

An Exploration of the Physical-Spatial Characteristics in Historic Houses in Meybod

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ABSTRACT

Meybod city is one of the oldest cities in the central plateau of Iran while antiquity and development in subsequent centuries in this area where has suffered from some limitations due to its location in a dry and desert region show the hardworking of its residents who have harnessed the incompatibilities of the nature and created a sustainable development which has been realized in light of the architecture and urban planning of this city. This study examined the residential and architectural characteristics of Meybod, in terms of typology of spaces and the general structure of the historic houses. Hence, the organization of spaces, circulation and typology of the houses from Safavid to Qajar era have been introduced and compared. The present study was descriptive and cross-sectional based on library studies and field and survey research. However, in different parts of this paper, various pictures and figures have been presented in order to express this subject in details.

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INTRODUCTION

Traditional Architecture and urban planning in Iran benefited from the conditions and capabilities of natural environment and the culture of each geographic region in order to meet the human physical and mental comfort [5]. Accordingly, the cities in Yazd province have a compact spatial organization with special landscapes of adobe houses and their wind-catchers which form part of the city view. In Yazd and its surroundings, whatever has been made was with adobe and mud and its derivatives, and the architects could not think of anything else out of this category, because he knew that there is no other material except that. [7] Adobe houses in Meybod are introvert, while the hue diversity and variety in their structures indicate a long history with several changes to Meybod houses. Therefore, regarding Qajar houses, the historical trajectories can be seen from structure, hue and interventions of the houses until Safavid period and it can back even earlier. Numerous studies have been done on Meybod houses which have directed us toward a general conclusion about the characteristics of historic houses. In this study, it has been attempted to do a comparative study in order to introduce these characteristics as much as possible.

Methodology And Theoretical Framework:

The research method in this study was based on a descriptive and cross-sectional method and data necessary to assess the houses have been gathered through library studies and field research and then, they have been discussed and criticized. In this method, firstly some data and documents were gathered about the proposed subject and then the gathered documents were classified and organized according to space typology of seven historic houses in Meybod. However, data have not analyzed through interpretation, but they were investigated by analyzing the residential spaces. In theoretical framework of this research, different kinds of investigation of architecture in Iran has been studied and evaluated based on some attitudes toward history of architecture in Iran, including; architectural, aesthetic, archaeological, metaphorical attitudes, however, attitudes to architecture include: climate, formation, historical-evolutionary, spatial, socio-cultural, conceptual attitudes (Memarian. 2005), and also the attitudes related to archeology, art history, mythology, mysticism, anthropology and

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typology can be categorized in this respect [2]. This study aimed to investigate this subject based on climate, formation, historical-evolutionary, spatial and typology attitudes.

Research Questions:

This study attempted to find clear answers to the following questions:

1. How is the organization of spaces in Meybod historic houses?
2. What characteristics do the porch in Meybod historic houses have?

Meybod Historic Houses:

Seven houses in Meybod have been investigated in this study, while they are similar in this subject in some characteristics such as the construction time, spatial and physical properties and etc. According to architect Reza, the house of Architect Ali the workman is about 130 years. However, he said that this house was bought at the time in the same form, so it shows that the house is even older than 130. Heidari house is another house and it should be noted that the main part of this house was built in the late Qajar period, and just the part that is attached to the Great mosque and its awning and the room over it seems to be more ancient. Periods of construction, the house awning as well as its associated elements are among the cases which caused this building has been selected for this study. Seyed Hossein Emami house is one of the valuable houses in central Meybod and it is located next to the mosque. It also includes other periods of construction for example, although it was recorded to back to Qajar, yet there are some evidences that show its older age. Among the selected examples, Shahrbanoo Beigom house in a small neighborhood and Heidari house in down neighborhood because of its proximity to awning and the common elements of it, and also Seyed Reza, Balali, Seyed Hossein and DoSoffeh (two platforms) were investigated due to the used spans and arches and their spatial and physical features.

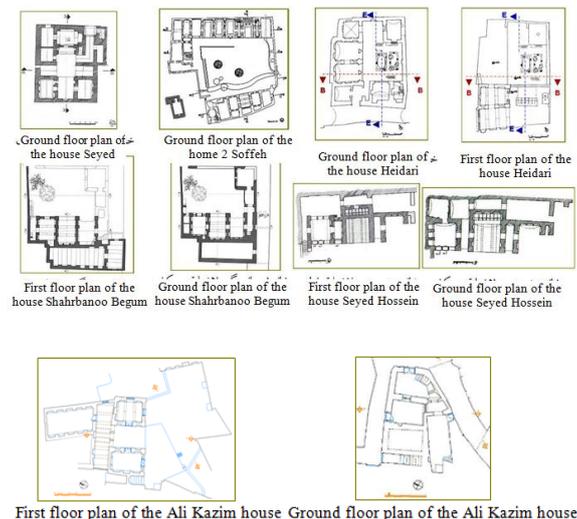


Fig. 1: Plan of Meybod houses, source: Archives of the cultural heritage of Meybod.

Styles of position of historic houses vary due to different climatic characteristics. The used architecture was fundamental Bumb Se Ron, Row Ron, Isfahani, Kermani. [3]. In Meybod, the appropriate Ron for construction was row due to climatic conditions, and direction of constructions was mostly toward Southern front.

Comparing the direction of the constructions and the rate of full to empty spaces in the selected samples, it can be discovered that the older the construction dates, the more the construction direction and the higher the rate of empty space to full space have been regarded.

Qajar houses were built mostly one side and sometimes both sides of the enclosure which was used for construction. This is despite the fact that in some samples like Balali and Dosaffe houses, one side was Qajari and the other side date back before Qajar (the Safavids).

House building in Qajar era was done regarding the importance of the yard and its role in the human life. For this reason, most of the houses that belong to this period had a large yard and garden and pond. However, before Qajar, the constructions were denser and more compact and the house yard was considered as a connective element until Qajar period when house yard had an independent identity.

Ali Kazim house is located in a place that has a residential structure which is very compact. The house itself is also compact and considering the available space, the maximum use of space was taken in designing space. Yard is not regarded as yard in other houses, and it is just a connective element between the spaces.

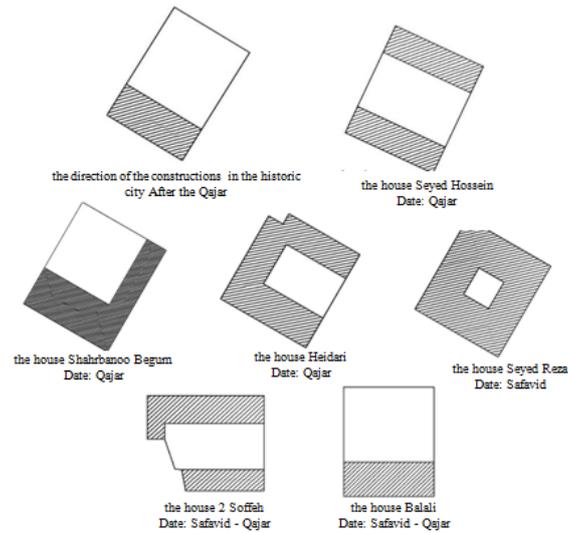


Fig. 2: Plan of Meybod houses: source: author.

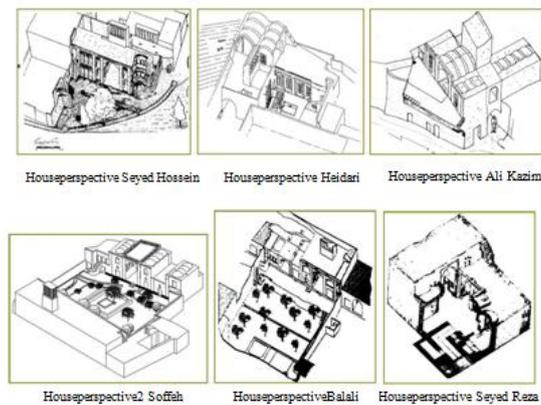


Fig. 3: Yard position in perspectives of Meybod houses.



Fig. 4: compactness and density of constructions surrounding the house of Ostad (Architect).

The study of different parts in selected houses showed that sharp arch (chofdeh) such as 5 or 7 (Panj-o-haft) types and arch casting was common in houses before Qajar. As we come forward Kelil (blunt) and quasi - Kelil arches were used more.



Fig. 5: A cross section of Meybod historic houses and quality of interior spaces, source: Archives of the cultural heritage in Meybod city.

In Qajar houses, it was attempted to cover more open span with arch, so the tendency to use a covering like quasi-Kelil cover that is known as the Bus roof in this area was increased. The advantage of using this type of arch is covering large spans with minimal deflection.

The focus of communication, in Seyed Reza sample (a Safavid house) is in the yard of the house. The main entrance is on the north face that after a ninety degree circulation it is directed to the north porch and then to the yard which played the role of a pause space. So in such kind of houses, yard is a connector between different spaces, while in houses after that, yard benefited from an independent identity. The entrance portal in these houses had an independent role as well. A common point about portals in all houses was lack of direct vision from the outside to the inside which was done by making a central space with one or more circulation and defining a porch or entrance as an independent space. This has been solved in Ali Kazim house by using the staircase space which can be regarded as an entrance corridor.

Porch in historic houses has played an important role. On the one side; porch acted as a connector space, and on the other side; it had an independent role. In some houses, its connector role was highlighted, while in some others it was regarded as a summer seat. A detailed look at the porch showed that porch was a part of house and at the other look, due to large sizes of the porch compared to other areas of the house, porch was like a space which drown the yard in center of the building.

Porch or platform (Sooffeh) in the investigated samples were closed on three sides and opened on one side, and they are connected with the yard. On the other hand, in most of the samples, the porch at the end part of the house is connected to a side space. This space in Qajar houses was usually a wind-catcher and in older houses, it seems that it was regarded as a wardrobe.

Conclusion:

The proper Ron construction in Meybod was order Ron and due to climatic conditions, the direction of construction was mostly in the southern front.

The common point about the entrance portal of all houses was no direct vision from the outside into the inside which was done by creating a pause space or one or more circulations along with defining a porch with an independent space. This case can be seen in Ali Kazim house where by using the staircase as an entrance corridor the problem could be solved.

The general design of Meybod historic houses are as follow; Different kinds of houses with one construction front, two fronts in either side of the yard, three fronts next to each other and the houses with four construction fronts around central yard.

The older the construction, the more directions and the more rate of full spaces to empty spaces can be observed. Most of the buildings in Qajar era were one sided construction, and sometimes two sides of the courtyard were used for construction. However, some houses such as Balali house and DoSoffeh house back to Qajar in one front and to Safavid in other front.

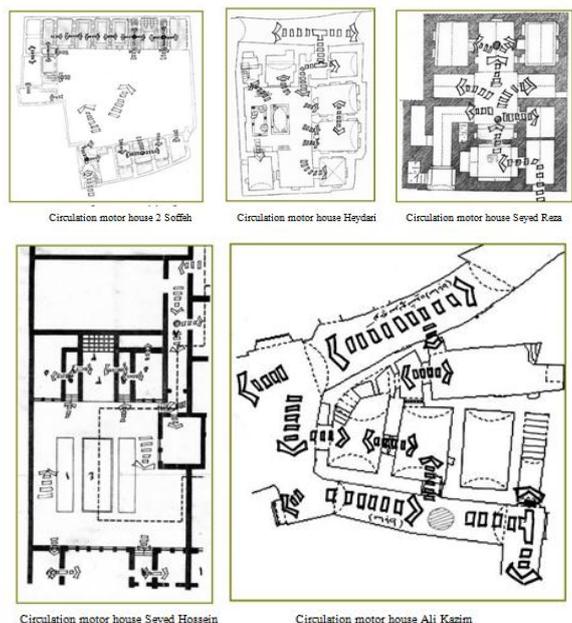


Fig. 6: circulation of historic houses in Meybod., Source: author.

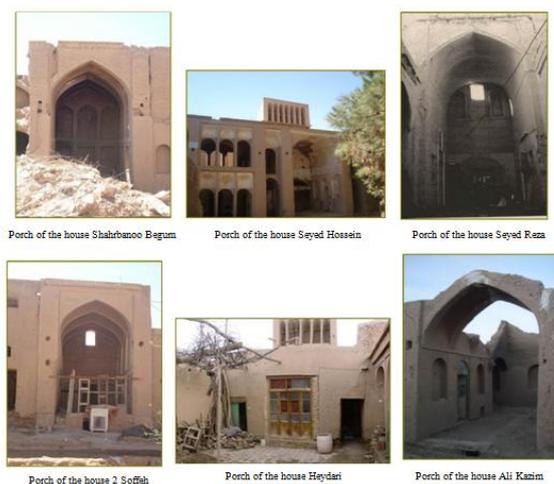


Fig. 7: Porch in Meybod historic houses, source: Archives of the cultural heritage of Meybod city.

Table 1: The characteristics of porch in Ali Kazim house, Source: author.

<p>porch in front face of Ali Kazim house</p>	age	Qajar or older
	The used arch type	5 o 7
	Type of arch covering	Arch and roof
	span	3 m
	Deflection	1.6 m
	Connection	It is directly related to the yard- it is related to the two eastern and western rooms through two entrances in two sides, and it is related to the wind-catcher through behind
	Interior casting	thatch without decoration

Typically, houses had one yard. However, in some exceptional cases, there were some houses with no yard (such as Ali Kazim house).

The yard form was a function of the general structure of the earth, but rectangular form were more taken into account.

Table 2: The characteristics of the porch of in Syed Hussain house, Source: author.

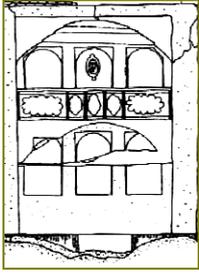
 <p>porch in Syed Hossein house</p>	age	Qajar
	The used arch type	Quasi Kelil
	Type of arch covering	Arch consistent with arc (known as a bus)
	span	4.10 m
	Deflection	13.1 m
	Connection	Through two sides entrance- It is not directly related to the yard, porch reaches the wind-catcher from endwise
	Interior casting	plaster with decorations

Table 3: The characteristics of South porch of Do-Soffeh (two platforms) house, source: author.

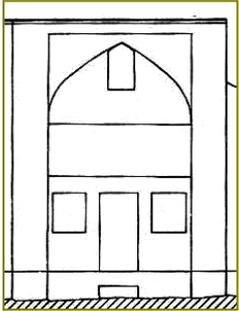
 <p>South porch of Do-Soffeh house</p>	age	Safavid history
	The used arch type	Pa tu pa (foot to foot)
	Type of arch covering	Arch and roof
	span	3.65 m
	Deflection	10.2 m
	Connection	Porch is not directly related to the yard, and it is opened to the rooms from two sides.
	Interior casting	Thatch with some plasters

Table 4: Characteristics of North porch of Seyed Reza house, Source: author.

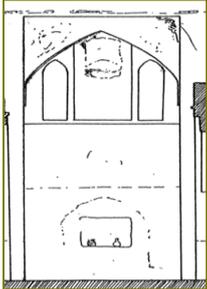
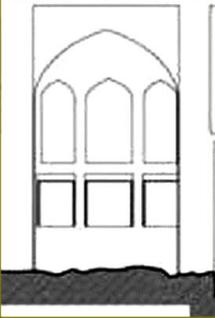
 <p>North porch of Seyed Reza house</p>	age	Al- Muzaffar
	The used arch type	Sharp 5 o 7
	Type of arch covering	Music Arch
	span	3.30 m
	Deflection	12 m
	Connection	Porch is directly related to the yard, and it is opened to the rooms from two sides.
	Interior casting	Thatch

Table 5: Characteristics of porch in Shahr Banou Beigom house, Source: author.

 <p>Porch in Shahr Banou Beigom house</p>	age	Safavid
	The used arch type	Normal 5 o 7
	Type of arch covering	Arch and roof
	span	3.40 m
	Deflection	11 m
	Connection	Porch is directly related to the yard, and it is opened to the rooms from two sides.
	Interior casting	Thatch

Rooms around the central yard were organized according to the winter and summer seating space.

House building in Qajar era was done regarding the importance of the yard and its role in life, thus, most of the houses that belong to this period had large yards, gardens and ponds and they benefited from an independent identity.

Before Qajar period, the constructions were dense and more compact and yard was considered as a connector element.

Porch or platform in Mrybod houses had a wide function and usually it was built in south front and it was used for summer seating and also sometimes it was in north front.

Table 6: Characteristics of the used arches in the selected houses, Source: author.

Selected arch	Drawing type	Common periods	Used samples
Sharp round lachak arch	---	Safavid, Qajar	----
Normal 5 o 7 arch	Four compass	Teimouri to present	Porch in Shahr Banou Beigom house
Sharp 5 o 7 arch	Four compass	Safavid to present	Porches in Seyyed Reza and Ali Kazim houses
Quasi-Kelil (bus shaped)	---	Qajar	Seyed Hossein house porch-northern porches in Do-Sooffeh house and western room and Ostad Ali house
Two and three parts square arch	---	Ilkhani and Teimouri	---
Pa-to-pa arch (foot to foot)	Teimouri ro present		Southern porch in Do-Soffeh house

Table 7: A Summary of comparative topics, source: author.

Area	Characteristics
Ostad Kazim house	<ul style="list-style-type: none"> -Aged back to Qajar period -High construction compression -The rate of full space to empty space is higher and construction is just in north direction. -Yard doesn't have an independent concept. -Porch is mostly a connector and it reaches to the wind-catcher in the end part of the house. - Building in the ground floor contains two awnings.
Heidari house	<ul style="list-style-type: none"> -Qajar period - The rate of full to empty space is relatively equal. - Construction was done in three directions; north, south and west. - Yard has both connector and independent roles. - Porch has been completely changed and it reaches to the wind-catcher in the end of the house. - The building is connected to an awning where the entrance door was opened toward it.
Seyed Hosein house	<ul style="list-style-type: none"> - Early Qajar period - The rate of empty space is more than full space. - Construction was done in two north and south directions. -Yard has both connector and independent roles. - Porch was used as a connector as well as a place for summer seat.
Shahrbanoo Beigom house	<ul style="list-style-type: none"> -Safavid and before - Construction was just in south direction. - Yard had both independent and connector roles. - Porch was used as a connector as well as a place for summer seat. -The house doesn't have any windward. - The entrance door was opened toward adjacent awning and the room in upstairs belongs to the house.
Seyed Reza house	<ul style="list-style-type: none"> -Al-Mozafar - The construction is in all 4 directions. - It has a very small yard which played the connector role. - It doesn't have any windward.
Do-Soffeh house (two platforms)	<ul style="list-style-type: none"> -The northern face belongs to Qajar and the southern face belongs to Safavid. - Yard indwelled a large area in the house. -The southern part doesn't have wind-catcher and the porch can't access to the yard directly. - The northern part has two porches and one windward.

Port, from one side; was part of the house space and from another side; due to its large dimensions compared to other spaces in house, it seems that porch has drawn the yard inside the building.

Porch in Meybod houses, in addition to opening the space, making its effectiveness at certain times of the day possible and it made a connector between the yard and its surrounding rooms and due to its large sizes, it was helpful in natural ventilation and played the role of a big wind-catcher.

In many selected samples, porch at the end of the houses is connected to a side space. In Qajar houses this space was allocated to a wind-catcher room and in older houses it acted the wardrobe role.

In Qajar houses, it was attempted to cover the open span with arch, so the tendency to use a quasi-Kelil cover that is known as the bus roof increased. The advantage of this type of roof was covering large spans with minimal deflection.

Using sharp arch, such as 5 o 7 types or arch and roof covering types were common in houses before Qajar period and after Qajar Kelil and quasi-kelil arches were used.

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