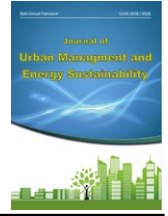


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Evaluating the role of social values in the formation of the architectural structure of Qajar houses in the context of the urban fabric (Case study: Qajar houses in Yazd city)ⁱ

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ABSTRACT

Considering the identity crisis caused by industrial and modern housing production in modern times and the existence of social problems because of the lack of identity of residential areas and biological complexes in the settlements, investigating the social structure of Qajar period houses for example in the context of cities. This can be of great help in analyzing these issues. This research has a descriptive-analytical view, which is purposed on development and application. The method of collecting information is the library and survey, and besides that, direct observation, reliable sources, and maps have also been used. First, after analyzing the theoretical foundations and the history of the research, factors were extracted as the results of the research framework and presented as the final indicators proposed as a model using the Delphi method. The findings of the indexes to investigate social values in the architecture's formation of Qajar period houses were evaluated and scored using graphical analysis in each index. The findings show that the indicators of geometry, centrality and privacy have the biggest impact, and considering the numerical score of the Meshkian house, with a score of 4.33, it has the highest level of social influence in the formation of its architecture. In future research, by comparing the Qajar and Pahlavi periods, these indicators can be expanded and their internal relationships can also be investigated.

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1. Introduction

The house, as the most important area of human presence and growth, as well as the first design and the most extensive achievement in architecture, which has a large volume of it, is the most used for humans (Sadr, 2002). The way of life is the only objective and specific aspect of culture, through which we can distinguish between individuals and groups, and it is the subject of architectural identity (Afshari and Purdihimi, 2015). House as a primary dwelling, which is produced in a short period, mainly reflects the culture and level of expectations of the residents. (Richard and Lee, 2001) Since building a house is a cultural phenomenon, the shape of the house (its physical form and spatial organization) are strongly influenced by the cultural environment to which the house belongs (Rappaport, 2005). This spatial syntax presented in this type of house is following the needs of the people and the changes are made according to their desires for more well-being (Golany, 2020) Historical periods define the relationship between man and space as it is in the body called housing as the first place, and examining its changes can lead to the recognition of residential patterns (Trunbull, 2011) and in terms of architecture, this space is very important in their social interactions in urban settlements (Severin, 2019). According to sociologists, the formation of social classes is affected by the distribution of capital in society (Greb, 2013) The relationship of man with architectural space is a daily relationship that includes an important part of his life. This relationship is more complicated than the relationship between man and the artistic space of painting and sculpture because man also experiences this space from the inside. Therefore, after centuries, the main question of architecture, space, and life and how to connect these two is still (Karimi et al., 2013). This physical example in different historical periods has seen different styles according to the needs of the society, just as its spatial structure has undergone major changes and the way its spaces are formed is also different. Has found a lot (Memarian, 2010), the factors that change the formation of a body can also be the type of social attitude and belief in it (Bourdieu, 1986) According to Bourdieu, there is a kind of dialectical relationship between cultural,

economic and social capital (Ganji and Heydarian, 2013) Spatial structure can be considered as the adaptation of the activity organization to the physical environment. The spatial structure is the manifestation of the internal and external relationships of the units of a spatial complexity that is following cultural needs (Ziyari, 2000). Cultural attitudes, preferences, and behaviors are considered as tastes, which indicate the social structure of the house. (Lamont & Lareau, 1988) by examining the architectural spaces of the past in Iran, we find that the principle of sequence in the traditional architecture of privacy is separated from other spaces by creating a break in movement axes, the number of these axes is from the entrance The interior of the house did not allow the outsider to find directly the spaces and privacy of the aristocratic house. (Ivazian, 1998) Yazd's historical context is one of the most important residential contexts in Iran, which is world famous. The main part of this fabric is still standing and parts of it have been destroyed. The most important elements of the historical fabric of Yazd are its houses. These houses have unique values that show the life of the people of that time. Although houses have different shapes, common architectural patterns can be found among them.

Examining the remaining buildings of Qajar-era architecture in Yazd shows that this city has one of the most valuable examples of historical architecture in Iran. In addition to the abundance in the quantity of spatial diversity, it is safe to say that Yazd is one of the most valuable cities of the Qajar period. These houses have differences in the concept of social values, which can be mainly extracted as a pattern and the structure of its formation can be analyzed. This structure lies in the spatial hierarchy of these houses, and in this research, in addition to recognizing and analyzing them, the general pattern of this social structure can be explained and a conceptual model can be presented as a result in this direction. The purpose of the present research is to recognize the social structure in the formation of the architectural structure of the historical houses of Yazd city, and by obtaining the way and manner of this structure in the architecture of the Qajar period, the explained spatial structure will be presented in the form of a conceptual model from this point

of view. The innovative aspect is also focused on explaining the exemplary structure of the Qajar houses and their evolution based on the passage of time in the Qajar period, which is explained by categorizing and presenting a framework that can be used to explain how it is formed and changed in the architecture of historical houses. According to the topic of the research questions, it will include the following:

- What are the characteristics of the social structure of the Qajar period architecture according to the socio-cultural background in the historic houses of the Qajar period?
- What factors do influence the social structure of Qajar houses and have been effective in the spatial structure of its architecture?
- How was the spatial relationship of the house's organs in the way the architecture of the historical houses of Yazd city was formed?

Therefore, the hypothesis of the research can be presented based on "it seems that the evolution of the architecture of the historical houses of Yazd city has been based on the change of social values in the direction of the interaction of the body and space."

2. Materials and Methods

2.1. Methodology

This research is of a descriptive-analytical type, which aims at development and application, but its developmental character can be pointed out, especially in the explanation of the proposed model and framework. The method of collecting information is also in the library and the field from references such as the Cultural Heritage Organization, and the Department of Architecture of academic institutions, and the examined data have been collected and revised in the field if needed, and in addition to that, from direct observation, sources, valid maps as well. Used. First, after examining the theoretical foundations as well as the history of the research in the two dimensions of procedure and content, where there is an emphasis on clarifying the goal, not repeating it, factors are extracted as the result of the research framework and using the Delphi method as the final indicators proposed in the form of a model. Provided. In the Delphi method in successive periods, the number of factors

affecting the issue of social structure in traditional architecture with an emphasis on the Qajar period is mentioned after going through stages including the specified average limit and also calculating the Kendall coefficient for the answers, polling by reaching A certain average is stopped and the final indicators are proposed as a research framework. In the following, the extracted indices have been evaluated and scored using graphical analysis in each index.

2.2. Literature review

Schultz considers meaning as a basic human need because every person is born within a meaning system and understands that meaning system through symbolic manifestations. (Schultz, 2007) Rappaport conceptualized meaning in the home and considers high social status as a special type of identity and one of the key roles of culture. (Rappaport, 1992) Meanwhile, Cullen has discussed the concept of meaning in housing. (Coolen, 2008), in the meantime, Klafus deals with the component of social dignity and considers a significant connection between the meanings perceived from the environment and the lifestyle caused by culture (Klaufus, 2012). One of the researchers and experts in the field of applied sociology, Rafipour has studied the basics of social status and social stratification and how it is formed. (Rafipour, 2000) Among Iranian researchers, Mohammad Karim Pirnia has been a pioneer in the field of knowledge of historical houses and has investigated the style of historical buildings and the knowledge of these houses. (Pirnia, 2008) considers historic houses have different pillars. Valuable studies have also been devoted to investigating the relationship between residence and meaning. (Afshari and Pourdihimi, 205)

2.3. Social aspects of traditional architecture

Behind the principles of traditional architecture lies respect for life and the collective life of humans. Cultural and social aspects are based on valuing human personality and have manifested in the following forms:

- Introversion: One of the beliefs of the Iranian people is a personal life and its sanctity, as a result of which the building's organs were organized

around one or more courtyards and separated the building from the outside world (Pirnia, 2007).

- Mardomvari: Mardomvari means respecting the fit between building parts and human parts and paying attention to their needs of construction work (Pirnia, 2007).

- Flexibility: The concept of flexibility in traditional Iranian houses is defined in three types versatility, multi-functional spaces, the versatility of seasonal movement, and (daily variability of separation and aggregation). (Einifar and Agha Latifi, 2018)

- Versatility: the functional and spatial diversity of spaces such as the three-door house pool, etc., was created according to the daily needs of the family and used at different times. (Einifar and Agha Latifi, 2018)

- Adaptability: Adaptability is the ability to adapt a space to new conditions.

- Changeability: Changeability means the ability to respond to the growth of the household in different stages of life.

The entrance space in a traditional house is designed following religious and social goals in such a way that people do not enter the house suddenly and at once, and also there is no direct view from the entrance space to the inner spaces of the house. For this reason, the direction of designing the entrance space in public introverted houses was such a way that. The movement was formed along an indirect axial path and was generally connected to the inner space in one of the corners of the yard or close to it. In many traditional houses, which are composed of two inner and outer parts, the entrance vestibule usually branches off from two separate ways and leads to each of them. In some houses, the inner part of the alley had a separate door (Cohen, 2008). Due to their complete introversion, the entrance of the house is built in places where there is no direct visual connection to the inside of the house. Another example of privacy and creating mental peace in traditional houses is that the house is introverted and facing inward. Also, the center of the house and the central courtyard are safe from the noise of the street and surrounding public spaces, this kind of separation and independence of the house from its surroundings brings peace inside. (Pahnadayan, 2016) In the traditional

architecture of Iran, the house was considered a private space for family life in dense and introverted urban contexts, and the principle of privacy was usually observed in its design and construction so that family members could not be seen by non-familiar. Based on this duality of insider and outsider, the architectural space was also made of two internal parts (insider and outsider). and people were outside the house, with a little reflection on the history and fiction of our country, this type of attitude can be seen in the separation of private and public spaces in the traditional and past society of Iran (Jenab Esfahani, 2015). They are used to provide the security, welfare, and social and spiritual identity of human beings. (Ardalan, 2009) The word introversion, before it takes on the color of architecture, also includes meanings and concepts from the ethical and mystical point of view; the tendency to internal states and avoiding showing those situations as a pretense of some of these meanings a set (Mamarian, 2011). Also, in all cases of historical houses, the presence of nature is evident in all the spaces of the house. The use of gardens and water, all kinds of trees and flowers, skylights, sashes, and wind deflectors are all ways to benefit from nature. (Mofidi Shemirani, 2011)

Some of the criteria obtained from the index of human needs in traditional houses are as follows:

Paying attention to the interior, in the architecture of houses based on culture, lifestyle, and customs; Observance of nobility and privacy in the house, empathy and respect for nature and peaceful coexistence, man, architecture, and nature and provision of visual and psychological peace in traditional houses are the original standards of the Iranian family's lifestyle such as moderation, perfection, clear unity and sobriety, which are seen in However, they are not obsolete. (Sohrabi, 2015) The structure of traditional houses is a conflict between our body and culture, which shapes the way they look in an interaction of the whole spatial organization. In addition to social relations, this interaction includes psychological issues and manifests itself in a kind of homogeneity, in the form of cause and effect. (Nik Qadam, 2012) based on studies, shows that social structure has a wide range of applications, and to explain it in architecture, it is necessary to specify the concepts and influencing factors related to it. The social

values in the architectural space of these factors have been extracted and determined according to Table 1 based on the adaptation of the views and opinions of the experts in this field, some of which have been mentioned. The amount of attention paid to each of these factors is different in different buildings and historical periods. In such a way that some factors may increase in space to emphasize culture, and some of them may have control and decrease trend. According to the investigation of the research framework, it is possible to present the factors affecting the concept of social values in the architecture of Qajar houses in the form of a conceptual diagram, which focuses on their relationship in the first place, and more by using

concavity to try to reach It will be an approved model. (Table 1)

In this regard, to achieve a proposed model for the analysis of the concept of social structure in the architecture of Qajar-era houses, which is the goal of this research, these factors will be discussed by the elites and experts in related fields with the Delphi method, which is the innovation of this research.

3. Findings and Discussion

3.1. Findings of the implementation of the Delphi method

In the first round, the panel members identified 10 factors out of 18 factors that were

Table 1: Factors affecting social structure in the formation of the architecture of Qajar houses

Factors extracted from the theoretical framework of the research, focusing on investigating the role of social values in the formation of the architecture of Qajar houses								
Spatial perception	Geometry	Centrality	Privacy	Security	Connection with nature	Hierarchy	Introversion	Identity
Encirclement	Readability	Aesthetics	Spatial syntax	Compatibility	Proportions	Self-sufficiency	Continuity	Transparency

Table 2: Phase 1 of the fuzzy method in compiling the proposed indicators of social structure in the formation of the architecture of historic houses of the Qajar period

No	Factors	Number of responses	Average	Standard deviation	Min.	Max.
1	Identity	24	4/96	0/35	3	5
2	Transparency	19	4/48	0/37	2	5
3	Introversion	23	5/21	0/27	3	5
4	Continuity	22	3/42	0/55	1	3
5	Connection with nature	18	4/10	0/37	2	4
6	Proportions	20	2/20	0/40	1	4
7	Security	23	2/45	0/25	1	5
8	Privacy	25	5/30	0/27	3	5
9	Compatibility	23	2/21	0/45	1	4
10	Spatial perception	18	3/11	0/52	1	4
11	Centrality	21	4/11	0/38	2	5
12	Aesthetics	22	2/51	0/42	1	4
13	Geometry	23	5/41	0/47	1	5
14	Readability	21	2/55	0/60	2	4
15	Self-sufficiency	22	4/45	0/28	2	5
16	Encirclement	24	4/25	0/41	2	5
17	Hierarchy	21	4/12	0/32	2	5
18	Spatial syntax	22	2/32	0/35	1	5

Table 3: Phase 2 of the fuzzy method in compiling the proposed indicators of the concept of social structure in the formation of the architecture of historic houses of the Qajar period

No	Factors	Number of responses	Average	Standard deviation	Min.	Max.
1	Transparency	15	3/24	0/91	3	5
2	Introversion	15	3/18	1/03	3	5
3	Connection with nature	15	3/21	0/91	4	5
4	Privacy	15	3/52	0/95	3	5
5	Centrality	15	3/62	1/11	3	5
6	Geometry	15	3/74	1/03	3	5

Table 4: Phase 3 of the fuzzy method in compiling the proposed indicators of the concept of social structure in the formation of the architecture of historic houses of the Qajar period.

No	Factors	Number of responses	Average	Standard deviation	Min.	Max.
1	Transparency	15	4/34	0/67	3	5
2	Introversion	15	4/38	0/91	3	5
3	Connection with nature	15	4/21	0/82	3	5
4	Privacy	15	4/52	0/45	3	5
5	Centrality	15	4/72	0/38	3	5
6	Geometry	15	4/84	0/92	3	5

extracted from successful research as having a high and very high impact in formulating the framework of the concept of social structure and its values in the architecture of historic houses of the Qajar period. The detailed and extended results related to the implementation of the first stage of questionnaire distribution are given in the following table. The factors of continuity, proportions, security¹, compatibility, spatial orientation, aesthetics, readability, and spatial syntax have been removed from the Delphi process due to their average importance of less than 2.5. (Table 2)

After the implementation of the first stage of assessment and evaluation of the opinion of the experts of the panel regarding the factors proposed and extracted from the theoretical bases and also receiving the suggestions of the panel members, in this round, to observe caution, all the factors extracted from the theoretical bases are again Together with the average opinion of

1. It is necessary to explain, the security factor for the respondents has by default an external definition of the interior architecture of the house and considering its homogeneity with the practice of privacy by the respondents as a pair of single representatives, it has been scored.

the members in the first round and the previous opinion of the same member, it was provided to all the experts of the panel. The panel members identified 6 factors out of 10 factors that were presented in the second round as having a high and very high impact (with an average greater than 3) on the proposed framework of the concept of social structure in the architecture of Qajar period houses. The detailed and extended results related to the implementation of the second stage of questionnaire distribution are given in the following table. Kendall's coordination coefficient for the members' answers about the order of the factors that had a high and very high influence in this round was 0.765, in which the factor of identity, self-sufficiency, confinement, and spatial hierarchy has been removed². (Table 3)

2. The explanation that the "identity" factor in the initial investigations is connected to an index such as collective memory, which, according to experts, is a bigger issue than the scale of architecture inside a house and in the context of society. Therefore, if the urban identity structure was considered It was considered among the influential factors. Regarding the self-sufficiency factor, due to focusing more on construction quality and materials, and due to covering other factors, confinement and hierarchy factors have also been removed.

In the third round of compiling the framework of the proposed indicators, the concept of social structure and its values in the architecture of historic houses of the Qajar period, together with the average opinion of the members in the second round and the previous opinion of the same member, was provided to all panel experts. The detailed and extended results related to the implementation of the third stage of questionnaire distribution are given in the table below. Kendall's correlation coefficient for members' answers about the order of the six factors was 0.790. (Table 4)

4. Reasons for stopping polling

The results of the three rounds of implementing the Delphi method in the research show that a consensus has been reached among the panel members for the following reasons and the repetition of the rounds can be ended:

- 1- In the second round, more than 50% of the members included 10 influential factors in compiling the framework of the proposed indicators, the concept of social structure and its values in the formation of the architecture of historic houses of the Qajar period, which had an average greater than 2.5. They chose themselves.
- 2- The standard deviation of the members' answers about the importance of the factors in the third round has decreased significantly compared to the previous rounds.
- 3- Kendall's coordination coefficient for members' answers about the order of factors in the third round is 0.790. Considering that the number of panel members was more than ten

people, this amount of Kendall's coefficient is considered quite significant.

4- Kendall's coordination coefficient for the arrangement of the 6 influential factors in compiling the proposed indicators of the concept of social structure and its values in the third round compared to the second round only increased by 0.025. This coefficient or the degree of consensus among the panel members over Two consecutive rounds does not show significant growth.

5- The points given to the factors by experts and elites indicate that the indicators of geometry, centrality and privacy have the highest score and as a result the most impact in explaining the concept of social structure and its values in the process of compiling the framework of the proposed indicators in architecture. The historical houses are of the Qajar period, and based on this, the structural model and the research framework can be presented (Table 5).

4.1. Analyzing case examples

A formal classification of historic houses of the Qajar period in Yazd city

The changes in the house pattern in Yazd, unlike many cities in Iran, has a specific movement and a trend that can be analyzed. The reason for this is the coincidence of the arrival of western architectural ideas with the importance of urbanization and many constructions in this period. Due to the important location of Yazd city and its location on the route of merchants, cultural concepts and approaches also penetrated this city. Therefore, the process of changes in thoughts and consequently the common architectural patterns

Table 5: Index, sub-index, and evaluation tool as suggested indicators of social structure in the architectural form of historic houses of the Qajar period.

Subject	Index	Sub-Index	Evaluation tool
Indexes of social structure and its values in the architectural form of historic houses of the Qajar period	Transparency	Depth of space, view from a one-point, strong point of view	Simulation
	Introversion	A small amount of central courtyard, openness, and multiplicity of space	Simulation
	Connection with nature	Climatic division of space, local materials	Simulation
	Privacy	A small amount of vestibule, corridor, entrance, and door	Simulation
	Centrality	The number of the central courtyard, the decorations of the main body	Simulation
	Geometry	The number of porches, rooms, and parts of the house	Simulation

Table 6: Typology of selected houses of the Qajar period in Yazd city

House name	The period	Construction period	Spatial elements of the building	Spatial elements of the building
Tehraniha	Qajar	The second period of Qajar		The building consists of a main part and a service part. Its main part is a rectangular courtyard surrounded by closed spaces with a height equivalent to two floors. The service department is located in the south of the house and has an independent entrance. On each front of the yard, the middle spaces are two stories high, and together with the spaces on their sides, which are two stories, they have created a fence of the same size around the yard.
Semsar	Qajar	The second period of Qajar		Most of the spaces of the house are gathered around the yard. Most of the spaces of the house are located on the north and south sides of the yard. The south front is deeper and contains wider spaces. The eastern and western fronts of the yard are mostly dedicated to semi-open spaces, such as the porch and the porch. The way to enter the courtyard of the house is from the east porch, which is not common in Yazd houses of this period. The height of the round facades of the yard is the same and it is the size of two floors.
Arab	Qajar	Middle of the Qajar period		The house and the yard are rectangular and placed in the direction of Qibla. In each front of the yard, a main space (three doors and five doors and a porch) sits in the middle, and their sides are dedicated to spaces such as the entrance of the porch, the entrance hall, the shoe store, and the Matbakh.
Alireza Arab	Qajar	The first period of Qajar		The sub-section of the house includes a stable and open space, it is separated from the rest of the house by a door at the very beginning of the vestibule. The courtyard of the house is rectangular and its direction is northeast-southwest, and the spaces of the house are located on three levels around it. The spaces of the first floor face the courtyard, except for the service spaces that are in the back and corners.
Mashrooteh	Qajar	The first period of Qajar		This building is built on one floor and surrounded by a courtyard. Next to the main part of the house, the service part includes stables and open space. Although the length and width of the courtyard of this house are almost the same, the presence of a water feature stretching along the north-south with two symmetrical gardens on both sides makes the courtyard longer than it is.
Meshkian	Qajar	Middle of the Qajar period		The main part of the house includes a courtyard and its surrounding spaces, which are separated from the service area, which has open and closed spaces. The main courtyard is rectangular and is located along the north-south direction. The porch sits on the southern front and the facade and spaces on both sides of it are two stories. In the center of the yard, along its longitudinal axis, there is a large pond and gardens on both sides of it. The underground spaces of the house are located on the south and west sides.

in the city of Yazd can be well traced in the Qajar period. Of course, it is necessary to explain, these changes have been holistically because of the proximity to provinces like Isfahan and the similar climate to it.

4.2. Architectural courses of historical houses of the Qajar period

According to the traditional architecture that corresponds to the periods of the previous kings of Iran, it continued until the middle period

of the Qajar rule. The most important model of these houses is the combination of a porch with two rooms on its two sides; this pattern has been spread in wider areas in two ways. 1- Expansion in width: in such a way that two corridors have been added to both sides of the porch. 2- Depth expansion: adding a row of space affected by the front row behind each of the rooms and behind the main porch, which is called Shahneshtin. But later, a newer period in the spatial formation of houses happened. This period starts from the

Table 7: Typology of selected houses of the Qajar period in Yazd city

Centrality	Geometry	Privacy	Connection with Nature	Introversion	Transparency	Plan	House Name
							Tehraniha
							Semsar
							Arab
							Alireza Arab
							Mashrooteh
							Meshkian

middle of the Qajar period or more specifically from the Nasri period. Although the first changes are very small and imperceptible and the legality of Iranian architectural patterns is applied to the building, at the end of the Qajar period, the flow of changes, in the form of a powerful wave, affected the important cities of Iran. The influx of new elements in Iranian architecture began in two different branches, which can be mentioned as follows: 1- Decorative elements and factors: it includes windows, fountains, types of Centauri, metal decorations, column heads, etc. 2- Spatial patterns: multi-story buildings are built, placement of the stair element, which

found a special value in the architecture of Yazd houses. Also, extroversion was created after the intellectual, cultural, and economic changes. The spaces and organs of historical houses in different geographical areas, according to the climatic and cultural conditions, native materials, and other influencing factors, have diversity; But in general, the main organs of historical houses in different regions of Iran are almost the same and have less variety. The spaces that were used in old Yazd houses as micro-spaces, with slight changes, are the same spaces that are used in the houses of other regions and in general in the traditional architecture of Iranian houses.

Table 8: The table of changes in social values of the three Qajar periods and its effects on the architecture of the house

The period	Social values	Values Indicators	Examples of values in architectural structure
The first period of Qajar	Separation of public, semi-public, and private space of the house	Privacy	Entrance separation in the house plan
	The importance of privacy in the house, creating a hierarchical atmosphere Spatial and activity integration of semi-public space according to the degree of mastery over function	Introversion Centrality	More spatial divisions according to the activity hierarchy The plan, according to the centrality of the indoor yard and gathering the main spaces around it
Middle of the Qajar period	Creating more connection with nature by considering the green space and a more distinctive water element for indoor and outdoor yards influenced by western architecture.	Connection with nature	Development of green space and central and four-part planting plan in the indoor and outdoor yard as well as linear and central fountains
The Second period of Qajar	Change of social structure under the influence of western elements	Geometry	Changing the structure of the main spaces of the house according to the geometry of the building
	Making changes to the house plan by considering more extroversion and creating a direct spatial relationship with the influence of western architecture	Transparency	Creating more lightness in the building, using straight corridors, porous materials, and more openings

Table 9: Scoring of the selected indicators of historical houses investigated based on the concept of social structure in the formation of Qajar houses in Yazd city.

House Name	Transparency score	Introversion score	Connection with nature score	Privacy score	Geometry score	Centrality score
Tehraniha	5	5	4	5	4	2
Semsar	3	2	3	3	2	4
Arab	2	3	4	3	4	4
Alireza Arab	3	3	4	3	3	3
Mashrooteh	4	2	3	3	3	3
Meshkian	4	3	5	4	5	5

Table 10: Ranking of historical houses examined based on the final indicators in selected houses of the Qajar period in Yazd city

House Name	The average score of the investigated set of indicators "Social structure in "the formation of the architecture of historical houses in Yazd city	Rank
Tehraniha	4/16	2
Semsar	2/83	6
Arab	3/33	3
Alireza Arab	3/16	4
Mashrooteh	3	5
Meshkian	4/33	1

However, according to the research approach, six houses of Tehraniha, Samsar, Arab, Alireza Arab, Mashrooteh, and Meshkian have been selected according to different periods of construction related to three different periods. (Tables 6 and 7).

Therefore, it can be concluded that the social values hidden over time changes from the early to the late Qajar period can have physical examples in the architectural structure, which these values have played a role in the course of change and transformation of Qajar architecture based on specific criteria. (Table 8)

5. Results and Conclusion

According to the output results from the analysis of the planning environment in the graphic software for each of the mentioned historical houses, the shape structure of each one can be explained by referring to the justification forms. It is necessary to explain, based on the evaluation of the indicators, the quantity and also the comparison with the total and also the distance from the optimal limit which is considered the maximum principle in the architectural system, which is given a score of 1 to 5 on the Likert spectrum. (Table 9)

Finally, according to the obtained results and the points obtained from the evaluation of the proposed indicators in the concept of social, architectural values of the selected houses, it can be stated that the transparency index of the Tehrani house has the highest score, which is the repetition and continuity of the house spaces. According to the audience's view, it is at a higher level, in the index of introversion, the highest score is related to the house of Tehraniha, which subsequently has more spaces in the transition from public to private spaces, which includes

4 public spaces (outside), semi-public spaces (Tanbi), Shahneshin, Ghooshwareh, etc.) Has a semi-private space (interior and adjacent rooms, kitchen, etc.) And a private space (Baharband, family members' room, Mahtabi, etc.). In the connection with nature index, Meshkian's house has the highest score, and in the privacy index, Tehrani's house has the highest score, and finally, in geometry and centrality indices, Meshkian's house has the highest score. Therefore, based on the obtained results, it is possible to present a specific ranking (without taking into account the weight of the indicators, which is considered unscaled and uniform in this research). (Table 10)

According to the results obtained from the process of investigating the concept of social values in the formation of the architecture of Qajar houses in Yazd city, based on the selected cases, the following can be stated as conclusions.

- The feature of transparency has been more considered according to the type of view of the spatial organization in the architecture of Qajar houses in its historical periods, which subsequently, due to the arrival of the eclectic style of the west, which started from the beginning of the Qajar period, in this period. There have been reforms that have a better level of localization than the next Qajar period. This matter is of great importance when a special look at the subject of extroversion in foreign architecture, especially the examples that Iranian advisers traveled to the West and their apparent impressions of their architecture, which are prominent examples in the use of Western architectural elements (centuries to example) also clearly shows this problem, for this reason, the social structure of the house has become more extroverted as a result of these types of changes.

- The stylistic characteristic has also reached its maximum state in the matter of rationing the mass of the space and creating the possibility of more porosity in the space, at the end of the Qajar period, in other words, when the space in the Qajar house is filling, the number of cases is usually more. It is important to note that in some examples, the course of movement has increased due to the introduction of the western look, and this has been imitated in the patterns of the western samples, especially the French patterns. This has reduced the level of privacy and introversion of the building, and at the same time has strengthened the elements of openness. However, this type of space circulation in the physical organization of the house has also produced a kind of micro-space that has somehow strengthened its confinement.

- About nature, in the examples, the degree of division of summer and winter spaces has a direct relationship with the economic feedback and financial power of the owner, so these two spaces are mainly the responsibility of the architecture to the climate, but the size of the area and the number of its spaces depends on the type of cultural and economic attitude of the person.

- According to the principle of geometry, the spatial organization in the architecture of Qajar houses in the second period had better conditions, which has a dominant effect on the social structure, it is necessary to explain that the spatial organization gives more choices for activities in space in a way, the central courtyard has a more colorful role in dividing the spaces as productive, which increases social interactions. This divisibility provides the possibility of using the space in different layers for its inhabitants, which is good support for the principle of nobility and privacy in its division.

As a result, social values can be seen in the form of ideas and concepts, not only as a direct factor, but also as a kind of stylistic look at the architecture of Qajar period houses in Yazd, and this is important along with the social relations and also the cultural and native characteristics of the city. It injects double importance into the type of architecture of the building. But in a larger context, the change in the habitation culture, the introduction of the western culture into the

concept of the house as a dwelling for the family, and in parallel with that, the economic possibility of the trustees of that period, who could build bigger buildings, shows that the principle of sociability only in It is inside the building and extroversion in this type of houses is more based on the daily flow of its period, and practically in its contemporary examples, this importance has been respected as an architectural culture by architects and foundations. As a result, principles such as privacy and introversion in its general view, as well as other qualities in its specific view, as an unwritten style in the architectural rules of the Qajar period, once had the best quality of garlic, which had an eclectic culture that had the color and smell of localization. . It should be mentioned that due to the limitation of selecting multiple samples to verify the results, in future researches, a larger number of selected samples can be included in the analysis and also the different Qajar periods with the Pahlavi period can be examined and the relationships We also checked between indicators.

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