



# A Study in The Typological Analysis of Iranian Houses in The Qajar Period: Traditional Houses in Kermanshah

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## ABSTRACT

Traditional houses are catastrophically destroyed due to lifestyle changes over the centuries. Considering that most of the historical buildings are traditional houses, it is possible to understand the importance of studying and paying attention to this type of building. Therefore, the issue of sorting traditional houses and classifying the patterns used in them can be important for identifying and classifying similar buildings. In this research, which has been done through analytical method and in a part of historical interpretation of the study of buildings, an attempt is made to study the types of traditional houses in Kermanshah. The purpose of this study is to identify the species in the houses of Kermanshah in the Qajar period. The reason for choosing this city and this period is access to specimens and the existence of species. The home is a place where the occupants do not feel uncomfortable, and inside the house or where the wife and children live, there should be a lot of variety so that they do not feel tired. Finally, the finding of this study was that paying attention to the elements of traditional houses due to flexibility with today's demands will be able to respond to a pattern for up-to-date design. There are two types of houses, introverted and extroverted, but in some cases, due to the passage of time and lifestyle changes, the type of species has changed.

**Keywords:** *Typology, Traditional houses, Qajar houses, Kermanshah*

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## 1. INTRODUCTION

Shelter has always been one of the most basic human needs. Accordingly, houses can be considered as one of the oldest architectural works, so that other elements of architecture are dependent on them in terms of time. The need for house (in the real sense) is very much felt at this time, but it is necessary to meet this need

properly by recognizing the architecture of the past and adapting it to contemporary architecture. Typology is one of the key applied methods and activities in various sciences, especially in the cognition stage. Therefore, with the typology of houses, a more complete and comprehensive knowledge of them can be achieved.

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Doing so requires special reflection and studies on the principle of typology. Therefore, at the beginning of the research work, the definitions and concepts of typology are examined using the books and opinions of knowledgeable professors, and then what seemed important is the collection of information, knowledge and identification of historical context. After obtaining some information, different types of houses in Kermanshah have been introduced.

## **2. Theoretical Foundations**

In this section, the concepts of species, typology and typology are examined, along with words such as classification.

### **2-1 Species terminology**

To better understand a problem, one of the best ways is to examine the meaning of the word. Here to check the meaning of species and types and similar words in the dictionary. Dekhoda Dictionary has enumerated the following meanings for the word species: gender, type, oath, class, type, manner, method, manner, rule, method, method, order, way, type, quality, shape and staff, appearance, status, Order, form. In certain Persian culture, it is also stated: "One of the degrees of division of plants and animals - the community of those people (plant or animal organisms)" that came from each other or were born from a common parent. Also, all individuals whose structural similarity to each other is equal to the similarity of the mentioned individuals is the basic species based on the classification of living organisms. Also in these two dictionaries, the word type is mentioned: category, group, a clear example of a category, type, gender, class [1].

### **2-2 Typology**

Typology A review of the Encyclopedia Britannica on the word textual typology is given in the following translation of the text with a brief summary: Are marked, and these are mutually definitive and complete (including all generalities and details). Categorization is to express or demand a finite series of phenomena. A species may contain only one aspect and different aspects of those characteristics that are necessary for the desired shape. Because a species can only deal with one type of trait. Typology can be used to study the variables and changing conditions of science. Classification, on the other hand, deals with natural groups.

For example, groups that differ in many traits and characteristics that can be identified and discovered by individuals. For this reason, classification can only be used as a preliminary step in the study of variables. Because the classification can not fully deal with changing conditions in which variables are expected.

The more gradual the change, the less recognizable the characteristics by which "natural groups" are defined, and the more difficult it is to separate classes (perhaps the word group or category can be substituted here). In this situation, typology is asked for help. According to the meanings of the word "species" and "type" and the definitions given in the Encyclopedia Britannica about typology, it can be said that a species or type is a member of a group of people or phenomena that have common characteristics. Be that group. These properties can be structural or physical properties or non-physical properties. Typology is a category that is used in various sciences to better classify and understand the phenomena studied in that science. In this regard, typology should be considered different from classification because classification is based on a common characteristic despite many differences between members, but the people we name under a species must have obvious common characteristics [2].

### **2-3 Typology in architecture**

When discussing the category of typology in the field of architecture, it should be noted that the effective factors and elements that have caused changes and differences in some materials have created examples whose differences are not fundamental and its capability. Have to be placed in a category based on similarities. Here, the selected factor is important for classification and how to study it, because typology in architecture can be formed based on many factors such as physical or non-physical factors such as economic, social, livelihood and ....

Because architecture is created to make the characteristics of an individual or group a reality. Economic law and other external factors prevent architects from competing with other artists in producing works for which there is no demand, or which is internal and secret. Therefore, the types of architecture depend on social organizations, environmental issues, etc [3]. The different types that come and go in architecture are not only the product

of the architect's thoughts and ideas, but also various social, economic and cultural factors have influenced its emergence. This means that the different conditions governing the people of the society as well as economic, social or even political conditions require a special type or type of housing for them, but the architect responds to the needs of the consumer according to all the conditions.

Finally, in order to study the species and make a distinction between them, not only the appearance and appearance characteristics are considered, but also some kind of socio-living perspective must be paid. What can be a guide in understanding the typological path of Kermanshah house architecture is to explain the principles and reliable methods in the research process. It seems that in order to access these methods, one must first know the truth of the phenomenon (which is the home here) and the conditions of development and the factors that make up the phenomenon, which is a huge project and is beyond the scope of this research. Therefore, in these cases, where information is needed to the extent of familiarity, initial acquaintances are sufficient.

### **3- Types of Iranian houses**

Iran is one of the few countries in the world that has provided a special type of architecture to the world of architecture throughout its history. The important cultural and geographical features of Iran have caused a great variety in its architecture. If we want to follow the existing geographical divisions to give an overview of different regions, we will see that even a limited geographical region offers a variety of architectures in different parts of it.

#### **3-1 Introverted architecture**

Different meanings can be deduced from the word introversion. This word includes meanings and concepts from a moral and mystical point of view before it takes on the color of architecture. Being inclined, tending to inner states and avoiding showing those states in the form of pretense, are some of these meanings. It has been drawn into this field to the extent that it has called Iranian architecture introverted in the sense that in its exterior and in winding passages, nothing but clay and mud can be seen, but inside it has a world of work and beauty. First of all, the features of an introverted house should be introduced. These features are briefly: 1- Lack

of direct visual connection of indoor spaces with outdoor urban spaces.

2- Different spaces have been organized by an element such as a yard or covered rows so that the openings and openings open towards these elements.

The lack of direct visual connection with urban spaces can be examined from both climatic and cultural perspectives. The issue of keeping the sanctuary of the family away from the eyes of others is an issue that has at least changed the history of introverted houses in Iran after the advent of Islam. Although the history of introverted houses dates back to pre-Islamic times, the religion of Islam, by sanctifying and divinizing the privacy of the family, penetrated it to the depths of the minds of Iranian builders.

Therefore, the builder of the house has created a safe sanctuary for the family by observing geographical issues. The design of this sanctuary has been done in different forms in one or more yards. In this process, multi-yard index houses have been built with inner and outer courtyards [4].

The Qajar type is influenced by the well-known style of Iranian houses, which has been common in most parts of Iran with slight differences, and many of its characteristics can be seen in this species, and in general it can be classified in the field of introverted architecture [5].

#### **3-2 Extroverted architecture**

The architectural features of extroverted houses include the following:

- 1- Visual and physical connection with the space outside the house.
- 2- Expansion in height and in several floors.
- 3- Using a construction method, beams [6].

### **4. Home**

The house is as old as human life and is one of the first symbols of his presence. The house is a response to the natural needs and desires of human beings and hence it is called by different names. What comes to mind at first glance is a reference to a shelter or shelter or place of comfort that can even include a room or a four-walled room [7].

#### **4-1 Traditional house of Qajar period**

The house has a special place in the traditional architecture of Iran. Residential houses are left from many different historical periods of Iran, which in addition to historical value, in fact reflects the national identity of Iran and

reflects the lifestyle of the people of each period. By examining these valuable houses, we can understand the evolution of Iranian architecture. From the reign of the Qajar government, many buildings have survived in our country, most of which include aristocratic residential houses of the Qajar period. By examining the architecture of Qajar houses, we will find many facts about the architecture of this era and consequently traditional houses.

Qajar architecture with the increase of establishing international relations between Iran and abroad, the import of goods and products of European countries to Iran and the presence of more foreign tourists in Tehran and other major cities of Iran tended to European architecture and Western culture more than ever in the Iranian way of life. The Qajar era can be seen. Red and orange colors replace the green and azure colors that existed in traditional pre-Qajar architecture. Naked and semi-nude images are added to the wall and ceiling decorations of the house. Some of the main elements of Iranian houses are removed or reduced, such as porches. Red and orange colors replace the green and azure colors that existed in traditional pre-Qajar architecture. Naked and semi-nude images are added to the wall and ceiling decorations of the house. Some of the main elements of Iranian houses are removed or reduced, such as porches. The Qajar period can be considered as the period of Iran's cultural self-destruction to the West, and the architecture of this period is a proof of this bitter truth. Of course, the houses of the Qajar period in Tehran are historically valuable and have a stunning architecture that, despite all the influences that have had on them, still have the color and smell of Iranian culture.

#### **4-1-1 Decorations used in Qajar houses**

- European style marble columns and columns
- Old mirrors with elaborate and delicate beds
- English and French landscaping with large areas of lawns, ornamental trees and shrubs, small and large rectangular ponds and ponds, gardening of gardens and general lines of landscaping and gardening that up to It is somewhat out of the axial mode.
- Murals with various themes such as important historical events, portraits, paintings and landscapes, which cover all the interior surfaces of the walls.
- Marble and bronze collections inside and outside the building

- Orosi<sup>1</sup> and colored glass
- Decorating indoor and outdoor spaces using tables, chairs and sofas [8].

#### **5. Houses of Kermanshah**

The architecture of traditional houses in Iran is considered to have an identity and identity card in which the concept of living and in the full sense of living and relaxing in accordance with the different human needs of the space is formed that the cultural needs and Natural has responded to him with various natural manifestations of summer day, winter and ... and human rituals. With the change in the family system, the living space needs to be transformed. Their needs change over time. Factors such as divorce and not living with the elderly cause expectations and the need for housing to increase. In traditional homes, these changes in the family environment sometimes include three consecutive generations [9].

The architecture of Iranian houses has always had a sincere relationship with nature. From the introverted houses of the cold regions to the houses of the hot and dry regions, they have all adapted to their bed in some way. The separation of winter and summer living areas and the zoning of house spaces indicate that they are climatically and materially compatible with their environment. Invading and occupying space, ordering, organizing and organizing the space and giving it meaning, creates the architecture of the house.

Houses in traditional Iranian architecture are created from two different spatial areas. The outside area where the guests were received, social interaction, stables and adjacent to the entrance area. The outdoor space is the interior where the residents, especially women and children, live, which must be very diverse so as not to create a feeling of tiredness. The connection between the two sections was small and strangers had no access to the inside of the house. Depending on the owner's social status, each house had different dimensions. The exterior or interior had rooms that were known for the number of doors. Like three-door, five-

<sup>1</sup> . The word sash in Amid culture means a room that opens onto the courtyard and a large wooden window that completely covers one side of the room and has raised sliding shutters and stained glass. In the definition of the word "sash", Master Pirnia is convinced that some people think that a sash refers to a window that has gradually become popular in Russian architecture in Iran. And Iranian paintings have been observed.

door, seven-door, etc. in three-door rooms, they never entered it from the open space, but entered it from the corridor next to it.

In the courtyard, the golden proportions of Iran, which is a rectangle inside an octagon, were used. The structure of the introverted pattern in traditional Kermanshah houses Kermanshah architecture is not much different from the central architecture of Iran. The spatial structure of Kermanshah architecture is generally introverted, which with the introduction of Western architectural model and the presence of the street since the late Qajar has taken an integrated style [10].

### **5-1 General structure of traditional house patterns in Kermanshah**

1- Entrance space: alley, front porch, gate, porch

2- Main space: hall, rooms around the inner courtyard, columned covered porch (in the form of a porch).

3- Service department spaces: closets, warehouses, kitchen, bathroom, living rooms for employees

4- Communication spaces: porch, corridor, inner and outer courtyard, staircase, basement  
The spatial structure of the introverted-extroverted model in Kermanshah includes the entrance space (street, door, entrance hall), the main space (central hall, rooms in a row, the covered columnar balcony facing the street, etc, the spaces of the service is department (warehouse and. ...) [11].

### **5-2 The principle of twin inside and out**

In Iranian architecture, there is always a contradiction between outside and inside. Houses often have three common sides, a very simple street-facing wall without windows and a trunk with a door. The houses had facades, but the facades were built towards the central courtyard. A trait in architecture called introversion is due to the safety and controlled environment of the home.

The relationship between outside and inside is a precise one; If none of the markets, inns and mosques have an external view, it is because the whole market complex is one inside. The lack of exterior in Iranian architecture is perhaps a sign of introversion due to defense against invaders and harsh climatic conditions [12]. How to connect the external space such as alleys, passages and interior spaces such as outer and inner courtyards such as internal circulation horizontally and vertically in the

ancient architecture of Kermanshah is very measured and thought out. The hierarchy of space sequences in this type of architecture is fully observed.

### **6. Typological method of the studied sample**

In order to know the architecture of the historical houses in Kermanshah, almost all the index houses that had preserved their general characteristics for study and cognition have been typologically studied. Exterior and subsequent plan and arrangement of spaces play a decisive role in species differentiation, while interior design, structures and building materials, although they may be effective in species differentiation, but the role of diversification of the main species Have. In order to know more about the residential species of Kermanshah, among the available options for recognizing, the types of role of exterior bodies and facades were examined from the sub-facade subset. The four traditional houses of Randakesh, Moin al-Kitab, Sarem al-Dawlah, and Jalilian have been selected due to time similarities and the items required for study in this study, as well as access to the sample.

The study of types of open, closed and semi-open spaces as a subset of the plan and the study of types of long and short stay spaces and the methods of combining and expanding the spaces have been selected as a common subset of the plan and arrangement of spaces. Man and nature are considered to be two important variables and the main factor in creating differences and distinctions between types of housing. . The architectural methods studied in this section will be briefly presented in the diagram at the end of the discussion [13].

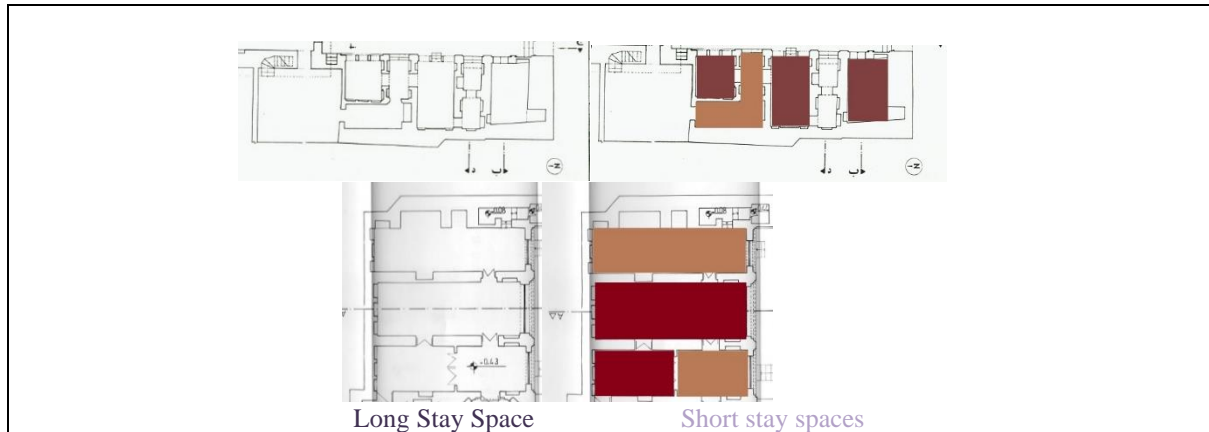
### **6-1 Types of long and short stay spaces and methods of combining and expanding spaces**

One of the outstanding and positive features used by Iranian architects has been the possibility of combining several micro spaces with a larger or vice versa space. This feature and flexibility means that spaces can be combined and infinite while having their own independence and unique definition. This feature, in addition to expanding the spaces and responding to the needs of individual and social life, as well as responding to the principle of privacy between the Muharram and the non-Muharram, enhances the quality of

the space from the perspective of perspective and light.

For example, the entrance room that leads to the central courtyard, as well as the back room, which is defined for the residence of an individual or a couple and has its own identity and independence, can also be expanded and combined with the space of the sash room by

proper placement of doors. have; In addition to spatial expansion and the possibility of gathering in various ceremonies, this also allows the presence of more light and also expands the landscape to the open space. In addition, the sash can be connected to the royal room by its adjacent room [14].



**Figure 1-** Image above; Jalilian House and below; Moin Al-Kitab House  
(Source: Cultural Heritage and Writers)

### **6-2 Types of closed, open and semi-open spaces**

Iranian architects have had various methods in dealing with and using the defining elements of space, namely "wall, ceiling and floor". These three elements played a major role in defining space. Almost all the houses studied of these three elements; They have created three types of space patterns: open space, semi-open space and closed space. Each of these three spatial patterns is defined by the three elements mentioned, but mainly closed

space is defined by the three elements of ceiling, floor and wall; Semi-open space is defined by roof and floor elements and wall and floor elements have a more active and effective role in defining open space. An example is an open space inside or outside the yard, an example of a semi-open space of porches and some corridors, and an example of a closed space of different types of rooms. In the houses of Kermanshah, these three elements are clearly mentioned. And has its own application [15].

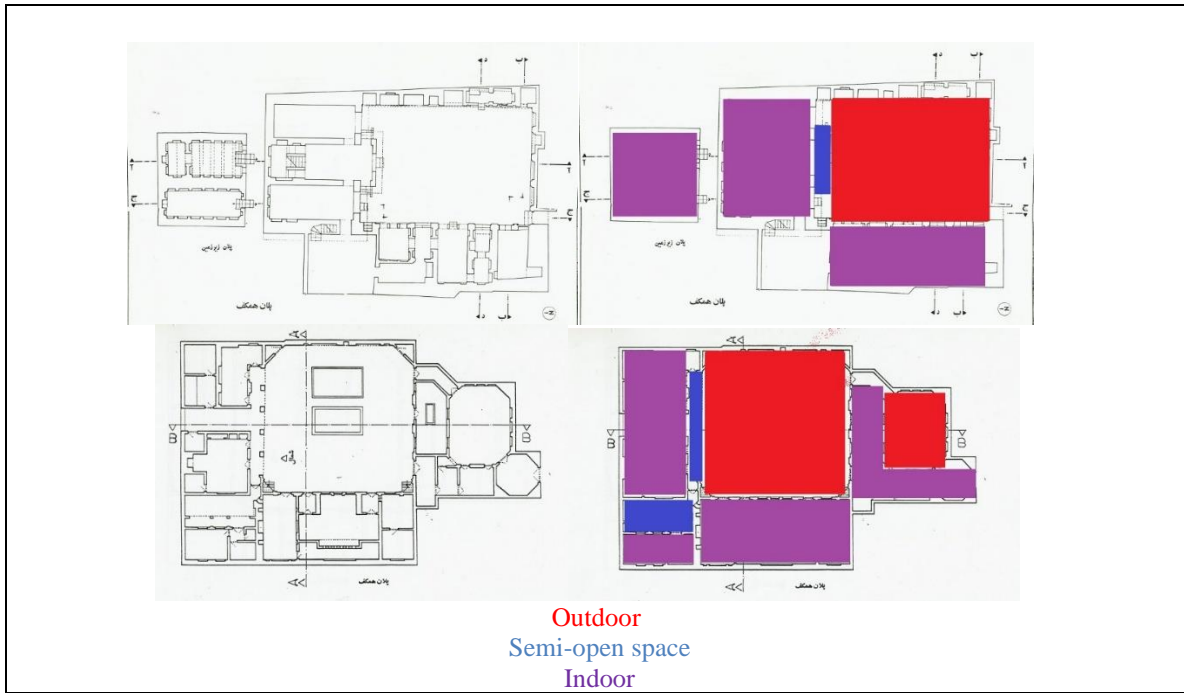


Figure 2- Image above; Jalilian House and below; Grating House (Source: Cultural Heritage and Writers)

**6-3 Companionship of nature with home**

Another aspect is the role of nature in the design of the house, the location and construction of the house in its bed, and the design should be based on the real position of the earth. Optimal housing requires design in accordance with nature and pleasant weather. Therefore, one of the conditions for location in the Qur'an is that it is related to the natural environment around it and by bringing green

space into the city and home, it shows the full use and respect for nature in design and construction.

What can be seen in the houses under study is a balanced relationship with nature and its use in each building, so it is necessary to explore this aspect of design. In addition, the use of the central courtyard form, in addition to using nature, has also provided the issue of privacy and privacy well [16].



Figure 3- Image above; Grater and bottom; Moin Al-Kitab House (Source: Cultural Heritage and Writers)



#### 6-4 Types of presence of light in space

The elements of skylights in traditional Iranian architecture are studied in two ways, the first group as light controllers, such as various types of awnings and the second group as skylights. The first group is responsible for regulating the light entering the building and is divided into two categories: the first group are those that are part of the building, such as the porch, and the second group are those that are added to the building and sometimes have a decorative state; Like a curtain. The elements that are considered as skylights have different names, but they are all skylights and are:

Rosen, Shabak, Mesh door and window, Jamkhaneh, Horno, Arsi, Roshandan, Friz and Khoon, Goljam, etc.

Opposite are elements such as porches, curtains, radiators, awnings, sheds and sabats, which have the role of controlling light and regulating it to enter the building. One of the important architectural factors in the division and refraction of light intensity are the entrance porches, which are made of round or polygonal. Above the vestibule, there is usually light, which transmits a gentle focused light in at different times of the day [17].



Figure 4- The right side of the five doors of Sarem al-Dawla and the left side of the sash on the south side of Moinat al-Kitab (Source: Cultural Heritage and Writers)

#### 6-5 Types of body and facade patterns

In each period of Iranian architecture, one of the creativity of architects has been to diversify the cover elements and present their own art. The ability to balance the materials with each other, colors, filling and emptying the bodies,

using a variety of arches and tiles, moqarnas, etc., has made it possible to enliven and consolidate the space. This factor also makes the space more stable and neutralizes the space and enriches the quality of the space [18].

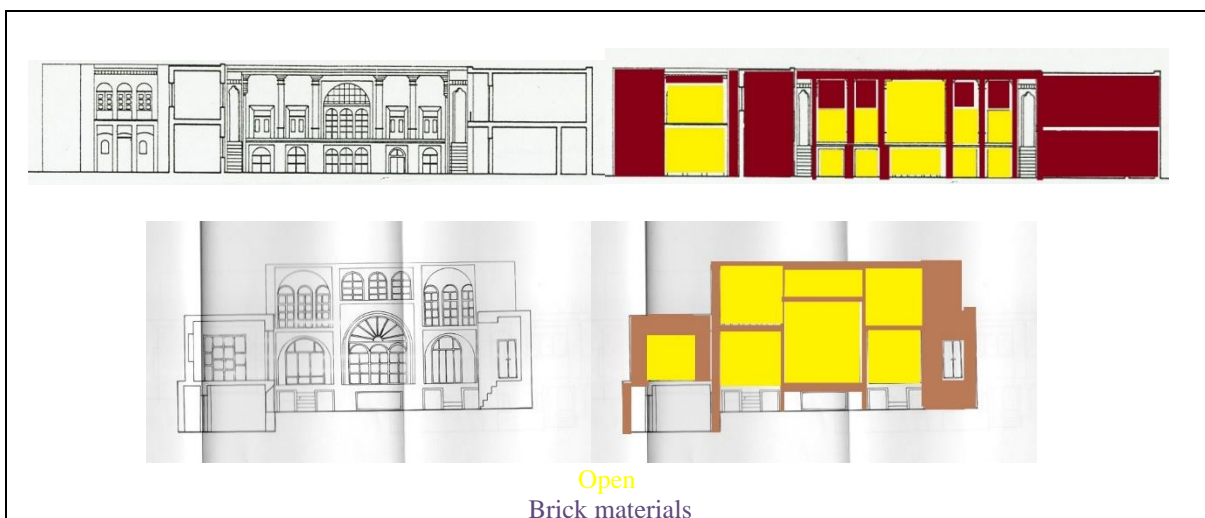


Figure 5- Image above; Gear house and picture below; Moin Al-Kitab House (Source: Cultural Heritage and Writers)



## 7. Conclusion



After field studies of residential species in Kermanshah from the perspective of enjoying nature and open, closed and semi-open spaces, long and short stay spaces, the role of bodies, types of light in spaces and the way of accompanying nature It turns out that the old houses of Kermanshah have cultural value and richness in their kind. The results of a study of several traditional houses in Kermanshah are as follows: The most prominent traditional houses in Kermanshah belong to the Qajar period and some early Pahlavi. Most buildings have two floors and one or two courtyards. Introversion and introverted is an issue that exists in most homes as a common principle and is seen in a small number of extroverts or has been introverted and has become extroverted in the period. In the case of the Syrian house, due to the change in structure, it is not possible to speak with certainty about whether this building is introverted or extroverted. Sash is another common element that is present in all homes and the lighting of certain rooms has been done by these beautiful sash. The roof covering of the building is generally flat and in some it is gabled, in some of them they have used the space inside the alley by means of a sabbat created on one side of the building inside the alley.

The building materials are mainly brick, clay, wood and mortar, lime and in some parts thatch is used. The decorations of the building are mostly brickwork. About the bodies and exteriors of Kermanshah houses; Due to the cold climate of this region, most of the facades are covered by the openings of the northern and southern fronts, which in addition to

playing the role of lighting; In a way, they have also formed a symmetrical and balanced view of these houses, which, in addition to the two-storey houses and the columns in the view of the houses; Shows the special views of these houses. The entrance to the houses begins with a porch with brick arches and then enters the outer courtyard. On one side of these courtyards is usually the pool house, which is the boundary between the inner and outer, that is, it receives light from both sides, but its entrance is from the inner courtyard.

On the upper floor of the pool house there are sometimes rooms which also receive light from both courtyards. After crossing the corridor, they entered the inner courtyard. The hall of the house is located on one side with a sash and several smaller doors. On either side of the sash are usually rooms that open independently to the porch. On the other side, there were rooms, and on the ground floor there was usually a bathroom, the roof of which was mostly domed. The lower and upper floors had a columned porch; These columns were not exclusively the same, for example in a "grater" house; The columns of the ground floor are brick and rectangular, while the upper floor is decorated with columns with round cross-sections and Mogharnas capitals. The first floor usually had a porch, which was decorated with several columns and half-columns attached to the wall, which usually had circular sections. These columns were decorated with brick Mogharnas capitals and colored moqalis, and were surrounded by iron railings. The entrance doors of the houses had locks and clones and keys, sometimes of certain sizes.

**Table 1-** Investigation of some cases of Kermanshah houses (Source: Authors)

Roof	Materials	Decorations	Orosi	Introversion	Number of yards	A few floors	Period	House name	
gabled roof	Brick, clay, wood	Brick work	★	★	2	2	Qajar	Feyz Mahdavi	
Thatch	Brick, clay,	Brick work	★	Cannot be said due to structural change	2	2	Late Qajar	Souri	

Thatc h	Brick	Brick work	★	★	2	3	Qajar	Moeinol ketab	
Thatc h	Brick	Mogharna s brick, colored moqalias	★	★	2	2	Qajar	Rande kesh	
Thatc h	Brick	Brickwork , woodwork , bedding and tiling	★	★	1	3	Qajar	Saedevan di	
Thatc h	Mostly brick	Brickwork , wood, bedding and murals	★	★	3		Qajar	Samadi	
Thatc h	Brick, stone, iron and wood	Brickwork , tiling	★	Extroverte d	1	2	Early Pahlavi	Khadivi	
Thatc h		Brickwork , bedding	★	Introverted and extroverte d in the Pahlavi period	1		Qajar	Jaliliyan	
Thatc h	Brick	Brickwork , Mogharna s work and painting	★	★	1	2	Qajar	Saremo dolleh	
Thatc h	Brick		★	★	2			Vaziri	

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