

- ▣ **Explanation of the Structure of the Human Processes based on Islamic Principles (Strategies and Solutions for Creating Art, Architecture and Urbanism)**
Abdolhamid Noghrekar / Samaneh Taghdir
- ▣ **Reading and Understanding Continuity and Change in Spatial Organization of Local Houses (Case study: sabzevar city)**
Gholam hosein Memarian / Seyyed Mahdi Madahi / Arash Sayyadi
- ▣ **Divine Vision: Islamic Arts and Horizontal Thought**
Seyed Gholamreza Islami / Niloufar Nikghadam / Seyed Yahya Islami
- ▣ **An analytic overview on the rise of cyber spaces and the Islamic Society: An urban challenge or natural transition of cities?**
Reza Kheyroddin / Omid Khazaeian
- ▣ **Paraphrasing the meaning of physical environment; comparative examining of audience-oriented, author-oriented and text-oriented (Islamic) approaches**
Mohammad Mannan Raeesi
- ▣ **A Comparison of thermal comfort in traditional and modern Bazaar from direct solar radiation perspective, Using questionnaire and Ecotect simulation – A case of Shiraz in Iran**
Zahra Barzegar / Maryam Rasaeipoor / Heydar Jahan Bakhsh
- ▣ **Analyzing the geometry of Iranian Islamic gardens based on the Quran's characteristics of paradise**
Omid Rahaei
- ▣ **Recognition of the impacts of consecration culture on the social-physical frame of urban neighborhoods (Case study: Neighborhoods of district 12 of Tehran)**
Mitra Ghafourian / Elham Hesari / Mina PeySokhan

Managing Director: vice chancellor for
research-Iran University of Science and Technology

Editor-in-chief: Abdol Hamid Noghreh Kar

Administrative Director:

Mohammad Mannan Raeesi

Administrative assistant:

AmirHosein Yousefi

English literary editor:

Omid Khazaeian

Editorial Board Members:

Seyyed Gholam Reza Eslami: Associate Professor,
University of Tehran

Hasan Bolkhari: Associate Professor, University of Tehran

Mostafa Behzadfar: Professor,

Iran University of Science and Technology

Mohammad Reza Pourjafar: Professor,

Tarbiat Modares University

Mahdi Hamzeh Nejad: Assistant Professor,

Iran University of Science and Technology

Esmail Shieh: Professor, Iran University

of Science and Technology

Manoochehr Tabibian: Professor, University of Tehran

Mohsen Faizi: Professor, Iran University

of Science and Technology

Hamid Majedi: Associate Professor, Science and

Research Branch, Islamic Azad University

Asghar Mohammad Moradi: Professor, Iran University

of Science and Technology

Gholam Hossein Memariyan: Professor, Iran University

of Science and Technology

Fatemeh Mehdizadeh: Associate Professor, Iran University

of Science and Technology

Mohammad Naghizade: Assistant Professor, Science and

Research Branch, Islamic Azad University

Ali Yaran: Associate Professor, Iran Ministry of Science,

Research and Technology

Design assistant: AmirHosein Yousefi

Reviewers for Volume3, Number7:

Ali Asadpoor: Teacher, Shiraz Art University

Yahya Eslami: Assistant Professor, University of
Tehran

Mitra Ghafurian: Assistant Professor, Iran

University of Science and Technology

Mahdi Hamzeh Nejad: Assistant Professor, Iran

University of Science and Technology

Mahdi Khakzand: Assistant professor, Iran University
of Science and Technology

Mohamad Javad Mahdavinejad: Associate
Professor, Tarbiat Modares University

Fatemeh Mehdizadeh: Associate Professor, Iran
University of Science and Technology

Majid Mofidi: Assistant Professor, Iran University of
Science and Technology

Ghasem Motalebi: Assistant Professor, University of
Tehran

Mohammad Naghizade: Assistant Professor, Science
and Research Branch, Islamic Azad University

Saeed Norozian: Assistant Professor, Shahid Rajaei
University

Mohammad Manan Raesi: Assistant Professor, Iran
University of Science and Technology

Sina Razaqiasl: Assistant Professor, Shahid Rajaei
University

Mansureh Tahbaz: Associate Professor, Sahid
Beheshti University

Mohammad Hosein Zakeri: Assistant Professor,
Shiraz University





Reading and Understanding Continuity and Change in Spatial Organization of Local Houses

Gholam hosein Memarian*

Full professor in Architecture, school of Architecture and Environmental Design, Iran university of Science and Technology, Iran, Tehran

Seyyed Mahdi Madahi**

PH.d in Architecture, school of Architecture and Environmental Design Iran university of Science and Technology, Iran, Tehran

Arash Sayyadi***

Master Student in Architecture, Khavaran Institute of Higher Education, Iran, mashhad

Received: 10/12/ 2014

Accepted:07/04/2015

Abstract

Today, there are a few dozens of historical index houses in the city Sabzevar. Reviews show that up until now, despite the presence of their special characteristics, variety and role, there have not been comprehensive studies about them; but through the presence of valuable samples from various historical periods (Teymouri, Safavid, Qajar, Pahlavi), their exposure to destruction through changing the method of living, multiplicity of owners, migration and generally loss of attractions for today's life, reviewing these houses is necessary. Since most of the historical houses in Sabzevar are from the Qajar period, the purpose of this article is to read and recognize Qajari houses. The used research method is combined and the results obtained from the study show that Sabzevar's houses, with architectural specifications such as semi-hot and arid climate, have mostly been made as introvert houses and they can be divided to three types of the first, second and third period based on the features of architectural space, structure and decorations. Discussion of architectural typology has been proposed in some of the European countries since the late 11th century. At first, this topic was treated in a very clichéd way and they reviewed categorization of buildings based on a mutual feature. Another one of methods of categorization at this time was dividing the buildings with mutual feature of their map. This method has many advantages, but unfortunately, by being drawn in one way of thinking, being caught up in a deterministic framework and linking historical process with deterministic materialistic views, they came to conclusion and the result of it is predetermined by considering the mentioned framework; whereas in a study, in addition to the overall review, the results shall be obtained after the study and research.

Accurate identification and classification of various architectural types can be useful in understanding the space better, protecting it and also in achieving new methods of designing.

Keywords: Houses of the Qajar period, Typology, Structure, Decorations, Architectural space.





1. Introduction

By considering the changes that have been made in the recent century, historical houses are severely exposed to destruction and ruin, while they compose a main part of the texture of Iran's historical cities. The reviews show that there have not been many studies on these houses and there is no comprehensive recognition of them; whereas, thinking about them, which are formed based on the needs of Iranian people and environment of construction, can be useful in achieving the patterns of a proper house construction of Iranians. The city of Sabzevar is one of the most important focuses of Iranian architecture. By considering the multiplicity of the remained valuable historical houses of the city Sabzevar, the necessity of typology of historical houses and placing similar samples in one group and reviewing the used patterns is essential. Thus, we review typology of Sabzevar's Qajar houses.

The studies show that there are various definitions and methods for typology; therefore, after reviewing physical, climatic, cultural patterns and structure and materials, we review the historical typology of Sabzevar's Qajar houses. This article includes background, construction history, physical, climatic and cultural pattern, structure and materials of the houses of Sabzevar. In the following the characteristics of the houses of the first, second, third and fourth periods will be mentioned.

2. Construction history of traditional local houses of Sabzevar

According to the studies of mutual French and Iranian historical archeology of Sabzevar, the history this city's cultural emergence goes back to the fourth millennium BC. The history of Sabzevar has been linked to "Bey-

hagh". After the attack of "Mongol" to the "Kharazmshah" reign, due to the courage of zealous defenders called Sarbedaran, for some time it was also known as Sarbedaran as well. After the Shiah sovereignty of "Al Bouyeh", the next Shiah governance in Iran was created by Sarbedaran who ruled some parts of the country and the capital of this sovereignty was Sabzevar. The oldest remained houses now belong to Teymouriyan period (Amin 2003, 20).

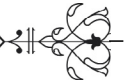
But according to the opinion of the experts of cultural heritage organization, valuable historical houses have often been built in the time range of Safavid until the late time of Rezashahi (first Pahlavi). It is necessary to mention that since the fronts of historical houses were built during the time based on the need and function, it can be seen that in most of the historical houses, there are some parts that belong to different times (for example Safavid, cloaks of Zand, Qajar or Pahlavi).

3. Climatic pattern of Sabzevar's houses

The city Sabzevar is placed in Khorasan Raza-vi province and geographically, it is in Iran's foothill areas and has a semi-hot arid climate. Techniques of climatic design are taken from climatic criteria of vernacular architecture and will have the maximum efficiency (Espinas 2009, 48).

Natural heating and cooling methods of the buildings have long been common in vernacular architecture. From centuries ago, architects and engineers were able to create some masterpieces by using the windflaw and the difference of the temperature of the weather in night and day during a year that in the atmospheric conditions in the region, so that they would create buildings for themselves





with the minimum energy consumption (Abdolhosseini 2011, 57).

The city Sabzevar has an introvert texture; it is affected by the climatic conditions. By reviewing the traditional texture of Sabzevar, we can achieve some characteristics among which we can refer to direction and extension of streets and allies which are mostly north - south and east – west. Avenues and passages are often carpeted with cobblestone and the layout of the houses is a like checkerboard and the main direction of the houses, following the slope of the ground, is north and south. Also the porch is facing south in the winter and it is significant for using sunshine. The houses' doors and windows are often small and usually, the materials used in traditional buildings have been very uniform and proportional to the nature and climate of the city and were mostly bricks, mud and adobe.

Generally, we can mention the following features for the pattern of climatic architecture of

Sabzevar's houses:

1. Establishing houses in the level close to zero-zero, using basement (limited and often below the northern side)
2. Using three types of open, semi-open and closed space (yard, porch, room)
3. Establishing areas facing the sun and not facing the sun (the side facing the sun is mostly the main front of the house)
4. Organizing spaces as areas used in summer and winter (possibility of seasonal migration of the house) in the surface of horizon and height (summer spaces: terrace, spring house, basement) winter spaces (stool house)
5. Lack of entrance from the open space to the close space
6. Difference in the way they catch light based on the space's function (main spaces direct light and from the yard and service spaces, they often catch indirect light)
7. Using local materials, adobe, brick and wood (table 1).

Table no 1 . Climatic (reference: authors 2014)

	Title	explanation
Climatic pattern of Sabzevar's houses	Prevailing wind	Sabzevar's prevailing wind blows from the east – northeast direction.
	Rainfall	Sabzevar's average annual rainfall's rate is 118mm, March and January are the rainiest and August and September are the months of the year with least rain.
	Sunshine	The most sunshine of Sabzevar is 165° (15° east).
	Air temperature	The temperature of 20°C is the border between Sabzevar's heat and coldness.
	Semi-hot and arid weather	Compact and interconnected texture, introversion, using cradle arch, placement of the surface of the yard near zero-zero, front is north – south or east – west depending on the type of accessibility. Pool as a key element, golden proportions, Euclidean geometry and thickness of the bearing walls is up to one meter.





4. Cultural pattern of Sabzevar's houses:

According to the studies of mutual French and Iranian historical archeology of Sabzevar, the history this city's cultural emergence goes back to the fourth millennium BC. According to the findings of archeology in the pieces remained from the past, people of this region were farmers and ranchmen. This city has a close connection with many of the epic tales of ancient Iran, so much that for a long time, the central square of the city was famous as the "white beast" square. In Islamic periods, the "Beyhagh" province had two cities: Sabzevar and Khosrogard. The city Sabzevar was completely destroyed in the "Mongol" attack; but it was gradually rebuild. Historical incidents have occurred in this city; including in the year 737 ah, this city was the shelter and capital of the Sarbedaran dynasty. The city Sabzevar was also famous as "Dar al'momenin". The scars caused by the attack of Mongols to the people of this city had not yet healed when at the time of "Shah Abbas", Sabzevar was once again destroyed by the Uzbeks and its people were massacred; yet,

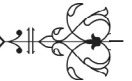
after this event, the city gradually moved towards prosperity (Amin 2003, 76).

Safavid period was the beginning of reparation and reconstruction of past history for this city. This city was enriched again during the recent decades and is still developing and renovating. Traditional houses of Sabzevar have formed under the influence of cultural, social, economic and environmental factors; all of the elements of a residential unit have been placed together around a space which had formed a house. These elements (room, hallway, window, room and etc.) were affected by the climatic condition of that place and the front appearance of the houses is brick or thatch and plaster or a combination of them. The outside and inside appearances of the house have been the base of social prestige and reputation of people. In old texture, houses mostly lacked a plan and they attempted to build them in an abstract or subjective way. The roof tops are usually made of thatch. Most of the common houses were built around the yard, houses were established facing Kiblah and sunshine and before the start of construction, it was a custom in the old times to ((set the time)) (table no. 2).

Table no 2. cultural pattern of Sabzevar's houses (reference: authors 2014)

Cultural pattern	Period			Impact on the architecture of the period
	First period (late Safavieh – early Qajar)	Predominant religion	Islam, Shiah	<ul style="list-style-type: none"> - Without a backyard and the pool and garden are in the main yard - the building is located in the two sides of the courtyard and building has "Alcove" - building's entrance has been defined and has brickwork decorations - a completely introvert house
		Lifestyle	Protecting family's privacy and their spouses and children living together in parents house	
		Customs	Respecting family events and commemorating ritual and national events	





	Second period (early Qajar)	Predominant religion	Islam, Shiah	<ul style="list-style-type: none"> - it has a backyard and the pool and garden are located in the courtyard - hallway in a sunshade way and in the path of hallway, the other doors of the house open - it has a privacy motion diagram of entrance for entering the yard - a quite introvert
		Lifestyle	Protecting family's privacy and their spouses and children living together in parents house	
		Customs	Respecting family events and commemorating ritual and national events	
	Third period (mid-late Qajar)	Predominant religion	Islam, Shiah	<ul style="list-style-type: none"> - it has a backyard and the pool and garden are located in the courtyard - the entrance has decorations - a quite introvert house
		Lifestyle	Protecting family's privacy and their spouses and children living together in parents house	
		Customs	Respecting family events and commemorating ritual and national events	
	Fourth period (late Qajar)	Predominant religion	Islam, shiah	<ul style="list-style-type: none"> - it doesn't have a backyard and the pool and garden are located in the courtyard - a simple door for entering and without entrance - extrovert house
		Lifestyle	Each of the married children of the family live in a place other than parent's house	
		Customs	Respecting family events and commemorating ritual and national events	

5. Structure and materials of the Qajari houses of Sabzevar

The materials used in Sabzevar's traditional houses are often in coordination with the semi-hot and arid climate. Choosing the type

of materials in Isfahan's houses depends on factors such as having easy access to them, required resistance and static, employer's financial power, resistance against destructive factors (humidity and termites). From the





middle of the Qajar period, imitating other regions (being inspired by Europe's flat archs, using wooden beams instead of metal ones due to the absence of metal beams in Iran), cultures, rule and traditions of the society could be seen. There is tight connection between form, structure, function and decoration of houses' spaces. In the architecture of Sabzevar's houses, we can often see a combination of arched and flat structural systems. The difference between using arched systems and flat systems leads to the change of the form of the arch-shaped main hall into the rectangular halls with side "earring" rooms (like Mollabashi's house, Malak vineyard). And also decorations change from a volume mode to a flat one (table no. 8).

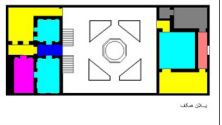
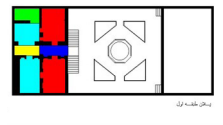
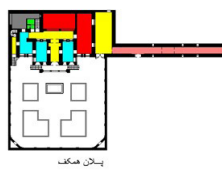
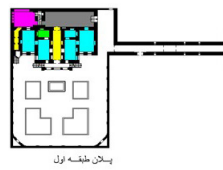
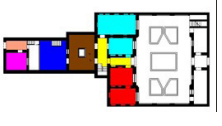
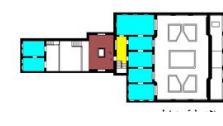
6. Features of Qajari houses of Sabzevar

Due to the weakness of Qajar reign, public

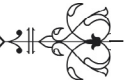
utility and public buildings weren't built in a large volume and as many as the number and scale of buildings in the Safavid period. In this period, simultaneously with the growth of the market elite class, empowerment of villages' clergymen and tribal chiefs, construction of index houses that belong to wealthy people started. Therefore, the peak of Qajar architecture which is reflective of its features can be seen in the architecture of houses. Many of the researchers believe it is the peak of architecture of Iranian houses in paying attention to space (Memariyan 2010, 88).

After the attack of Uzbeks and holocaust of Sabzevar's people, this city was reconstructed during the time of Safavied. Typology of these houses in terms of structure and decorations is reviewed in four different sections (table no. 3).

Table no 3. Introduction of samples of Sabzevar's houses (reference: authors 2014)

Table of introduction of samples	Ground floor's plan	First floor's plan	Field area	"Grande" area	Courtyard area	Ground area	Occupancy level
First period of Qajar Moslem house			520	440	200	325	60%
Second period of Qajar Hejazi house			900	730	500	400	40%
Third period of Qajar Eslami house			600	600	225	320	60%





Fourth Period of Qajar Aldaghi house		320	220	210	110	30%
--------------------------------------	--	-----	-----	-----	-----	-----

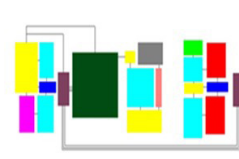
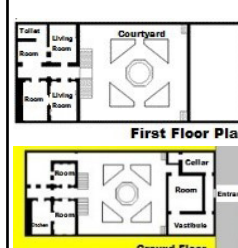
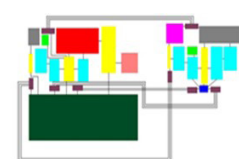
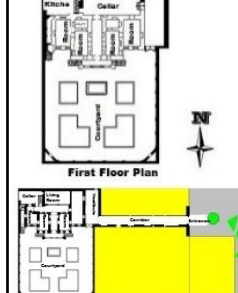


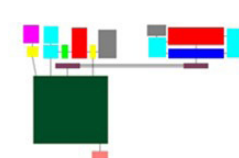
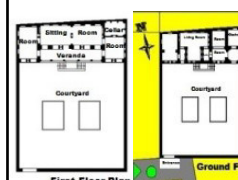
Table no 4. Checking the mass and space of Sabzevar's houses (reference: authors 2014)

Table of checking the mass and space	The position of the building according to the streets of the urban	The orientation of the bulding in the urban	The Pattern of the arrangement of space in section	The Pattern of the arrangement of space in plan
First period of Qajar Moslem house		The orientation of the bulding East - west the entrance from the east		
Second period of Qajar Hejazi house		The orientation of the bulding North - south the entrance from the east		
Third period of Qajar Eslami house		The orientation of the bulding North - south two entrance - one of them from the south and the other from the north		
Fourth Period of Qajar Aldaghi house		The orientation of the bulding North - south the entrance from the south		





Table no 5. Checking the proportion of the spaces of Sabzevar's houses (reference: authors 2014)

Table of checking of the proportion of the spaces	the proportion of the spaces to each other according to the placement	the position of the spaces in plan	The number of the all spaces	The number of the service spaces	The number of the connective spaces	The number of the living spaces	Closed spaces	Semi-open spaces	Open spaces
First period of Qajar Moslem house			20	4	8	8	55%	5%	40%
Second period of Qajar Hejazi house			19	4	7	8	40%	5%	55%
Third period of Qajar Eslami house			23	4	6	13	55%	5%	40%
Fourth Period of Qajar Al-daghi house			11	2	3	6	30%	5%	65%



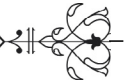


Table no 6. Checking the space entrance of Sabzevar's houses (reference: authors, 2014)

Table of checking the space entrance	The mobility circulation to the entrance door from the main street	The mobility circulation from the entrance door to the main structure of the house	The percentage of the entrance space to the whole area	the mobility circulation of the inside of the space entrance and arrangement of its spaces
First period of Qajar Moslem house			<p>The area of entrance space 132 m² From the total 440 m² 30</p>	
Second period of Qajar Hejazi house			<p>The area of entrance space 185 m² From the total 730 m² 25</p>	
Third period of Qajar Eslami house			<p>The area of entrance space 90 m² From the total 600 m² 15</p>	
Fourth Period of Qajar Aldaghi house			<p>The area of entrance space 0 m² From the total 220 m² 0</p>	





6.1. First type – late Safavieh, early Qajar: in this period we see houses which are simple in terms of decoration and the houses are very introvert. A case sample of this period is the Moslem house of Sabzevar (Tohidi Manesh 2002, 5) (image 1).



Image 1 . Moslem house of Sabzevar, first period of Qajar (reference: authors, 2014)

6.2. Second type – early to middle of Qajar period: in this period, they paid attention to decorations more carefully (image 2) and we often observe Roman decorations in the columns (image 3). Houses were introvert and a case sample of this period is the Hejazi house of Sabzevar (Kermani Moghaddam 2002, 3), (image 4).



Image 2 . decorations in Hejazi house of Sabzevar (reference: authors, 2014)

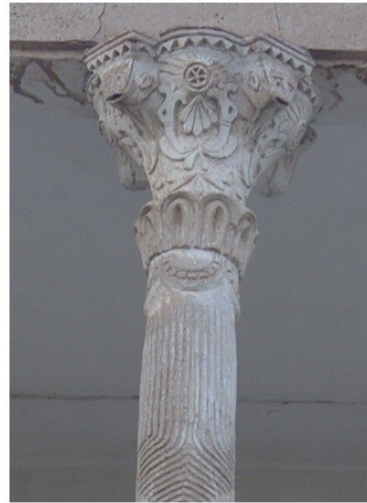


Image 3 . Roman column heads in the second period of Qajar, Sabzevar (reference: authors, 2014)



Image 4 . Hejazi house of Sabzevar, second period of Qajar (reference: authors, 2014)

6.3. Third type – mid-late Qjar: in this period, decorations of columns are reduced and decorations of the rooms are also simple but the porches have plaster decorations in the ceiling. Among the case samples of this period are the Eslami houses, Heshmat Nia and Karimi (Tohidi Manesh 2001, 7), (image 5).



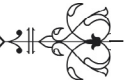


Image 5 . Eslami house of Sabzevar, this period of Qajar (reference: authors, 2014)



Image 7 . Aldaghi house of Sabzevar, fourth period of Qajar (reference: authors, 2014)

6.4. Fourth type – late Qajar and Early Pahlavi: in this period, we see many but simple decoration and symmetry in plan (image 6). The houses are extrovert and the elements entrance, vestibule and hall are hardly ever found in a house. Case samples of this period are the Aldaghi houses, Shariatmadar, Baghani, Cheshmi and Sadidii (Kermani Moghaddam 2003 , 6) (images no. 6, 7, 8)

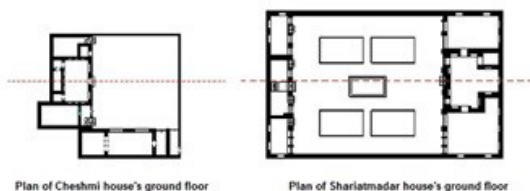


Image 6 . symmetry in plan of the fourth period's houses of Sabzevar (reference: authors, 2014)



Image 8 . Cheshmi house of Sabzevar, fourth period of Qajar (reference: authors, 2014)

7. Research method

The research method has been a combined method (qualitative and quantitative). In order to do the research, the samples were selected in a homogeneous and chain way, because the historical houses in the city Sabzevar were sporadic and there was not complete identification and record of all sam-

ples by relevant agencies. By being present in historical areas and interviewing old residents of the historical areas, a number of houses were made known to us. Also we used some document library sources. In various stages of doing the research, we used descriptive, historical, survey and simulative methods.

8. Findings and analysis of data

In this section, architectural specifications which are important in terms of typology have been reviewed and analyzed in the following tables (tables 3, 4, 5, 6 and 7).

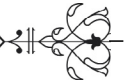




Table no 7. Historical typology of Sabzevar's houses in the Qajar period (reference: authors, 2014)

Historical period	Structure	Decorations	Function / type
	<ol style="list-style-type: none"> 1. cradle arched ceilings of the ground floor with bearing walls 2. thick bearing walls with 50-70cm thickness 3. first floor has a wooden beam ceiling with grid lattice 4. no basement 5. proportions of the rooms is in a square or rectangle form with golden proportions 6. single porch in order to enter alcove 7. with ventilator 	<ol style="list-style-type: none"> 1. simple brickwork to the extent of 5 Cymatium 2. brickwork of the entrance door of the house with holy names 3. columns with no decoration and "Paston" 4. using a semicircular Santoori in porch 5. floor coating of the yard with 17*17 bricks 6. using lattice ceiling in order to decorate the internal ceiling 7. internal volume plaster decorations on walls in a simple form 	<ol style="list-style-type: none"> 1. the house follows landlordism and has alcove 2. octagonal pool in the center of the central yard has been located in 4m from the surface of the ground 3. porch and Santoori are mostly among the ceremonial and aristocratic houses and don't have a function and they mostly give the building character (the entrance to the first floor is alcove)
Second period	<ol style="list-style-type: none"> 1. cradle arched ceilings of the ground floor with bearing walls 2. thick bearing walls with 50-70cm thickness 3. first floor has a wooden beam ceiling with grid lattice 4. a basement with a depth of 80cm 5. proportions of the rooms are in the form of three-doors and 5-doors 6. a porch with columns with access to the yard 7. Circular staircase to access the roof by the dome roof 	<ol style="list-style-type: none"> 1. columns with embossed brickwork 2. façade brickwork as prolific and with brick inscriptions and tiles of verses of Quran attached to them 3. heads of the columns are made by the Greek style and the four facades are designed with flower and leaf designs 4. columns are Greek spoon-shaped 5. Cymatium in façade's brickwork 6. internal volume plaster decorations on the walls in a simple way 	<ol style="list-style-type: none"> 1. south porch has columns which has access to the yard through symmetric stairs 2. rectangular pool on the surface of the ground which has been located along with the central axis 3. in addition to the stairs of the porch with columns, there is a staircase in the east side in order to have access to east rooms 4. with backyard





Third period	<ol style="list-style-type: none"> 1. cradle arched ceilings of the ground floor with bearing walls 2. thick bearing walls with 50-70cm thickness 3. wooden beam ceiling 4. the gable roof of the main building is unique in this period 5. no basement, but the north and south of the building are not leveled 6. proportions of the rooms is Euclidean and is more than 4*3 or 3.5*2.5 7. a beautiful southern porch in the north entrance and the backyard 	<ol style="list-style-type: none"> 1. columns lack head and Paston but decorations are embossed (added design) 2. some ceilings have brickwork decorations 3. internal siding of the yard is made of 5.22*5.22 bricks 4. spring house is in the north side of the building 5. decorations of the rooms is simple but the porch has plaster decorations in ceiling with a simple framing 6. building's façade has simple brickwork and Cymatium 7. it has a pigeon house 	<ol style="list-style-type: none"> 1. it has a unique south porch with columns 2. gable roof of this building is unique 3. using spring house became customary in this period 4. the inside pool of the yard is located on the surface of the ground and symmetry axis of the building 5. the way to access the main building doesn't have stairs in south but has stairs in north 6. using a semicircular chamfer in entrance angels for making façade
Fourth period	<ol style="list-style-type: none"> 1. in the ground floor the ceiling is curved and in some cases the arch has "Ahang" 2. the ceiling of the first floor is wooden beams which has been decorated by plaster 3. the basement has a depth of 60cm which has access to the yard through 3 steps 4. usually, it has a porch with more than two columns 5. access to the porch is from two sides in the form of a symmetric stairs 6. proportions of the rooms is rectangular with a ratio of 2*1 7. thick bearing walls up to 50-70cm thickness 	<ol style="list-style-type: none"> 1. porch's columns have heads in the shape of flower and plants 2. decorations of façade are simple brickworks along side with inscriptions in façade which also has Cymatium 3. all windows are full-height so that light could be completely conducted to the depth of the space 4. a prolific façade in terms of decorations and complete coordination of porch's columns, windows, entrance stairs which has totally been symmetric 5. using an inside octagon or square staircase with making earrings that have reached a domed ceiling has been customary in the ground floor 	<ol style="list-style-type: none"> 1. it is mostly defined as a garden-house 2. the pool in the courtyard is the axis of the building 3. the building is designed symmetrically both in façade and also in stairs 4. the entrance to the first floor is usually located in the middle





Table no 8. reviewing the spaces in Qajar houses of Sabzevar (reference: authors, 2014)

Spaces Sample's Orientation	Moslem house	Hejazi house	Aldaghi house	Eslami house
Living room	East	North	South	South
Kitchen	West	Northwest	Northwest	Northwest
Rooms	East	South	South – east	south – north
Storage room	North	Northwest/east	Northwest/east	South
Entrance	East	East	South	South
Courtyard	Central	South	South	Central
Type of house	Two-sided	One-sided	One-sided	Two-sided
Ventilator	West	West	-	-
Spring house	-	-	North	-
Porch with columns	East – west	South	South	North
Pool and fountain	Central lower than ground surface	South in the level of zero/zero	South in the level of zero/zero	Central in the level of zero/zero

9. Conclusion

In the discussion of entrance privacy, if accessibility was seen in entrance diagrams and hierarchy, the more we move toward the early Pahlavi from the late Safavieh, the hierarchy of the privacy is reduced and obstacles of the entrance privacy of the houses are lessened until this privacy completely disappears in the Pahlavi period.

In the discussion of decorations of the entrance facades, it is the reverse. The more we move toward the early Pahlavi from the late Safavieh, the facades have become more prolific and the porches have more columns and more symmetric decorations are of help for making the facades and the glaring aspect becomes more.

In the discussion of porch, such motion can be seen as well, it means that porches with columns that lacked decorations in the early Qa-

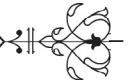
jar, which were more to specify the entrance of the main building, gradually turned into a determiner element in the late Qajar period. They have several columns with flower and plants decorations and glare like the Greek style in the façade of the building.

In the discussion of the plan of the main building of Sabzevar's houses, as it was referred to, there are 4 types of plan (types of rooms in the plan of the series).

1. Square or rectangular plans with golden dimensions (first period)
2. Rectangular plans in the form of 3-door, 5-door and 7-door rooms (second period)
3. Geometric Euclidean and Pythagorean plans 4*3, 3.5*2.5 (third period)
4. Rectangular plan with dimensions of 2 to 1 and using an octagon splitting space (fourth period)

As it can be seen in plans, this privacy is like





the entrance privacy; the more we go toward the early Pahlavi from the late Qajar, they become less and houses have less rooms and a wider view of each other.

In the discussion of introversion, this issue can also be mentioned that as we go toward the early Pahlavi from the late Qajar, the rate of introversion of the houses becomes lower and they gradually go toward extroversion and facades of the houses of Sabzevar are a good evidence of this.

The following items can be mentioned as the common denominator of all of the houses of Sabzevar in the Qajar period:

1. Entrance to the main building from the central yard
2. Having access to the main building through a symmetric staircase from two sides to the porch
3. Using brick facades
4. Using pool and garden in the courtyard in order to stylize the central and internal space of the house
5. Complete combination of windows with regular and symmetrical proportions in building the facades
6. Using symmetry in the main axis relative to orientation in texture, it means that the alignment axis in east-west or north-south texture is the symmetry axis of building façade in the houses.
7. The pools and gardens of the yard are also symmetric with this main axis.

References

1. Abdolhosseyni, Javad. 2011. Accommodating the Design of Residential Houses of Tabriz and Baku with Vernacular Climate and Culture. *Bagh-e Nazar* (18): 13-24.
2. Alborzi, Fariba. 2011. From House of Yesterday to Dwellings of Nowadays. *In National Conference of Structure, Road, Architecture, Chaloos*.
3. Amin, Ali. 2003. *History of Sabzevar*. Tehran: Encyclopedia of Iranology.
4. Amin, Seyed Eynali. 2003. *History of Sabzevar*. Tehran: Iran Studies Encyclopedia.
5. Beyraghdar, Mohammad Ali. 1998. *Architectural Design of Rural Houses of Khorasan*. Iran Meteorological

The prospect obtained from this study can be summarized as follows: writing a document about these houses leads to the formation of documents based on which we can identify cities that are formed with valuable architecture which is proper for the climate and people's livelihoods and also we can prevent the destruction of such valuable works.

Identifying and function of components of residential units following typology of the resident and analyzing their applicable features in various regions and in past and present times is necessary. We must present criteria which are in accordance with other effective needs in the formation of vernacular resident with awareness and knowledge of new social and cultural needs of the present generation; this can be done with having knowledge of the inevitability of the social and cultural changes of the society for which we design.

In order to reach this purpose, typology of vernacular architecture and analysis of the components and elements of residential units in terms of their application from various aspects in each region are crucially important. It is necessary for each of these needs and residential quests to be specifically reviewed so that the best options would be selected for physic and elements of the house. A solution for responding to these changes shall be considered by paying attention to social structures and vernacular cultural needs in various geographical zones.





Organization.

6. Espenany, Abasali. 2010. Climate Cognitive Capabilities of Vernacular Architecture. A Case Study of Kish Island. *Peyk-e Nour* 2(48).
7. Eynifar, Alireza. 2007. Role of General Basic Patterns on Designing Contemporary Residential Quarters. *Honar-haye-Ziba* (32): 39-50.
8. Kamalipour, Hesam, Gholamhossein Memarian, Moosavian, Mohsen Faizi, Mohammad Farid. 2012. Formal Classification and Spatial Configuration in Vernacular Housing: A Comparative Study on the Zoning of the Reception Area in Traditional Houses of Kerman Province. *Housing and Rural Environment* (138): 3-16.
9. Kasmayi, Morteza. 2004. *Climate and Architecture*. Tehran: Khak.
10. Kermani Moghaddam, Mostafa. 2002. *Registry Report of Moslem Residential House of Sabzevar*. Khorasan Razavi Administration of Cultural Heritage.
11. Memarian, Gholam Hossein. 1993. *Introduction to Iranian Residential Architecture: Introvert Typology*. Tehran: Danesh.
12. Okhovat, Hanie, and Mohammadreza Bemanian, and Mojtaba Ansari. 2011. Recognition of Spiritual Concept of Silence in Traditional House of Desert Climates. *Journal of Studies on Iranian-Islamic City* (5): 95- 102.
13. Qasemi sichani, Maryam. 2010. Typology of Huses in Qajar Era in Isfahan. *Hoviat-e-Shahr* (7): 87-94.
14. Qasem zade, Masood. 2010. Basic Role of Room in Designing House. *Honar-ha-ye-Ziba* (41): 40-51.
15. Sheykhhal-Eslami, Masoumeh, and Mansoureh Tahbaz. 2006. Solutions of Designing a House Coordinated with the Climate in Hamedan. *In Conference of Superior city*, Superior design.
16. Sheykhhal-Eslami, Masoumeh. 2007. *Introducion to Iranian Residential Architecture*. Tehran: Nashr-e Danesh.
17. Sheykhhal-Eslami, Masoumeh. 2010. Typology of Houses of Qajar Era in Isfahan. Tehran: *Hoviat-e-Shahr*.
18. Soltanzadeh, Hossein. 1988. *An introduction to the Hstory of City and Urbanization in Iran*. Tehran: Sepehr printing house.
19. Tohidimanesh, Gholam Reza. 2001. *Registry report of Moslem Residential house of Sabzevar*. Khorasan Razavi Administration of Cultural Heritage.
20. Tohidimanesh, Gholam Reza. 2002. *Registry report of Moslem Residential House of Sabzevar*. Khorasan Razavi Administration of Cultural Heritage.



- ▣ **Explanation of the Structure of the Human Processes based on Islamic Principles (Strategies and Solutions for Creating Art, Architecture and Urbanism)**
Abdolhamid Noghrekar / Samaneh Taghdir
- ▣ **Reading and Understanding Continuity and Change in Spatial Organization of Local Houses (Case study: sabzevar city)**
Gholam hosein Memarian / Seyyed Mahdi Madahi / Arash Sayyadi
- ▣ **Divine Vision: Islamic Arts and Horizontal Thought**
Seyed Gholamreza Islami / Niloufar Nikghadam / Seyed Yahya Islami
- ▣ **An analytic overview on the rise of cyber spaces and the Islamic Society: An urban challenge or natural transition of cities?**
Reza Kheyroddin / Omid Khazaeian
- ▣ **Paraphrasing the meaning of physical environment; comparative examining of audience-oriented, author-oriented and text-oriented (Islamic) approaches**
Mohammad Mannan Raeesi
- ▣ **A Comparison of thermal comfort in traditional and modern Bazaar from direct solar radiation perspective, Using questionnaire and Ecotect simulation – A case of Shiraz in Iran**
Zahra Barzegar / Maryam Rasaeipoor / Heydar Jahan Bakhsh
- ▣ **Analyzing the geometry of Iranian Islamic gardens based on the Quran's characteristics of paradise**
Omid Rahaei
- ▣ **Recognition of the impacts of consecration culture on the social-physical frame of urban neighborhoods (Case study: Neighborhoods of district 12 of Tehran)**
Mitra Ghafourian / Elham Hesari / Mina PeySokhan