thesis entitled «Investigation of stucco in Iran from the Safavid period to thee of the Qajar period», «Zohurian» (2010) studied the process of applying stucco in the construction and decoration of buildings. In the article entitled «Sassanid period stucco and its effect on Islamic art», which is an abstract of the book "History of Sasanid period stucco art and its effect on Islamic works of art, «Ansari» (1987) studied the elements and motifs of stucco in different periods of Iran's history, especially the Sassanid era. Accordingly, in the current research, while reviewing the process of stucco design in the periods of Iranian architectural history, the visual structure and typology of stucco motifs and techniques of Hossein Khodadad House, as well as the factors affecting their formation, which have not been noticed, are investigated.

The Evolution of Stucco Decorations in the History of Iranian Architecture





The artworks from previous eras show that in ancient Iran, besides the protective covering of arches and walls, plaster also had a decorative aspect. Excavated works from the «Hafttapeh» of Khuzestan belonging to the Elamite civilization, including the plaster coating of different parts of the building, the works found from «Tepe Gawra» including beautiful colored decorations with varying coatings of plaster in reddish, brown, and white colors (Makinejad, 2008, 133), and the colored surfaces of «Bābā Jān Tepe» (Ferrier, 1995, 17), are samples of these works. The specific features of plaster, such as ease of access and compatibility with the climatic conditions of Iran, have caused this material to be used since prehistoric times in cases such as adhesive mortar, covering coating, a suitable substrate for mural painting, or as a single decorative array (Aslani, 2014). «Pirnia» writes: «If in other countries, architecture-related arts such as carpentry, stone carving, and motif designing are considered decorations, it has never been like this in our country. Girih making with plaster, tiles, raw and baked clay, tile carving, and the like, or according to Iranian architects, more Andood (coatings) and Amood (decorations on the facades of buildings), has been part of the fundamental work of the building» (Pirnia, 2011, 318). Researchers such as Andrew Peterson have also attributed the invention of plaster arrays in architecture to Iranians. During the Achaemenid period, plaster was used as a building material rather than a decorative factor, and architectural decorations were primarily made in the form of stone carving. Despite this, few examples of plaster used as a decorative element have been obtained in some parts of Persepolis (Ahmadi & Shekofteh, 2011). During the Parthian period, plaster arrays flourished in architectural works. Parthian plaster designs (stucco) were simple and usually consisted of round geometric shapes (Ansari, 1987). During the Sasanid era, all the arts, especially architecture and stucco, which had a direct relationship with court art, became very prosperous. During this period, the walls were coated with plaster mortar and decorated with large reliefs of flowers, animals, and human images (Motifard, 2012, 21-23). Stucco in ancient Iran grew along with architecture in the Islamic periods. Decorations related to architecture, especially the stucco designs of the Umayyad

and Abbasid periods, played an essential role in transferring the art of the pre-Islamic periods to the Islamic period of Iran (Dimand, 1986, 96). In the early Islamic era, the construction of buildings and decorative arrays was influenced by Sassanid art, with the difference that animal and human motifs were removed and the use of Islamic and Khatai motifs that had their roots in previous periods developed (Shekofteh & Salehi Kakhki, 2014). In the Islamic periods, the motifs changed from rough and allegorical aspects and were manifested in a decorative form. Along with developing all kinds of motifs, they found their way to the altars of mosques. Stucco design found particular implementation principles during the Samanid, Ghaznavid, and Ziyarid eras and reached its peak of prosperity in the 7th and 8th centuries A.H. (Kiani, 1997, 92-83). The innovative stucco methods of the Seljuk period evolved during the time of the Ilkhanids, and many decorative details and elaborate motifs are considered to be the characteristics of the Ilkhanids' stucco works. In this regard, during the Safavid period, stucco became an arena for the manifestation of painters' works. Then, Iranian architecture and related arrays gained a new form in the Qajar period and were influenced by modernization trends like other aspects of Iranian life. During the Pahlavi period, the architectural trend of Iran continued with Qajar, along with more innovations (Kiani, 2007, 244).

Stucco Techniques in Iranian Architectural Decorations











The classification of stucco arrays in Iranian architecture is done on three bases: The first category is based on the way of forming the stucco works, which is divided into two parts: on-site forming and the use of molds. The second category is based on the reliefs of the motifs, which include high-relief, semi-relief, low-relief, and flat. The third category, which provides the most accurate classification of works, is based on technical methods and implementation details, which can be divided into twelve types according to Table 1 (Salehi Kakhki & Aslani, 2011).

Table 1. Twelve types of stucco techniques in Iranian architecture based on technical methods and implementation details. Source: Authors.

Stucco Techniques	Picture/Place/Period	Stucco Techniques	Picture/Place/Period
High-Relief	 Altar of Jameh Mosque in Varamin, Ilkhanids	design on the flat mirror	 Porch of Chehel Sotoon Palace, Safavids
Semi-Relief	 Soltaniyeh Dome in Zanjan, Ilkhanids	Muaraq (tile mosaic)	 Kasegaran School in Isfahan, Safavids

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Stucco Techniques	Picture/Place/Period	Stucco Techniques	Picture/Place/Period
Latticework	 Altar of Jameh Mosque in Urmia, Ilkhanids	Tong Bori	 Sheikh Safi Al-Din Ardabili's Shrine, Safavids
Moulded	 Prefabricated molded stucco, Hafshuye Mosque, Isfahan, Ilkhanids	Combining stucco with glass and mirror	 Stucco window decorated with colorful glass pieces, Abbasian House, Kashan, Qajar
Moulded	 On-site molded stucco (attached), Pir Bakran Mausoleum, Isfahan, Ilkhanids	Stucco combined with glass and mirror	 Combining stucco with tiling, Pir Bakran Mausoleum, Isfahan, Ilkhanids
Koshte Bori	 Pirnia House, Naeen, Safavids	Frame-design (Fetileh)	 Oshtorjan's Jameh Mosque, Isfahan, Ilkhanids
Kop Bori	 Hasht Behesht Palace, Isfahan, Ilkhanids	Stucco combined with simgel	 David House, Isfahan, Safavids

Hossein Khodadad House (Time Museum)

Hossein Khodadad House is located in district one of Tehran Municipality, Valiasr Street, the beginning of Zafaranih Street (Shahid Fallahi), corner of Parzin Baghdadi intersection, No. 12. This house, which is a unique sample of the arts of Girih tiling, muqarnas, mirror

work, and especially stucco design, is built with an area of approximately 700 m², in two floors, and the middle of a garden of 5000 m. The history of this garden, which as a part of Ferdows Garden lands belonged to «Moayyer al-Mamalek», the son-in-law of Naser al-Din Shah, dates back to the Qajar period, and the date of construction of its first building dates back to the first Pahlavi period. With its sizeable oval pool, green space, and tall trees, this garden evokes a beautiful sample of an Iranian garden in the viewer's mind. The critical features of Iranian gardens in different eras are avoiding futility and being self-contained. The oval-shaped pool also became common in Persian architecture during the Qajar period (Fig 1). In 1960, Hossein Khodadad, an Iranian craftsman and entrepreneur, bought the mentioned property from the heirs of a person named «Abdullah Khan Mansour», while it had a one-floor clay and mud building. In 1963, the restoration process was started on his order. This reconstruction, which lasted for about two years, included placing a steel structural frame instead of a wooden one, retrofitting the building, constructing a second floor and porch, and adding decorations to the interior and exterior of the house. The architectural style of the building is a combination of Persian and European styles. The general plan of the building is rectangular with an east-west extension, and the direction of its orientation (Roan) is Rasteh (Fig 2). The materials used to construct the building are wood, marble, plaster, and brick. The designer of the new building, engineer Ebtekar, and its architects were master «Hossein Kashi» and «Haj Ramzan Abbasian». This house has three entrances in different geographical directions: east, west, and south (Fig 2).



Fig 1. The main and southern view of Hossein Khodadad House. Source: Authors.

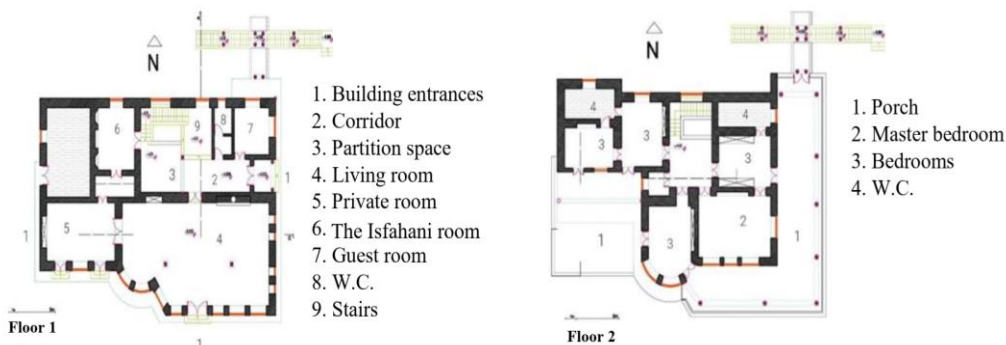


Fig 2. Floor plan of Hossein Khodadad House.

Source: <https://www.metmuseum.org/art/collection/search/322647>.

Currently, the main entrance of the building is from the east, which has a beautiful resting space, including columns and mirrors with exquisite stucco-designed frames on both sides. The first floor of the building includes a corridor and a partition space that leads to the large reception hall (Living room) (Fig 3), the owner's private room, and a room on the west side known as the Isfahani room (Fig 5). Also, on the right side of the partition space, near the entrance, there is a room with simpler decorations than other spaces, which was for the use of guests. A staircase made of white marble on the northern side of the partition space provides a connection with the second floor of the building (Fig 3). The second floor is allocated to bedrooms. Allocation of this part of the building to a private space and away from prying eyes shows that although this house does not have a central, inner, and outer courtyard like other Qajar buildings, the principle of privacy has been considered. On this floor, apart from the master bedroom, three different rooms have less decorations than the main room. The second-floor porch, which covers the entire southern and eastern sides of

the building, has numerous columns and a ceiling covered with various stucco arrays, which gives a beautiful view of the garden and the surrounding area of the house (Fig 3).

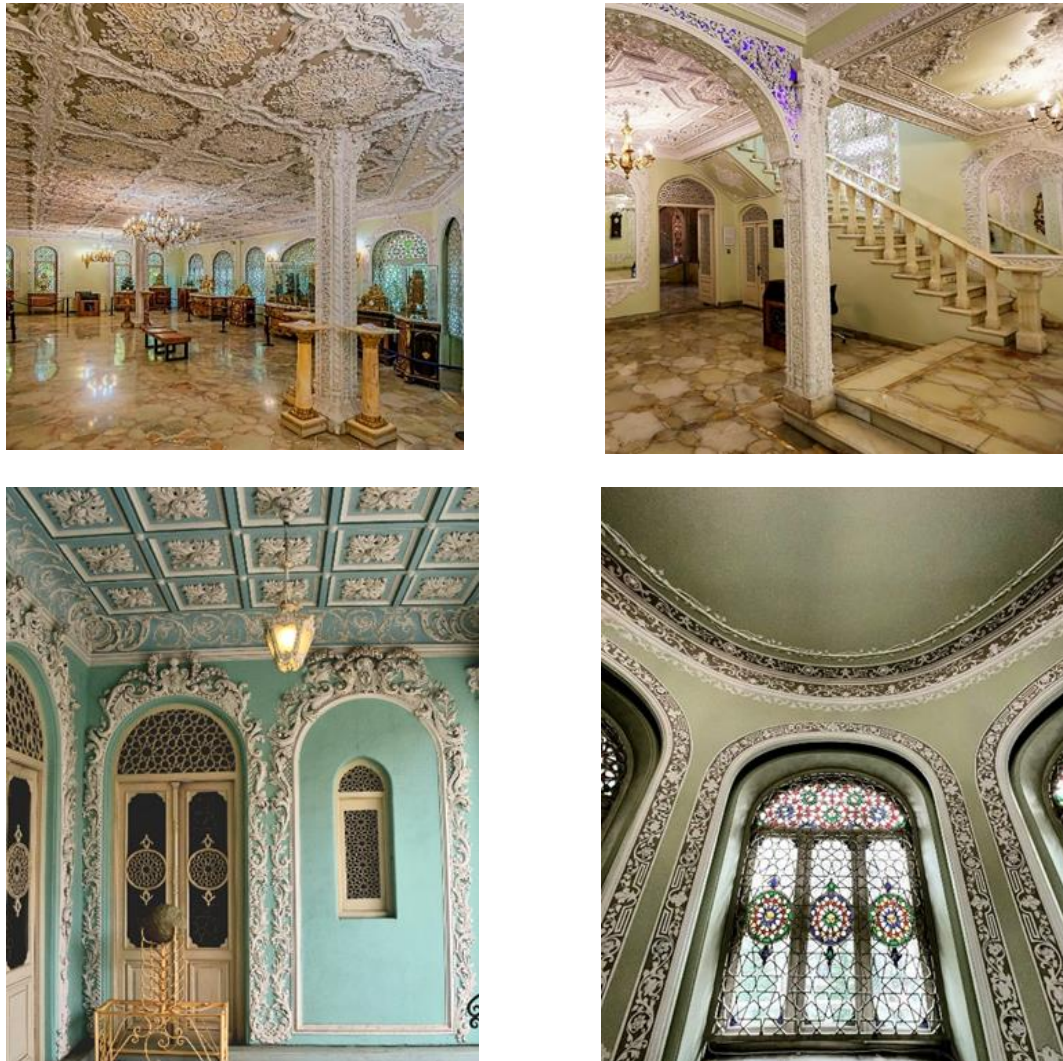


Fig 3. Up, right: First floor partition space and marble staircase. Left: first floor living room. Down, right: One of the bedrooms on the second floor. Left: The interior of the porch on the second floor. Source: Authors.

Hossein Khodadad's great interest and dedication in reviving authentic Iranian stucco art as well as the Iranian carpet caused the use of Iranian carpet designs and motifs in the stucco motifs of various parts of the ceiling of the house, including the ceiling of the partition space and porch, the ceiling of the Isfahani room, and multiple medallions in the corners of the staircase ceiling and the rooms of the second floor. The elegance and beauty used in designing and implementing these motifs have given the structure a double value (Fig 4).



Fig 4. Iranian carpet designs and patterns on the ceiling of different spaces of the building. Source: Authors.

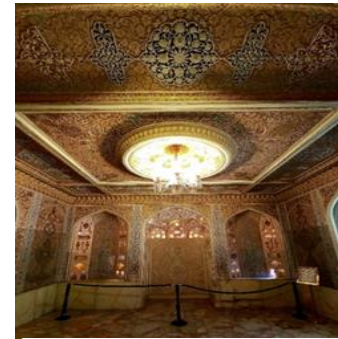


Fig 5. The Isfahani room on the first floor. Source: Authors

One of the most beautiful parts of the house is the Isfahani room on the first floor (Fig 5). The exquisite stucco design of the Isfahani room was executed according to the personal taste of Hossein Khodadad in the style of the Safavid period, and modeled after the Aali Qapu Palace and the Chehel Sotoon of Isfahan. The stucco of this room was designed by Master «Isa Bahodri». The stucco decorations of Khodadad House, a fusion of Iranian and European styles, lasted for about 10 to 12 years and was finally completed in 1977. The stucco of the building was designed by masters such as «Abdul Karim Navid Tehrani», «Farhad Yahyapoor», and «Haj Ali Sheikhi». The stucco of the columns downstairs was designed by the master «Nemat», the shaping and framing of the ceiling by Master «Habib» and «Abdullah», the margins of the doors and windows, the external parts, and the staircase of the first floor by the master «Yahyapoor» and a part of the entrance hall by «Haj Ali Sheikhi». All the margins of the doors and windows on the house's exterior, most parts of the ceiling, and the walls of both floors' interior have exquisite stucco arrays. More than 40 artists have been involved in the design and execution of the stucco arrays of this building (Saebi Moghadam & Mousavi, 2019). Among other artistic features of this house is the art of Girih tiling of doors and windows in the outer and inner parts of the house, which is the art of masters such as «Haj Mohammad Kashi» and master «Hossein Kashi» (Fig 6).



Fig 6. Girih tiling of doors and windows in the interior and exterior of the house. Source: Authors.

Also, the walls around the garden were built by the master «Abbas Kazempour» with various techniques of brickwork such as brick trimming (Tisheh dari) and Ma'qeli, and the art of tiling was also used in some parts of it (Fig 7). At the western end of the garden, there

is a two-floor brick building that was Hossein Khodadad's office. The decorations used in this building are very simple and different from the main building (Fig 8). This house was in the possession of Hossein Khodadad for a short time, and after the revolution, it was given to the Mostazafan Foundation. The mentioned building was opened in 1999 by the General Department of Museums of Mostazafan Foundation entitled «Time Museum» as the only specialized clock museum in Iran, and it was registered in the list of national monuments of the country in 2003 with registration number 10868.



Fig 7. Brickwork and tiling decorations of the inner and outer walls of the garden.
Source: Authors.



Fig 8. The brick building at the western end of the garden.
Source: Authors.

Typology of Stucco Techniques of Hossein Khodadad House

The stucco decorations of Hossein Khodadad House have been implemented in different parts of the building using various execution techniques. These decorations can be classified into three groups based on the prominence of the motifs: high-relief, semi-relief, and low-relief. Each technique may have been implemented using a mold or in situ methods. In total, the stucco techniques used in this building can be classified into seven different types based on technical methods and implementation details according to Diagram 1: high-relief, semi-relief, stucco on a flat mirror, combining stucco with glass, Koshte Bori, Tong Bori, and Kop Bori in the Isfahani room. All these techniques have been used individually or in combination with each other in the interior and exterior parts of the house.

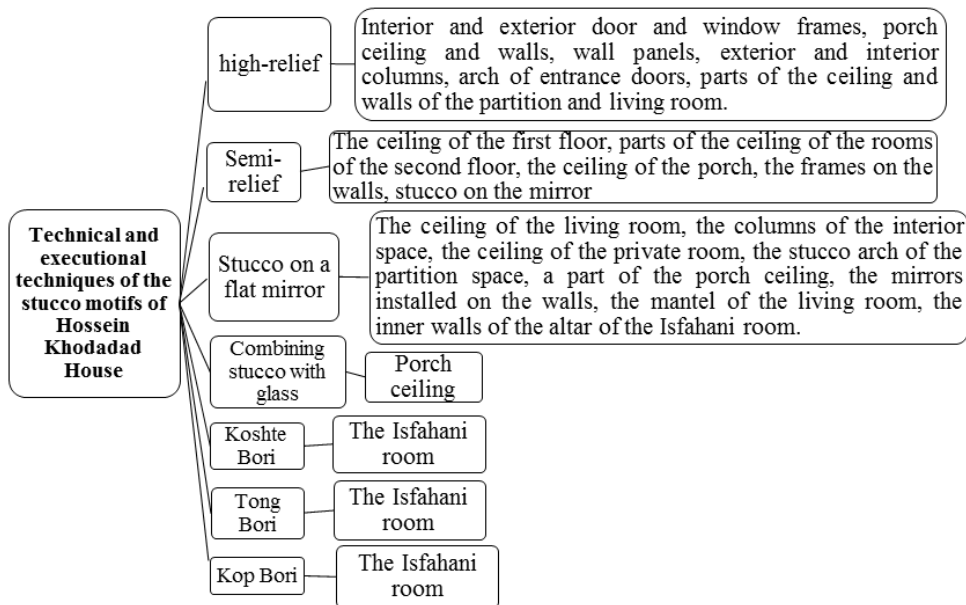


Diagram 1. Execution techniques and placement of stucco motifs of Hossein Khodadad House.
Source: Authors.

The stucco of the house's exterior on the margins of the doors and windows is high-relief. The difference in the level of these motifs with the background varies from 1-7cm in some parts (Fig 9). All the ceiling surfaces of the first floor in the partition space and reception hall (living room) are covered with stucco decorations, various motifs, and several execution techniques (Fig 10). In parts of the ceiling of the reception hall, columns, and arches of the first floor, stucco patterns have been applied on flat mirrors (Fig 11). Also, there are a series of plant and geometric motifs with different levels of protrusions in combination with the glass adorning the entire ceiling of the porch. Combining the art of mirror work that entered Iran in the Safavid period with the art of stucco created a new method called stucco on the mirror in the Qajar period. Embedding mirrors in plaster also became common during this period (Makinejad, 2008, 174). These techniques have been executed beautifully in different parts of this house. The walls and ceilings of the rooms on the second floor of the house, except for the main bedroom, which has elaborate arrays on the ceiling and walls, Hossein Khodadad's private room, as well as the guest room on the first floor, include fewer and simpler stucco arrays than other parts of the house, which is primarily done in the form of combining geometric and plant motifs on the margins of the roofs (Fig 12).



Fig 10. Applying high-relief and semi-relief techniques on the ceiling of different interior spaces of the building. Source: Authors.



Fig 9. Stucco motifs on the margins of the doors and windows of the exterior of the house. Source: authors.



Fig 11. Stucco on the flat mirror on the wall and ceiling and combining the art of mirror work and stucco on the porch ceiling. Source: Authors.



Fig 12. Stucco motifs on the ceiling of the bedrooms on the second floor. Source: Authors.

The Isfahani room itself is a complete set of common stucco methods of the Safavid period. The stucco design of this room, which lasted from 1974 to 1977, was carried out by «Rouhani» brothers. The execution method of Koshte Bori decorations is similar to semi-relief arrays, with the difference in the prominence of the motifs in the Koshte Bori method being less than 0.5 cm. The ceiling of this room is decorated with Isfahani carpet design, and in the corners of the ceiling, there are three-legged gold-coated Muqarnas works. On the wall of the altar of the room, the art of plaster Muqarnas, and on the wall of the niches, simulated from Aali Qapu Palace of Isfahan, the art of Tong Bori and Cop Bori, common in the Safavid period, were implemented (Fig 13). In the altar of the main wall of the room, the panel entitled «Creation» by master «Isa Bahadori» is designed with stucco, which refers to the creation of Adam and Eve (Fig 14). Throughout the other walls of the room, miniature paintings and gilding on plaster along with gilding are displayed (Fig 15).

In general, it can be said that the exquisite and beautiful decorations of the Isfahani room are a perfect sample of the taste and art of Iranian stucco artists in creating and re-creating motifs and stucco techniques of the Safavid period.

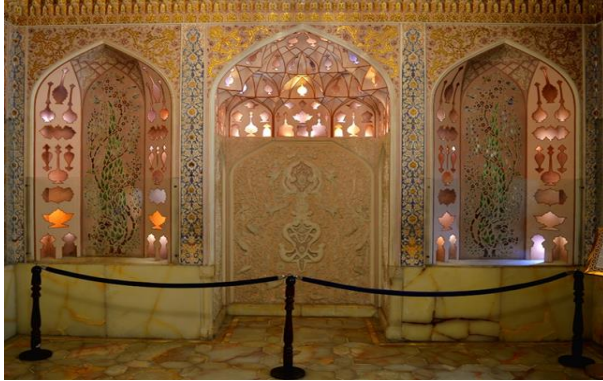


Fig 13. Tong Bori, Cop Bori, and Muqarnas decorations in the niches and altar of the Isfahani room, three-legged gold-coated Muqarnas on the margin of the ceiling.
Source: Authors.



Fig 14. A part of the stucco panel of the “creation of Adam and Eve” in the altar of the Isfahani room.
Source: Authors.



Fig 15. Koshte Bori of the ceiling, window frame, and walls of the Isfahani room.
Source: Authors.

Among the other exquisite arts of the Isfahani room is the art of Yazdibandi, which is executed delicately and beautifully in the stucco suspended bowl of the ceiling (Fig 16) and also the exquisite stucco mantel of the living room, which entered the Iranian architectural decorations during the Qajar and Pahlavi eras following the modernization trends. Parts of this mantel's semi-relief and very delicate stucco designs have been made with a combination of Persian and European motifs implemented on the flat mirrors (Fig 17).



Fig 16. The art of Yazdibandi on the ceiling of the Isfahani room. Source: Authors.



Fig 17. Stucco mantel in the living room on the first floor. Source: Authors.

In the collection of eye-catching stucco works of Hossein Khodadad House, the decorative stucco columns with various execution techniques and motifs are also among the most crucial load-bearing and ornamental features of the building (Fig 18). Column construction in Iranian buildings became popular from the Qajar period with the construction of various load-bearing and decorative columns. The construction of round columns with leafy or Greek capitals and columns with sharp twists or octagonal bodies or leafy capitals gave the houses of the Qajar period a new kind of European-like beauty (Motififard, 2012, 4).

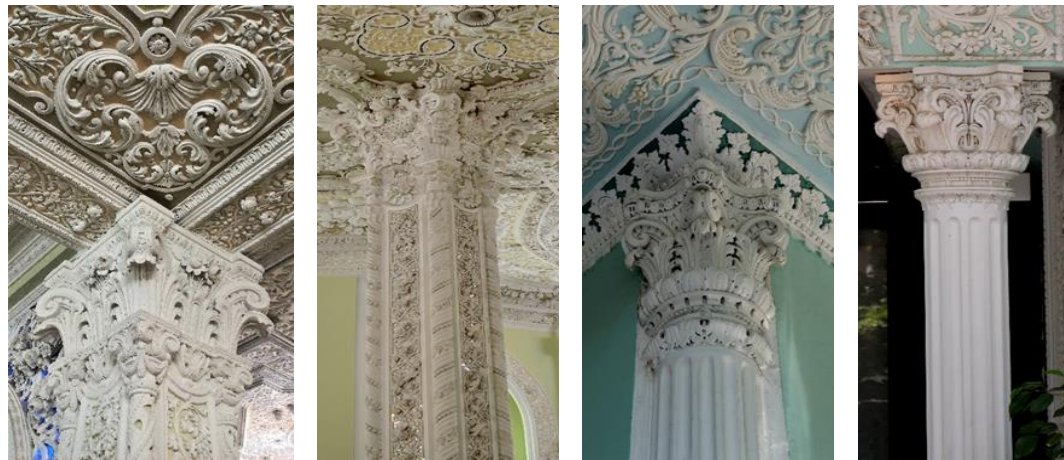


Fig 18. The stucco columns and capitals of the interior and exterior of Hossein Khodadad House. Source: Authors.

Typology of Stucco Motifs of Hossein Khodadad House

The stucco motifs of Hossein Khodadad House can generally be classified into four categories: plant, geometric, animal, and human motifs. The plant motifs that are the prominent and most stucco motifs of this building include Arabesque and Khatai, Rose, Enamel and Chamomile, Palmette (Palm leaf), Artichoke leaf, Datura flower, Tulip, Lily, Lotus, Grapevine branch and leaf, Grapes, Pomegranate flower, Wheat Ear, Cherry blossom, Multi-lobed flower, Pine Cone, Shah Abbasi flower, Ivy, and leaves of all kinds of plants. All these motifs are used in the exterior and interior spaces of the house in

combination with each other or in combination with geometric motifs (Tables 2 & 3). The geometric motifs used in the stucco decoration of the building also include polygonal patterns, round frames, square and rectangular frames, Meander, oval-shaped strings, pearl strings, and wavy bands (Tables 2 & 3). Animal motifs are used in the interior of the house in the form of flowers and birds in the Tashir and Koshte Bori style in the Isfahani room and also in the high-relief style in parts of the stucco frames of the partition space and the upper arch of some windows on the first floor (Table 3). A sample of a human motif is also in the altar of the Isfahani room in the form of the panel called "Creation of Adam and Eve", adorning the collection of rich and rare stucco works of this building (Fig 14). As mentioned earlier, in this building, plant motifs form the predominant stucco motifs, were far away from the abstract form of motif design in the past periods, and were designed and executed realistically. In terms of the visual structure and the way they are placed in the space in some parts, such as the ceiling of the partition space, the living room ceiling, the Isfahani room, and the entire body of the columns on the first floor, as well as the ceiling of the porch and the main bedroom on the second floor, The plant motifs of Hossein Khodadad House have covered most surfaces in an integrated and intertwined manner. The design of the stucco patterns of other spaces, such as the walls and ceiling margins, interior doors and windows, and the margins of the doors and windows of the house's exterior, has been conducted in the utmost order and harmony. There is a simple background in the design structure of the stucco motifs of these parts, in which the motifs have created a balanced composition by following the pattern of repetition and symmetry. The empty space between these motifs is filled in some parts with more delicate motifs or the twists and turns of Arabesque motifs. By connecting two groups of motifs in a similar way, a unified combination has emerged in the interior and exterior of the house.

Table 2. Exterior Stucco Motifs of Hossein Khodadad House. Source: Authors.

Fig	Motif Type	Motif title	Motif Place		Motif Background				Place in Plan	Place in Space
			Body	Margin	Iranian		European (Farangi)	Mixed		
					Ancient	Islamic				
1	Plant	Realistic rose (bud and bloom)	*	*			*		The outer wall of the building, Porch	The margin of doors and windows, the ceiling of the porch, the arch of the eastern door, the margin of the outer edge of the porch, the capitals
1		Cherry blossom	*				*		The outer wall of the building	The margin of doors and windows
1		Wheat ears	*		*					The margin of windows
2		Grapevine branch and leaf, Grapes	*		*					The margin of doors and windows, the arch of the eastern door
3		Pomegranate flower	*					*		
5		Enamel	*				*			
5		Chamomile	*		*					
5		Oak leaf	*		*					

Fig	Motif Type	Motif title	Motif Place		Motif Background			Place in Plan	Place in Space	
			Body	Margin	Iranian		European (Farangi)			Mixed
					Ancient	Islamic				
4	Naturalistic	Palmette (Palm leaf)	*		*				The margin of doors and windows, the ceiling of the porch	
6		Tulip	*	*	*				The margin of doors and windows, the ceiling of the porch, the edge of the ceiling, and the outer edge of the porch	
6		Lily	*	*	*				The margin of doors and windows, the outer edge of the ceiling of the porch	
7		Datura	*				*		The margin of doors and windows, the arch of the eastern door	
8		Cotton leaves	*	*			*		The margin of doors and windows, the ceiling of the porch, the arch of the eastern door	
8		Artichoke leaf	*		*				The margin of doors and windows	
9		Flower and vase	*				*			
10		All kinds of naturalistic flowers	*				*			
11		Arabesque	*	*		*			The margin of doors and windows, the outer edge of the porch	
12		Ivy	*	*	*				The ceiling of the outer margin of the porch, the border of the edge of the porch	
12		Kahatai	*			*			The ceiling of the outer edge of the porch, the arch of the entrance door	
13		Geometric	Meander		*	*				The top margin of the wall on the north side of the building
14	Round frames			*	*				The margin of the outer and inner edges of	

Fig	Motif Type	Motif title	Motif Place		Motif Background			Place in Plan	Place in Space	
			Body	Margin	Iranian		European (Farangi)			Mixed
					Ancient	Islamic				
									the ceiling of the porch	
15		Square frames	*		*					The ceiling of the porch on the south
16 & 17		Polygon frames	*		*					The ceiling of the porch on the east
18		The rectangular stocks of the capitals of Persepolis		*	*				The outer wall of the building	The top margin of the wall on the north of the building
18		Oval-shaped strings		*	*				Porch	The margin of the outer and inner edges of the ceiling of the porch
18		Square-shaped strings		*	*				The outer wall of the building	The margin of the lower wall of the porch
18		Pearl strings	*	*	*					The margin of the lower wall of the porch, the margin of doors and windows
19	Plant & Geometric	Mixture of geometric forms and plant motifs	*	*				*	The outer wall of the building , the porch	The ceiling of the outer edge of the porch, the ceiling of the porch, the inner margin of the windows
1-5										
Fig s. 6-10										
Fig s. 11-15										
Fig s. 16-19										

Table 3. Interior Stucco Motifs of Hossein Khodadad House. Source: Authors.

Fig	Motif Type	Motif Title	Motif Place		Motif Background			Place in Plan	Place in Space		
			Body	Margin	Iranian		European (Farangi)			Mixed	
					Ancient	Islamic					
1,3,10,18	Plant	Realistic rose (flowers and buds)	*	*			*		Partition space of floors, living room, bedrooms, stairway	walls and ceiling columns, mantel, on mirrors	
1		Lily	*	*				*		Walls, margin of windows	
1		Lotus	*	*	*					Walls, ceiling, margin of windows	
1		Cherry blossom	*	*			*				
2		Artichoke leaf	*	*	*						
3		Wheat ear	*		*					Partition space	Ceiling
2		Palmette (Palm leaf)	*		*					Partition space of living room, master bedroom	Wall
4		Ivy		*	*					Bedroom on the second floor	Margins of the ceiling
4		Cotton leaves	*	*			*			Partition space of floors, stairway	Ceiling & walls
5		Pine cone	*		*					Partition space of the first floor	The top margin of the stucco frame
6		Grapevine branch and leaf, Grapes	*		*						Wall & column
7		Oak leaf	*	*	*					Partition space of floors, living room, bedrooms, stairway	Wall, ceiling, the margin of doors and windows
7		Chamomile	*	*	*						
8		Pomegranate flower	*					*		Partition space of floors	Wall
10	Arabesque	*				*			Partition space of living room, the Isfahani room	Wall, ceiling, the margin of doors and windows	
10	Khatai	*	*			*			The Isfahani room	Ceiling, the inner margin of the window	
10	Shah Abbasi flower	*	*			*				Ceiling, walls, the margin of windows	

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Fig	Mo tif Ty pe	Motif Title	Motif Place		Motif Background				Place in Plan	Place in Space		
			Body	Margin	Iranian		European (Farangi)	Mixed				
					Ancient	Islamic						
11		Datura	*					*		Partitio n space of the first floor	Ceiling	
12		Tulip		*	*					Partitio n space of floors, master bedroo m, living room	The margin of ceiling and walls	
9		Flower & vase	*						*		Stairwa y, living room	Mantel, top margin of stucco frame
15		Sunflower	*						*		Master bedroo m	Ceiling
12	Geometric	Pearl string	*	*	*					Partitio n space of floors, living room, column s	Margins of ceilings, ceilings, and walls mixed with other motifs	
12		Heart- shaped strings		*	*					Partitio n space	Margin of wall motifs	
13		Geometric strings		*	*					Bedroo ms	Ceiling	
14,15,16		Square and rectangular frames	*		*					Partitio n space, stairwa y	Walls, the ceiling of bedroom	
16		Meander	*		*					Bedroo m	Ceiling	
16-20	Plant & Geometric	Combinatio n of geometric forms and plant motifs								Partitio n space of living room, master bedroo m, the Isfahan i room	The lower part of the decorative arch, ceiling, the inner part of the niche, the ceiling, and the inner margin of the window	
21-26	Human & Animal	Flower & Bird	*						*		Partitio n space of the first floor, the Isfahan i room	The wall, the arch above the stucco frame, ceiling and walls
		Human motif	*						*		The Isfahan i room	Stucco panel inside the altar
1-4												

Fig	Mo tif Ty pe	Motif Title	Motif Place		Motif Background			Place in Plan	Place in Space	
			Body	Margin	Iranian		European (Farangi)			Mixed
					Ancient	Islamic				
5-9										
10-13										
14-17										
18-21										
22-26										

Analysis and Investigation of Influencing Factors on the Formation of Stucco Motifs of Hossein Khodadad House

The collection of stucco decorations of Khodadad House is a full-view mirror of the stucco art of the periods of Iranian architectural history, and it narrates many influences from various aspects of the stucco art of contemporary and earlier periods. In a general review, three main factors can be mentioned as influential factors in the formation of stucco motifs of this building: 1. Preservation of Iranian national identity, 2. Iranian-Islamic identity, 3. The trends of foreignization in the Qajar and Pahlavi eras.









1. Preservation of Iranian National Identity: Generally, the background of several stucco motifs of the Khodadad House can be found in the stucco and stone-carving motifs of ancient Iran, especially the Sasanid period. The plant motifs used in Sasanid stucco works are of various types, including artichoke leaf, lotus, palmette (palm leaf), grapevine and Ivy, grapes, pomegranates, pines and oaks, multi-lobed flowers, rosettes, and the tree of life,
















which later, in the Islamic era, became the basis for the formation of Islamic motifs and can be found in many works (Fig 19). Geometric motifs such as circles and curves, which are used in the permanence of Parthian stucco motifs, and the use of square and rectangular motifs as a stucco frame or in the ceiling of various parts inside and outside the building, Meander and pearl strings (Fig 19), are also among these motifs (Ansari, 1987). Most of the Sasanid period's stucco motifs are plant motifs, either taken from nature or created by the combination and transformation of various geometric motifs. In this composition, plant designs replaced geometric motifs with a slight change and application of stylized designs (Pope, 2010, 780). Implementing motifs also include carving, stucco in relief, and using a mold. According to the structure of the design, the placement of motifs, and the repeating pattern of flowers and leaves in Hossein Khodadad House, it can be said that the main pattern in the design of the motifs of this building is the pattern of repetition and symmetry, which is considered one of the most critical features of Sassanid art. Finally, it can be said that the use of Sassanid plant and geometric motifs, repeated heart-shaped motifs in the margins, according to Table 4, the methods of stucco implementation as well as the pattern of repetition and symmetry in the design of the motifs as the main pattern of the stucco design of the building, shows the influence of the stucco decorations of Hossein Khodadad House from the patterns and techniques of ancient Iranian stucco art.



Fig 19. Stucco stocks of the Palace of Tisophon, Sasanid period. Source: <https://cio-museums.org/museum/time/>.

Table 4. Comparison of some stucco motifs of Hossein Khodadad House with similar motifs in the Sasanid period. Source: Authors.

Motif Type	Motif Title	Hossein Khodadad House	The Sasanid period	Commonalities
Plant	Artichoke leaf			The spiral shape of the leaves The number and form of tracks
	Grapevine branches and leaves grapes			The round shape of the branches, the shape of the grapes, and the leaves
	Palmette			The design structure of the leaves, the general form of the tracks of the leaves
	Lotus			The general shape of the three branches of the lotus, the shape and number of petals

Motif Type	Motif Title	Hossein Khodadad House	The Sasanid period	Commonalities
	Wheat ear			Realistic general shape of wheat ear
	Pine cone			The overall shape of the fruit and the cross-shaped structure of the tracks
	Tulip			The general form and structure of the flower
Geometric	Pearl string			Application in the margin of motifs
	Round frame			Margined hollow circles with plant motifs inside
	Polygonal, square, and rectangular frames			Having both simple and patterned margins around the frames
	Meander			The general structure of the string, application on the margin of motifs
Animal	Bird			General form of birds, sitting on a tree branch

2. Iranian-Islamic Identity: Sassanid art was considered a symbolic art influenced by religion, and for this reason, Muslims used Sassanid motifs in their works and gave them an Islamic identity over time (Khazaei, 2006). In their works, Muslim artists did not seek to imitate the art of the previous eras simply, but with the knowledge of the connection and unity of traditional arts, as well as knowing the Sassanid visual system and its value among Iranians, they were able to create new works inspired by the art of their predecessors. Therefore, it can be said that Sasanid art has led to Islamic art, with its own characteristics, by accepting a series of changes (Sheikhi & Ashuri, 2014). Most of the stucco motifs of Iran's Islamic periods are plant motifs. Some of these motifs, such as Artichoke leaf, grapevine, Ivy, and lotus flowers, have been used without changes, and some other motifs, such as Arabesque, have been changed and stylized, as can be seen on the exterior of Khodadad House. One of the most essential features of motif design in the Islamic eras is symbolism and abstract design, which gives the motifs a deep and spiritual state. Another feature of stucco design in Islamic periods is covering all or a large part of the desired surface with decorative motifs, as in mosques such as Jameh Mosque of Naeen, the entire surface of columns, arches, and altars are covered with stucco motifs. The pattern of repetition and symmetry common in the Sassanid period has been followed to avoid disorder in the design and composition of motifs. Pope writes about this: «Despite the multiplicity of motifs and the frequency of layers in some stucco works, the arrangement of



Fig 20. Implementation of various plant motifs intertwined with various execution techniques on the ceiling of Khodadad House. Source: Authors.

the motifs is such that there is no sign of disorder, and despite the plurality of motifs and designs, the overall unity of the design has been preserved» (Pope, 1991, 155). In general, stucco motifs in Islamic periods had a symbolic and abstract status and were made with more complexities, more delicate, and in a low-relief style. In Khodadad House, some parts, including all the ceiling surfaces of the partition space and living room on the first floor, are covered with various plant and geometric stucco patterns, which were modeled on Iranian carpets and influenced by the motif design structure of Islamic periods. In the Isfahani room, in addition to using the design structure, composition, and motifs of the Islamic period, such as Arabesque and Khatai, Shah Abbasi flowers and altar Muqarnas designs, innovative stucco techniques of the Safavid period, such as Tong Bori, Koshte Bori (Table 1) and Yazdibandi have also been implemented. Undoubtedly, the unique beauty, elegance, and complexity of these motifs, along with order and symmetry, tie the thinking of every eager viewer with sublime values. Therefore, the representation of Iranian-Islamic identity, in addition to the architectural aspects that were mentioned earlier, in the use of abstract forms of plant motifs, the covering of large surfaces of the building with subtle, low-relief, and intricate motifs, the use of repeating patterns and symmetry, as well as the use of innovative stucco methods of Islamic periods are evident in the stucco arrays of the Khodadad building (Fig 20).

3. The Trends of Foreignization in the Qajar and Pahlavi Periods: Although Iranian architecture in different periods of history has continuity in terms of technique, it has accepted many changes in aspects such as architectural decorations and building plans according to the time conditions. The social and political developments of the Qajar period, which took place due to the close relationship between Iran and Europe, especially during the reign of Naser al-Din Shah, laid the groundwork for changes in Iranian architecture and the elements of Iranian architecture were used in combination with the elements of Western architecture (Nemati Babaylou & Alipour, 2022, 339). Several factors, such as sending students to Europe, Naser al-Din Shah's trips to Farang (Europe), the education of Iranian architects in Europe, the arrival of carriages and automobiles in the cities, as well as the presence of Russian and British architects, especially during the constitutional period in Iran, have been influential in the formation of Qajar architecture. In general, the entry of modernism into Iranian architecture during the Qajar period can be investigated in six areas, including plan, facade, decorations, materials, elements, and new spaces. These trends also influence the Hossein Khodadad House in the areas of plan, facade, architectural decorations, and materials (Mahdavinejad & Mansouri Majomerd, 2015, 26). Stucco in the Qajar period was one of the most prominent decorative arrays in Iranian architecture, which was transformed under the influence of Western art in addition to motifs and themes in the places of use. In this period, as seen in the Khodadad building, stucco arrays were used on large surfaces of the exterior of the buildings, pediments, corners above the window, columns and capitals, porches, and different parts of the ceiling. The motifs used in this period included different types of Iranian plant and geometric motifs in combination with Western plant motifs such as flowers and leaves, naturalistic buds and fruits, threads, flowers and vases, angels, and various practical objects. Although the use of Persian motifs in this period was not just imitation, and artists tried to create new and innovative types by using the art of their predecessors, due to facing a wide range of motifs and themes and insufficient reflection, in the end, this influence weakened the development process of the design of decorative motifs in Iranian architecture (Sultanzadeh, 1993, 132). In addition to the cornice on the margins of the ceiling, one of the other imported designs of this period was a decorative mantel, one of the most beautiful samples of which can be found in Hossein

Khodadad House (Fig 17). Examples similar to mantel construction in the history of stucco in Iran are the traditional niches in Sassanid palaces such as Neyshabur Palace. The arrival of artistic movements from the west in the Qajar period caused the creation of naturalistic tendencies similar to the Sassanid period in the Qajar stucco art, as the roots of some of these motifs can be found in the ancient Iranian periods (Makinejad, 2008, 167-168). The predominant method of stucco motifs in this period, as evident in the outer door and window frames of Khodadad House, was implemented in the high-relief style and was influenced by some Farangi (European) art. With the beginning of the Pahlavi period, architecture and decorations related to it also entered a new phase. The architecture of this period was the same as the late Qajar architecture, with a few changes in materials and execution techniques, which mixed with the principles of European architecture and became known as the first Pahlavi architecture or Rezashahi architecture. The common architectural styles of the Rezashahi period can be classified into three groups: The continuation of the late Qajar architecture, the early modern architectural style, the European Neoclassical style with the combination of Iranian motifs (national style) (Bani Massoud, 2009, 187). Subsequently, with the intensification of Western tendencies in the Pahlavi period, the elements of Western architecture were more clearly visible in Iranian architecture. In this period, the trend towards national and racial slogans in Europe under the influence of nationalist movements forced the Iranian rulers to follow this trend, and this led to the expansion of the use of ancient Iranian elements and motifs in architecture and related decorations (Makinejad, 2008, 169); however, most of the efforts made were superficial and did not pay much attention to the spirit of the past architecture as well as its principles and foundations (Ashrafi, 2016, 394-396). Realistic flowers, buds, and leaves taken from Western motifs are the most used stucco motifs of the Pahlavi period, as many samples can be seen in Khodadad House. For example, the motif of the grapes can be seen in many stamps and postcards imported from the mentioned periods; however, it can be traced in the stone-carving art of ancient Iran, the use of this motif in a realistic way in the stucco of this building is more derived from western samples (Fig 21). The most widely used pattern execution method is the high-relief method. The execution of stucco patterns on flat mirrors, like the mirrors on the walls of the partition space of Khodadad House, also became common during this period.



Fig 21. The comparison of imported European stamp patterns with the stucco motifs of Khodadad House. Source: Authors.

During the second Pahlavi period, Iranian architecture was subject to many Western tendencies, and many art related to architecture were gradually forgotten. The heritage of Iranian architecture, which was not strong enough to maintain its life and continuity against

the trend of modernization during the Qajar period, was neglected in many fields, including the art of stucco (Davari Ardakani, 1996), to the extent that in the second Pahlavi period, following the principles of Western architecture caused decorations to be considered redundant, especially rich and original Iranian motifs. However, significant works in this period, such as Hossein Khodadad House, which represents the glory of Iranian stucco art, narrates the great reflection and efforts of its creators to revive and preserve authentic and forgotten Iranian arts, such as stucco and its authentic Iranian motifs.

Conclusion

The collection of stucco decorations of Hossein Khodadad House (Time Museum) can be considered a wonderful treasure of stucco motifs and techniques of periods of Iranian architectural history. In response to the first question of the research, it can be said that the stucco motifs of Hossein Khodadad House can be classified into four categories: Plant, geometric, animal, and human motifs. Meanwhile, plant motifs such as artichoke leaf, palmetto, lotus flower, Datura, rose, enamel flowers and chamomile, grapevine branches and leaves and grapefruit, Arabesque, flowers and vases, Ivy, and all kinds of realistic flowers and leaves are the most stucco motifs of the building. Geometric motifs also include circular (round), square, and rectangular frames, geometric margin strings, Meander, and polygons, often combined with plant motifs. Animal motifs in the form of different species of birds and human motifs in the form of a stucco panel of the creation of Adam and Eve are used in the Isfahani room. The history of several stucco motifs such as lotus flower, artichoke leaf, palmette, branch and leaf and cluster of grapes, wheat ear, tulip flower, pine cone, and geometric motifs such as square and rectangular frames, Meander and strings of pearls to the periods of ancient Iran, especially the Sassanid era. Also, motifs such as Arabesque, Khatai, Tashir, gilding, and Shah Abbasi flowers of the Isfahan room go back to the Islamic periods, especially the Safavid era. Other motifs, especially realistic plant motifs, are derived from Western motifs that entered Iranian architecture during the modernization of the Qajar and Pahlavi periods. The total of these motifs in the interior and exterior parts of the building are made using seven execution techniques, including high-relief, semi-relief, stucco on a flat mirror, combination with glass, Koshte Bori, Tong Bori, and Kop Bori. Following the pattern of repetition and symmetry, the basic principle of designing the structure and composition of motifs and stucco designs of different historical periods of Iranian architecture has been implemented. In response to the second question of the research, three factors of preservation of Iranian national identity, Iranian-Islamic identity, and the trends of foreignization of the Qajar and Pahlavi eras can be mentioned as influential factors on the formation of the stucco motifs collection of Hossein Khodadad House. Some features include utilizing plant and geometric motifs of ancient Iran, along with using the pattern of repetition and symmetry in the design structure and composition of motifs, covering broad surfaces with delicate and intertwined motifs symmetrically and repetitively and in a low-relief style, following the works of Islamic stucco, and also the implementation of methods of Koshte Bori, Tong Bori, Cop Bori specific to Islamic eras in the Isfahani room, and finally, the influence in the aspects of architecture and related arrays is from the trends of foreignization in the Qajar and Pahlavi periods; among them, we can mention the use of western motifs, the realistic design of motifs and naturalism in the design of flowers and leaves, the execution of motifs in a high-relief style, cornice decorations, patina work, Greek capitals, as well as stucco on flat mirrors.

Author Contributions

This research was written with the participation of all authors. All authors discussed the results and reviewed and approved the final draft of the manuscript.

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Conflict of Interest

The author (s) declare that there are no potential conflicts of interest related to this research, in writing, and publication of this article

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References

- Ahmadi, H. & Shekofteh, A. (2011). Stucco decorations in the architecture of early Islamic centuries of Iran (1st to 5th century A.H.). *Quarterly Journal of Religious Literature and Art*, (4), 125-150. **[In Pesian]**
- Amiri, M. S., Fanaie, Z., Khodakarmi, J., & Massoud, M. (2021). Historical analysis of the role of Qajar government policy on the influence of architectural decorations from the west with emphasis on motifs. *Seasonal Journal of Political Sociology*, 4(4), 546-568. Doi: <https://doi.org/10.30510/psi.2022.286593.1728>**[In Pesian]**
- Ansari, J. (1987). Stucco art of the Sassanid era and its influence on Islamic arts. *Quarterly Journal of Art*, (13), 318-373. **[In Pesian]**
- Ashrafi, A. R. (2016). *Foreignization in Iranian architecture (the influence of different societies on Iranian architecture from the beginning to the present day)*. Isfahan: Gofte-man Andishe Moaser. **[In Pesian]**
- Aslani, H. (2014). *Stucco decorations in Isfahan Islamic period architecture*. Tehran: Research Center for Culture, Art, and Communications. **[In Pesian]**
- Bani Massoud, A. (2009). *Contemporary architecture of Iran (in the pursuit of tradition and modernity)*. Tehran: Honar-e Memari-e Qarn. **[In Pesian]**
- Davari Ardakani, R. (1996). Secularism and culture. *Nameh Farhang*, (21), 12-37. **[In Pesian]**
- Dimand, M. S. (1986). *A Handboob of Muhammadan art* (A. Faryar, Trans.). Tehran: Elmi Farhangi. **[In Pesian]**
- Ferrier, R. W. (1995). *Arts of Persia* (P. Marzban, Trans.). Tehran: Foruzan Rooz Publication and Research. **[In Pesian]**
- Khazaie, M. (2006). The reflection of Iranian components in the formation process of Islamic culture and art of Iran in the 3rd-5th centuries A.H. *Journal of the Faculty of Literature and Humanities of Isfahan University*, (44-45), 17-31. **[In Pesian]**
- Kiani, M. (2007). *Architecture of the first Pahlavi period*. Tehran: Institute for Iranian Contemporary Historical Studies. **[In Pesian]**
- Kiani, M. Y. (1997). *Architectural decorations; Islamic era*. Tehran: Cultural Heritage. **[In Pesian]**
- Mahdavinejad, M. J. & Mansouri Majomerd, P. (2015). Modernism movement and contemporary architecture of Iran. *Journal of Studies on Iranian - Islamic City*, 6(21), 19-30. **[In Pesian]**
- Makinejad, M. (2008). *Pesian art history in islamic period: Architectural decorations* Tehran: SAMT. **[In Pesian]**
- Motififard, M. (2012). *Stucco, the revival of lost arts*. Isfahan: Naqsh Mana. **[In Pesian]**
- Nemati Babaylou, A. & Alipour, N. (2022). Study of design and motives in the Orosies of Tabriz Qajar houses in the context of architectural developments (Case study: Salmasi, Qadaki, Mashrouteh,

- Heydarzadeh, and Amirnezam Houses). *Pazhohesh-ha-ye Bastanshenasi Iran*, 12(34), 331-360. Doi: <https://doi.org/10.22084/nb.2021.19056.1939>. **[In Persian]**
- Pirnia, M. K. (2011). *Getting to know the Islamic architecture of Iran* (Gh. H. Memarian, Ed.). Tehran: Soroush Danesh. **[In Persian]**
 - Pope, A. P. (1991). *Persian architecture* (Gh. H. Sadri Afshar, Trans.). Tehran: Farhangsara. **[In Persian]**
 - Pope, A. P. (2010). *Masterpieces of Persian art* (P. Natel-Khanlari, Trans.). Tehran: Scientific and Cultural. **[In Persian]**
 - Saebi Moghadam, S. & Mousavizadegan, M. (2019). *Tamashaghe Zaman Museum*, <https://cgie.org.ir/fa/article/238152>, access date(2023/4/25). **[In Persian]**
 - Salehi Kakhki, A. & Aslani, H. (2011). Presentation of 12 kinds of stucco works used in the architectural decoration of the Islamic period in Iran based on technical properties. *Archaeological Studies*, 3(1), 89-106. **[In Persian]**
 - Shapourian, F. (2017). A study of the significance of traditional plaster design in the architecture of Qajar dynasty era (case study: Bagh-e-Ferdows building in Tehran). *Journal of Sustainable Architecture and Urban Design*, 5(2), 85-96. **[In Persian]**
 - Sheikhi, A. R. & Ashuri, M. T. (2014). Continuity of the Sasanid Motifs in the Analysis of three stucco works of Seljuk era (Case study: Altars of Robot-e Sharaf and mosque of Gonbad-e Sangan). *Biquarterly journal of Art University*, 7(13), 61-80. **[In Persian]**
 - Shekofteh, A. & Salehi Kakhki, A. (2014). Techniques and Changes of Stucco Decorations in Iranian Architecture from 7th to 9th Century Hijry Qamari. *Negreh*, 9(30), 63-81. **[In Persian]**
 - Sultanzadeh, H. (1993). *Entry spaces in traditional Iranian architecture*. Tehran: Deputy of Social and Cultural Affairs of Tehran Municipality. **[In Persian]**
 - Zamrashi, H. (2013). Decorative arts and amazing stucco phenomena in Iranian architecture. *Journal of Studies on Iranian-Islamic City*, 5(17), 19-33. **[In Persian]**
 - Zohurian, T. (2010). *Investigation of Iranian stucco designs from the Safavid period to the end of the Qajar period* (master's thesis in painting). Tarbiat Modares University, Faculty of Art and Architecture, Tehran, Iran. **[In Persian]**