



## A COMPARATIVE STUDY OF ENTRANCE IN TRADITIONAL AND CONTEMPORARY HOUSES OF IRAN

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### ABSTRACT

In contemporary houses in Iran, because of changes in the methods of designing and building houses, importance of entrance reduced to such level that now in contemporary houses entrance is just a door. Entrance correlates indoor safe space of house and outdoors. It's importance lays in controlling entry, exit, territory and hierarchy. Since house owners were satisfied with traditional form of entrance, it is a good idea to learn from them in designing new entrances. The purpose of this research is to find a way for designing appropriate entrances for Iranian contemporary houses. To do this at first 40 traditional houses and 40 contemporary houses in Isfahan and Kashan were selected. These two cities are from margin of desert and the origin of traditional houses of Iran. Analysis showed that blockage of visual and phonic relation, creating a space between outdoor public space and indoor private space, creating access patterns to internal spaces and traits that separate in and out were the most significant properties of traditional entrances. All these traits are ignored in contemporary entrances. Suggestions made for design include creating public meeting space in yard and creating a separate entrance space for each house in apartments.

### KEYWORDS:

entrance; access pattern; Iran's architecture

### INTRODUCTION

Iranian contemporary house issues are among the most important problems in Iran that had attracted attention of researchers, executive organizations and city managers in recent years. 'A great number of researchers admit that Iranian contemporary houses cannot meet Iranian family's needs. As a result Iranian families are significantly less satisfied with contemporary houses compared to traditional houses [1]. Defining public and private territories explicitly and creating space hierarchy can organize living environment. Consequently sense of belonging to the environment will increase and house spaces will gain identity [2]. The interior technically needs the exterior in order to exist, and vice versa: they define one another. The threshold, as Mark Kingwell has pointed out, is neither outside nor inside; rather, in setting the limit between them, it partakes of both [3]. This article tries to read relation of these territories and space hierarchy of entrance in Iranian traditional house and apply them to Iranian contemporary houses.

Entrance as a part of building has attracted attention of a lot of researchers. Among their researches if those concerning territory and threshold issues be excluded there are many of them about body

of entrance. These researches in addition to basic features and functions such as security [4], deal with more complicated issues like expressing identity and cultural differences [5]. For example ornaments of entrance can show function of the building to communicate with people [6][7], direction of entrance can be related to believe of owners [8], function of entrance can help the building to be more productive [9] and economy can alter the way in which entrance controls entry and exit[10] are some of conclusions that researchers have drawn.

Entrance in Dehkhoda Persian to Persian dictionary means everything that is related to entry and exit of individuals to a place [11]. It also defines entrance door as a door that let individuals to enter a place. Although this definition is simple, we can study entrance from different perspectives.

From physical aspect: In Iranian traditional architecture, entrance of a building is a set of spaces that allow people to enter or exit the building. It is consisted of pishkhan, sardar, dargah, hashti, dalan and additional spaces. Pishkhan that is a kind of forecourt, has two stone benches. If an individual needs to meet a resident of a building they could sit on them without coming in the building. Sardar is a part of portal's façade that is located above the entrance

door. It can be seen by passers and it may send some social messages to them. This façade usually is decorated and roofed by half of a dome. This dome can be built by various structural systems. Dargah that is the doorway, is located after pishkhan and sardar. Actually by passing dargah we are in the building, so it is some kind of threshold. Hashti is a space in entrance set that allow access to several vestibules to reach different regions of a building. Hashti always stands after dargah. It is between outer layers of entrance and inner ones. So it is a between space that separates public and private territories. In Persian culture, no one has the right to suddenly enter a house so this cultural feature is reflected in architectural practices. Walls in hashti have decorations and lamps. There are some stone benches in it too. In fact hashti is both a lodging space and a terminal that can lead people to different parts of the house. So hashti has a lot of doorways and each of them connects hashti to a part of building by dalan. Dalan is a kind of vestibule. Dalan usually is dark and narrow and always connects hashti to the inner courts of the house [12][13]. Additional spaces are set of rooms that are connected to entrance. Physically they are connected to other parts of building and have access from entrance part of building (Figure 2). Functionally, they are built to serve unfamiliar people that in Islamic culture are called Na-mahram. The figure 1 shows Iranian traditional entrance of an Iranian traditional house and traditional entrance in urban context.

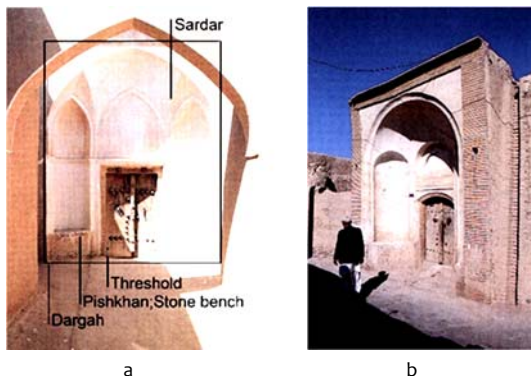


Figure 1.(a). Entrance of an Iranian traditional house. Source: Authors. (b). Traditional entrance in urban context. [14]

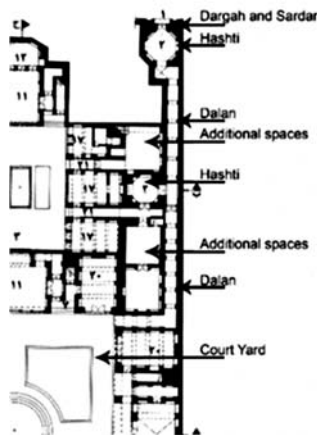


Figure 2. Parts of entrance in traditional house.[14]

Entrances in contemporary houses in Iran use different parts and hierarchy. Typically they have closed yards with walls and a gate that opens to it. House owners use decorations resemble traditional sardar over the gate (Figure 3). The next part is yard that is totally different from yard in traditional houses. A stair case in yard provides access to each residential unit. Other parts of traditional entrances such as pishkhan, hashti, dalan and dargah are all absent in contemporary houses (Figure 4).



Figure 3. Entrance of an Iranian contemporary house. Source: Authors



Figure 4. Contemporary entrance in urban context. Source: Authors

From conceptual aspect: Every enclosure needs a boundary to be defined. As Heidegger says, a boundary is not a line that something stops, it is a line that something starts its presence from it. Properties of a boundary are defined by its openings [15][16]. By the way western definitions of boundary and openings are totally different from what we face in traditional Iran. The traditional term “Bab” whether in architecture or literature, points to a transition in a specific space. This Fluid transition happens in all scales, and ornaments declare entering to a place or a specific place [17]. In Iranian traditional houses, entrance inspires entering to a specific sacred place that is the place of living. It also divides the private and public territories. But in contemporary house entrance is only a filter to select who can get in.

Entrance typology: Entrance in Iranian houses is an unheard topic. Only Sultan zadeh, in his book has divided entrances of Iranian houses to three types. These types are traditional, semi traditional and new [18]. His typology cannot be used here since his criteria for that typology was based on the influence of western cultures on entrance designing. Reading features from traditional entrances and applying them to contemporary ones is the purpose of this study. So here two types can be defined, traditional and

contemporary entrances. Traditional entrances are ones that are used in Iranian traditional houses in the desert or margin of desert. Contemporary ones are those that are common in Iran now in the same regions of desert. In this study only functions and parts of entrance are considered and other features like ornaments, structural systems and architectural form and scale are intentionally excluded.

In recent decades, researchers shown a great deal of interest in studying the basis of Iranian traditional architecture because there is a great need in identifying social and spatial concepts of traditional architecture [19].

The purpose of this article is to reach Fundamental concepts of designing entrances of houses in traditional architecture. Functional issues from Iranian traditional houses will be studied and a way to apply them to contemporary entrances will be proposed. In this research structures, ornaments, scales and cultural aspects of buildings are out of consideration since they won't have any influence on the purpose of this study.

## METHODS

Generally, every research starts with a question that is created in researcher's mind by studying various sources. Research methods are ways in which researcher can find answer for his or her question. In this research a comparable set of traditional and contemporary houses are chosen to be analyzed. Then the results for each set of houses are compared to each other to find important features of entrance that can produce desired condition. Finally these important features were proposed in contemporary houses by using a conceptual diagram.

All traditional and contemporary houses are chosen in the city of Isfahan and Kashan. These two cities are from margin of desert. Houses that were built in these two cities are the root of traditional houses in other cities of Iran.

In this case climate differences are out. Then forty houses in these cities were selected. This number is more than half of registered traditional houses so it would make meaningful results that are reliable. The same number of contemporary houses were selected from archives of architectural design firms.

The criteria in choosing traditional samples was: First, availability of clear evidences of the physical remains of the house, because some houses were almost ruined. Second, choosing at least some samples of each size range, Since Iranian traditional houses have great diversity in size. Third, originality of the house, because some traditional houses were changed during their life span. And for contemporary houses, samples were selected randomly.

To find fundamental concepts of designing entrances similarities and common features were emphasized instead of differences. To do this all different kinds of entrance were examined and shared features were discovered. Major differences in

entrances are a result of size. Traditional houses have different sizes that can range from 300 square meters to 4000 square meters. Obviously small entrances have difficulty to provide some features. So here fundamental features are features that are common in all kinds of entrances.

Information that was considered in analyzing samples are types, relation of entrance with other parts of house, parts of entrance and finally general features. By analyzing these informations it can be inferred that what was important in designing entrance and what feature is not considered in contemporary entrances. Then, it was investigated that what part of entrance is responsible for discovered important features. This step can help to easily transfer features to contemporary entrances.

At last to transfer these results to contemporary entrances spatial diagrams were used because it can keep out unnecessary information. According to analysis some diagrams for traditional and contemporary entrances were created.

By comparing diagrams equivalent spaces of these two types were recognized and some recommendations were made to apply to contemporary houses. These recommendations could produce desired features of traditional houses in contemporary ones.

## DISCUSSION

### RESULTS

Results of analyzing samples are shown in table 1 for traditional samples and table 2 for contemporary samples. Each of these two tables have four sections including type, relation, part and general. Each of these sections will be explained in the following. Table 3 shows the frequency of simple and complicated entrances from the sample.

### TPOLOGY

In this research entrances are divided into simple and complex. The purpose of this classification is to find what the most important features are. It is believed that when designer have the opportunity to design a complex entrance he or she may use some unnecessary and unimportant features but when a designer is in a limited situation he or she will consider only the most important features. Comparing these two types may show how important a feature is. So this typology may reveal some hidden aspects of entrance.

There are four features that having any one of them makes a sample simple (Figure 6) and other samples that do not have these features are complex (Figure 5).

These features are: Spatial relation between public and private spaces without a between space.; Absence of additional spaces.; Having low area. As an indication, length of entrance can be measured so entrances that are less than 10 meters long have low area.; Not fully blocking the visual relation of public and private spaces from each other.

Table 1. Analysis results table for traditional houses. S stands for simple and C stands for complicated.

Traditional Samples	Type Part		Relation		General		
	Typology	Dargah Hashhi Dalan	Yard	Upper floor	Main rooms Basement	Distance to yard (m)	Blockings Turns
Abbasian House	C	√ 2 2	√	√	√	30	Yes 4
Al Yasiin House	C	√ 2	√	√	√	30	Yes 2
Alagheband House	C	√	√	√	√	7	Yes 2
Alagheband House'	S	√	√	√	√	8	No 0
Angurestan Malek	S	√	√	√	√	4	No 0
Angurestan Malek'	S	√	√	√	√	6	No 0
Vasigh Ansari House	C	√	√	√	√	20	No 4
Attarha House	S	√	√	√	√	10	No 0
Bakuchi House	C	√	√	√	√	20	Yes 4
BaniKazem House	C	2 2 2	√	√	√	25	No 3
BaniKazem House'	C	√	√	√	√	N/A	Yes 3
Borujerdiha House	C	√	√	√	√	30	Yes 3
Charmi House	C	√	√	√	√	40	Yes 2
Dahashti House	S	√	√	√	√	6	Yes 0
Dastmalchi house	S	√	√	√	√	5	Yes 2
David House	C	√	√	√	√	50	Yes 2
Dr.Alam House	C	√	√	√	√	40	No 3
Esfehani ha House	S	√	√	√	√	17	No 0
Ghazvini ha House	C	√	√	√	√	65	Yes 3
Ghodsie House	C	√	√	√	√	35	Yes 3
Harandi House	S	√	√	√	√	7	No 2
JahanAraii House	C	√	√	√	√	12	Yes 1
Kahkeshan House	C	√	√	√	√	20	Yes 2
Karimi House	C	√	√	√	√	35	Yes 0
Kheyrie House	C	√	√	√	√	13	Yes 3
Labaf House	C	√	√	√	√	16	Yes 3
Mansuralmaleki House	C	√	√	√	√	20	Yes 3
Mortazavi House	C	√	√	√	√	7	Yes 2
Rasuli ha House	C	√	√	√	√	10	No 1
Sajadi House	C	√	√	√	√	12	Yes 3
Saleh House	C	√	√	√	√	N/A	Yes 3
Sartippi House	S	√	√	√	√	15	Yes 0
Sharif House	C	2 3 2	√	√	√	40	No 3
Sharifian House	C	√	√	√	√	30	Yes 2
Sheykhoh Islam House	S	√	√	√	√	10	No 1
Sukyasian House	C	√	√	√	√	12	Yes 2
Taba Tabai House	C	√	√	√	√	30	Yes 2
Tahami House	C	√	√	√	√	10	Yes 1
Yadolahi House	S	√	√	√	√	10	No 1
Zuvalian House	C	√	√	√	√	13	Yes 2
<b>Average</b>						<b>18.5</b>	<b>67.5% 1.9</b>

Source: Authors

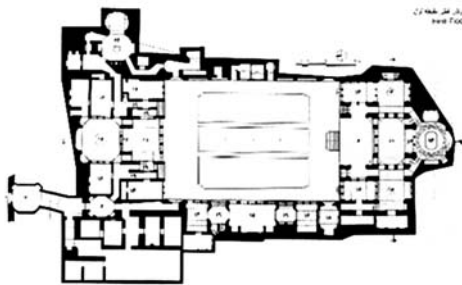


Figure 5. Ground floor of Sharifian house.

This entrance is complicated because it has no feature of simple entrances.[14]

Table 2. Analysis results table for contemporary houses. S stands for simple and C stands for complicated.

Contemporary Samples	Type Part		Relation		General		
	Typology	Dargah Hashhi Dalan	Yard	Upper floor	Main rooms Basement	Distance to yard (m)	Blockings Turns
Apartment No 01	S	√	√	√	√	7	Yes 2
Apartment No 02	S	√	√	√	√	15	Yes 3
Apartment No 03	C	√	√	√	√	10	Yes 2
Apartment No 04	C	√	√	√	√	25	Yes 2
Apartment No 05	S	√	√	√	√	19	Yes 2
Apartment No 06	S	√	√	√	√	12	Yes 2
Apartment No 07	C	√	√	√	√	22	Yes 4
Apartment No 08	S	√	√	√	√	27	Yes 3
Apartment No 09	S	√	√	√	√	10	Yes 4
Apartment No 10	S	√	√	√	√	11	Yes 2
Apartment No 11	S	√	√	√	√	9	Yes 5
Apartment No 12	S	√	√	√	√	14	Yes 3
Apartment No 13	S	√	√	√	√	17	Yes 3
Apartment No 14	S	√	√	√	√	6	Yes 4
Apartment No 15	S	√	√	√	√	20	Yes 2
Apartment No 16	C	√	√	√	√	13	Yes 3
Apartment No 17	S	√	√	√	√	17	Yes 3
Apartment No 18	S	√	√	√	√	14	Yes 2
Apartment No 19	S	√	√	√	√	25	Yes 3
Apartment No 20	S	√	√	√	√	35	Yes 3
Apartment No 21	S	√	√	√	√	27	Yes 4
Apartment No 22	C	√	√	√	√	14	Yes 2
Apartment No 23	C	√	√	√	√	28	Yes 3
Apartment No 24	S	√	√	√	√	9	Yes 1
Apartment No 25	S	√	√	√	√	16	Yes 2
Apartment No 26	S	√	√	√	√	12	Yes 3
Apartment No 27	S	√	√	√	√	25	Yes 2
Apartment No 28	S	√	√	√	√	13	Yes 4
Apartment No 29	S	√	√	√	√	12	Yes 3
Apartment No 30	C	√	√	√	√	18	Yes 2
Apartment No 31	S	√	√	√	√	23	Yes 3
Apartment No 32	S	√	√	√	√	15	Yes 2
Apartment No 33	S	√	√	√	√	9	Yes 3
Apartment No 34	S	√	√	√	√	18	Yes 4
Apartment No 35	S	√	√	√	√	12	Yes 1
Apartment No 36	S	√	√	√	√	13	Yes 3
Apartment No 37	S	√	√	√	√	29	Yes 2
Apartment No 38	S	√	√	√	√	34	Yes 4
Apartment No 39	S	√	√	√	√	12	Yes 3
Apartment No 40	S	√	√	√	√	16	Yes 2
<b>Average</b>						<b>17</b>	<b>100% 2.8</b>

Source: Authors

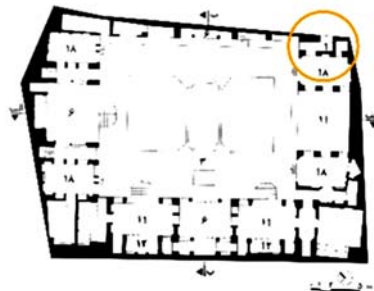


Figure 6. Ground floor of Dastmalchi house. Entrance part of the house is in the circle.

This entrance is simple because it does not have additional spaces and it's area is a low percent of the house.[14]

**Table 3. The frequency of simple and complicated entrances**

Typology of samples in	traditional	contemporary
Simple	27.5%	80%
Complicated	72.5%	20%

Source: Authors

#### ENTRANCE PARTS

In analyzing samples, first it was indicated that what parts they have. These parts are dargah, hashti, dalan and additional spaces. According to the table 4, high frequency of having each of these parts will show that it is important for people.

**Table 4. Frequency of having various parts in contemporary and traditional houses.**

Entrance Parts	Total	In Simples	in Complexes	
Traditional	Dargah	78%	36.4%	82.75%
	Hashti	90%	36.4%	93%
	Dalan	73%	63.6%	96.5%
	Additional spaces	73%	54.5%	79.3%
Contemporary	Dargah	52.5%	43.75%	87.5%
	Hashti	7.5%	3%	25%
	Dalan	12.5%	9.37%	25%
	Additional spaces	0%	0%	0%

Source: Authors

#### RELATIONS

In analyzing relations because there are lots of ways of relation, for example stairs, doors, and vestibules and also there is no benefit in mentioning types of relations they were ignored. Information about relationship between entrance and other parts helps to understand the role of entrance in the house (Table 5). For example an entrance that is highly related to other parts of the house is likely to be a part of circulation system of the house. In this example, entrance in addition to controlling entry and exit, can facilitate access of separate spaces in the house. Such entrance uses its spaces more effectively and can be considered as an evolution in designing entrances.

**Table 5. Frequency of relation of entrance to other parts in contemporary and traditional houses.**

Relations With	Total	In simples	in Complexes	
Traditional	Main rooms	15%	0%	21%
	Basement	13%	0%	17.25%
	Roof	28%	0%	38%
	Yard	90%	100%	86%
Contemporary	Main rooms	100%	100%	100%
	Basement	25%	18.75%	50%
	Roof	100%	100%	100%
	Yard	95%	94%	100%

Source: Authors

#### GENERAL QUALITIES

Although general qualities that are listed in this section will not provide comprehensive information, but they can be used to have a better understanding of their situation. For example an entrance that is 60 meters long is not a good one, this information can show how deep an entrance can penetrate in the building. This sections first shows the distance between the threshold and inner court yard as an indication of size (Table 6). Second shows if the spatial relation of in and out is blocked. And finally shows the number of turns that have to be passed to reach the court yard as an indication of separation between public and private zones.

**Table 6. Frequency of possessing general features in contemporary and traditional houses.**

Distance ranges	Total	in simples	in complexes	
Traditional	Bellow 10 meters	25%	55%	14%
	10 to 20 meters	35%	45%	31%
	More than 20 meters	40%	0%	55%
Contemporary	Bellow 10 meters	12.5%	15.7%	0%
	10 to 20 meters	60%	59.4%	62.5%
	More than 20 meters	27.5%	24.9%	37.5%

Source: Authors

#### ANALYZING RESULTS

To discover important features that have to be considered in designing entrances, various types of entrances were examined. Obviously each entrance with different situations have quite different problems to face with. For example a simple and small entrance have to deal with lack of spaces and budgets and a big and complicated one have to find a way in showing social status. By the way shared feature between these entrances are those that are important.

The first feature is blocking visual and phonic relation between public and private spaces. In all traditional entrances this relation is blocked by placing numerous spaces in entrance set. The high percentage of having various parts is an indication of blocking visual and phonic relations. The other way to block these relations is connection of entrance to yard. As we can see simple entrances are only connected to yard. In this case even if there was no possibility to block relations, yard was a vast area to do it. Complicated entrances had enough flexibility to make a direct connection to spaces of living with no visual and phonic relation. In addition, general features show that designers used a combination of turns and scale to block relations.

There is major changes in social structure of houses from traditional to contemporary. In traditional houses all the spaces of entrance is used by members of one family. But in contemporary houses, entrance is used by members of different families that are not familiar with each other so the relations have to be

blocked between indoors and stair case of the house. Contemporary entrances do not use various parts. The only part that is common is dargah. Architects use it in memory of traditional entrances. In contemporary entrances, dargah can show social status and level of wealth. This part is not effective in blocking relations. Also in entrance of contemporary houses, the last space of entrance is directly connected to family spaces of the house. It can make the act of blocking more difficult. Finally in general feature, although the visual and phonic relation of houses and public outdoor spaces is blocked but this relation between houses and their unfamiliar neighbors is not blocked (Figure 7).



Figure 7. Ground floor of Angurestan malek. This building has two entrances with different features. The entrance that opens to garden cannot block the visual relation. But entrance that is next to the building uses some turnings to do this.[20]

The second feature is between spaces. In traditional entrances as it is shown in results, there are no two spaces with different privacy status connected to each other without a between space. Between spaces have transitional features. For example, pishkhan, sardar and dargah are transitional between spaces that are located between outdoor public space and hashti that is a space for pause. After hashti dalan exists that is for transition. After that again yard is for pause. After yard there is anteroom for transition that is followed by rooms for pause. This pattern of transition and pause is repeated everywhere in traditional architecture.

Contemporary samples do not follow pause and transition pattern. Dargah in these samples do not have any fore court and yard is not a pause space anymore since it is a parking lot. And finally staircase is a transition space. So entrance in contemporary houses simply is a pathway (Figure 8).

Also spaces like yard, staircase, roof and basement are joint and anyone in apartment can use them but actually no one use them. These spaces can be more productive if we can design pause spaces in them. For example a bench on the roof or some kind of rooms in yards.

Another feature is serving as a part of circulation system in house. In traditional houses, yard is a vast open space that is connected to all other spaces of house. It is a key part of house and when an entrance leads to yard all other spaces are accessible. These entrances can be useful in accessing spaces that are far from yard. Some of these complicated houses

have entrances that are responsible for connecting various parts of the house. This feature can save a lot of spaces that can be merely for connections in the house.



Figure 8. Parts of ground floor of Bakuchi house. In this plan, entrance is shown and a path indicates the movement flow in it. It shows how patterns of transition and pause work in entrances. [14]

Contemporary houses have entrances that are only used for entering the house. These houses have other spaces used only to connect separate spaces of the house (Figure 9). For example all samples are connected to main rooms. Main room cannot be a terminal to make other spaces accessible. So other sets of spaces is needed to do this.

This feature in contemporary houses is missed because architectural laws in Iran do not support compositions that are appropriate to design such entrances. If laws gave the necessary flexibility to designers they could do something to use this feature to save spaces in the house. But using it in existing situation is not easy and may result to un-normal spaces.

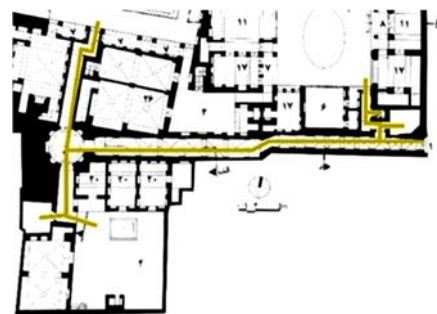


Figure 9. Parts of ground floor of Ghazvini house. In this sample understanding how entrance works is a key concept in understanding how the building plan is organized. A line shows the path of entrance. This entrance is a part of circulation system of the house. Source: Authors.

In this research for building an appropriate context to compare traditional and contemporary entrances spatial diagrams are used. It is necessary to know which spaces should be included in diagram. Entrance set, as it is defined in this research, starts from sardar that is the boundary between public and semi-private space and ends to court yard that is boundary between private and semi-private spaces. This is true only for traditional houses. In contemporary entrances, yard is not considered as a part of living space. The function of court yard had change during recent decades[21]. Yard in traditional

houses is a blank space surrounded by filled space but in contemporary houses yard is on one side of the site and building mass is on the other side[22]. Now court yard is a place that is used by several families. Boundary between private and semi-private spaces in contemporary houses is a door that separates each residential unit from staircase. So considering spaces between sardar and the mentioned door in contemporary houses is needed and it is analogous to entrance set in traditional houses.

Traditional entrances: Spatial diagrams for each of these forty houses were drawn. Then among them two diagram that had the most common pattern were selected. One for simple houses (Figure 10) and one for complex houses (Figure 11). In this part of research some new patterns were discovered. First, some houses had shared their hashti with neighbors. For example, two adjacent houses used one hashti and sardar. Second, there were several kinds of dalan. That mean the dalan that goes to court yard has features different from dalan that goes to additional houses. The former is dark, narrow and winding, the lateral is wider, shorter and straight. Third, the hierarchy of spaces in entrance is different from hierarchy between court yard and rooms. For example, hierarchy in entrance is emphasized by wideness and tightness, but in relation between court yard and rooms it is emphasized by closeness and openness.

Two kind of diagrams is drawn, and beside their difference some features are shared. For example, two separate spaces never connect to each other without a between space. Connection between court yard and rooms in some cases only has an anteroom in other cases has a portico and anteroom.

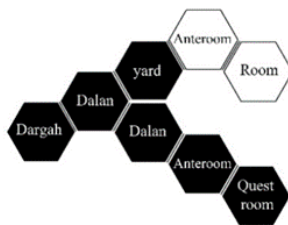


Figure 10. Spatial diagram of a simple entrance. It starts from left. This entrance has two routes, one to yard and main rooms, the other to quest room. Source: Authors.

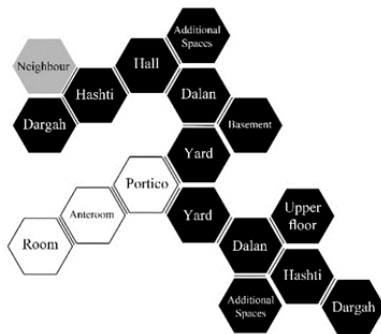


Figure 11. Spatial diagram of a complicated entrance. It has two dargah. This entrance plays a big role in the circulation of the house a wide range of other parts of the house are accessible from dalans. Source: Authors.

Contemporary houses: Forty samples of contemporary houses were selected from designed houses of four firms in Kashan and Isfahan. These firms had great experience in designing houses with various scales. These firms did not gave the right to publish their plans and other drawings except the one in figure 13. Spatial diagrams were drawn for a great number of them but they were all the same. As a result, one of them was selected. Figure 12 is showing order of spaces between the boundary of public space and semi-private space to the boundary of semi-private space and private space.

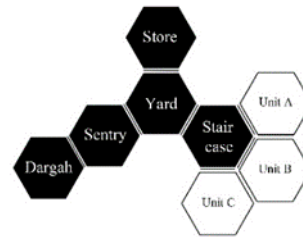


Figure 12. Spatial diagram of an Iranian contemporary house that its plan is provided. Source: Authors.

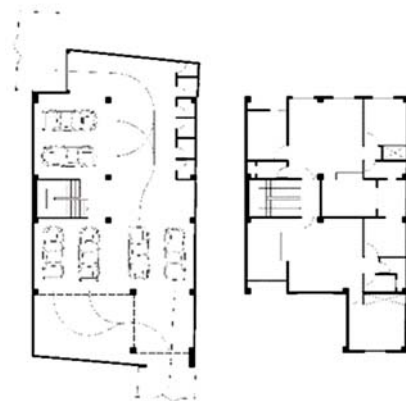


Figure 13. Ground floor and first floor plan of apartment number 40. Other floors are like the first floor. Reproduced by Authors.

#### MATCHING PATTERNS IN DIAGRAM

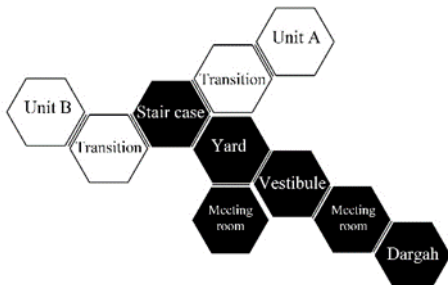
The main similarity between diagrams is that they are started from street and ended to rooms. Both of them have hierarchies but in different ways. In contemporary entrances, various spaces are like levels that have to be passed to reach the private spaces. In traditional houses, each step in the diagram is both a passing way and a destination of some people. For example, based on the relationship between house owner and quests, some of them can only penetrate to sardar that is still out of house, some quests can go deeper up to hashti, and some of them are leaded to additional spaces. At last the most familiar quests can come to private space of the house. As it can be concluded all these quests in contemporary houses have to go deep in private spaces.

Additionally in contemporary houses, court yard and stair case are not separated. So court yard cannot provide traditional functions as the main space of living. As a result in Iranian culture it is a wasted

dead space. Another part, sardar, while looks like the same in both patterns have different functions. Sardar, in traditional houses has functions as a meeting, chatting and greeting space, but in contemporary houses it is only a façade.

According to the analysis, diagram below (Figure 14) is proposed for entrances. In this diagram three spaces is added to contemporary entrances. First one is semi private meeting space, which is equivalent to hashti. It can provide a good space for meeting friends or neighbors. While this space is located in semi-private space, it can reduce the usage of private spaces to lodge quests. There are two such spaces in diagram. One of them is connected to dargah and is appropriate for short chats. Other one is located in the yard and helps it to be useful. It can make an identity for yard. Second one is a transition space before entering the residential units. This space besides blocking visual relations can provide a space for short chats between neighbors or unfamiliar quests. Also it can be larger to house some quests. Some qualities like being open can improve this space.

These proposed spaces in diagram can help contemporary houses to achieve missed features that were stated in discussion. By providing these three spaces the pattern of transition and pause will be created. The transition space before entering the main rooms of the house can block the visual and phonic relation of neighbors. This space can be used to give access to other parts of the house and save some space.



**Figure 14. Proposed spatial diagram for entrance. This diagram has some additional spaces to maintain the necessary hierarchy that for Iranian culture. This diagram can provide three discussed features of the research in contemporary houses that are 1.blocking the visual and phonic relation of private and public spaces 2.providing pause and transition pattern that can reduce the pressure to private spaces and 3.using spaces of entrance for more than one purpose. Source: Authors.**

## CONCLUSION

Results of this research provides a new approach to communal spaces in the most common form of residential buildings in Iran. We can use shared spaces of apartments to create hierarchy and usable spaces to benefit house owners. Entrance is not a pathway that starts from street and ends to living room. It has the potential to have other responsibilities in circulation of the house. Entrance is a key part of house that can divide different territories. Entrance can

be a waiting space, a destination and a pathway, it can be used as a space that people can spend their time in it.

Proposed solution of this research is adding three extra spaces in communal part of the house that will not increase its cost. This solution can lower the number of people that are needed to be lodged in the private space of the house. These three proposed spaces can make a hierarchy in entrance set, like the hierarchy that was used in traditional houses. This achievement can lower the pressure on residential units to a great degree. Also by using creative ideas to form these spaces, some extra features like effects on the way of entering and creating senses in transition spaces can be reached. The transition space can be designed open, semi open, closed or changeable. It can help architects to use fundamental concepts that were common in traditional houses easily.

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