

Persian translation of this paper entitled:

الگوهای کالبدی همسایگی در بافت تاریخی یزد
شاخصه‌ها، ابزارهای معمارانه و اصول معماری همسایگی
is also published in this issue of journal.

Spatial Patterns of Neighborhoods in the Historic City of Yazd Determinants, Architectural Solutions and Principles of Neighborhood Architecture*

Mohsen Abbasi Harofte**¹, Ali Sadeghian²

1. Assistant professor, Faculty of Art and Architecture, Yazd University, Yazd, Iran.

2. M.A. in Architecture, Faculty of Art and Architecture, Yazd University, Yazd, Iran.

Received: 20/06/2018 ; revised: 21/01/2019 ; accepted: 22/05/2019 ; available online: 21/01/2020

Abstract

Problem statement: The communities in the historical cities of Iran commonly benefited from having neighborhoods and neighborly interactions which has faded away from the modern urban life and has caused serious social hazards. This paper is concerned with how the spatial arrangement of neighborhood complexes in historical cities, in contrast to modern cities, provided a basis for establishing close relations among neighbors.

Research objectives: This article aims to define the neighborhood zones and analyze them in order to categorize the neighborhood spatial patterns as well as to clarify their architectural determinants and principles, and hence prevail this social behavior in the historic district of Yazd.

Research method: To reach this objective, the Grounded Theory methodology is used. After identification and field investigation of various neighborhood zones in Yazd historic district, they were interpreted and analyzed through a theoretical sampling procedure. Most of the analytical approach was adopted through taking frequent photographs, drawing spatial diagrams and schematic plans, making graphic and written notes and then using sequential coding.

Conclusion: The research results showed that with architectural solutions such as changing materials used for floors and walls (baseboards), covering spaces by putting roofs over them, creating split-level floors, opening up a possibility to sit temporarily, differing proportions, ornamenting and changing light and shadow, the three basic neighborhood patterns including entrance-, darband- and sabat-axis patterns have been formed in the semi-public spaces of this historic district. Such patterns with applying two principles of “physical proximity” and “spatial attributes” together with architectural determinants such as human-conformity, climatic comfort, privacy, territory and functional comfort and security in passageways by increasing public presence had a chief influence on establishing neighborly relations.

Keywords: *Neighborhood, Neighborhood Spatial Patterns, Neighborhood Architecture, Yazd Historic City.*

* This paper is based on Ali Sadeghian's master thesis entitled *Design of neighborhood complex in Yazd historic fabric approaching neighborhood relationship enhancement*, under the supervision of Dr.

Mohsen Abbasi Harofteh, at Faculty of Art and Architecture of Yazd University.

**Corresponding author: 09133513052, Abbasi@yazd.ac.ir

Introduction

Neighborly relations, as subsets of community relations, are established among two or more next-door families. Regarding the neighborhood spatial patterns in historic city of Yazd, this paper makes an attempt to define the spatial patterns of neighborhoods in Yazd historic district; in other words, the places where the relations among neighbors, regardless of the interior of houses, develop.

In our ancestors' life, neighborhood was of considerable importance and was affected by their needs, culture and social values. Personal involvement in doing tasks, handling a crisis, doing charity works and lending their daily expenditure as well as daily greetings, conversations, night-time gatherings and children's games were integral parts of their everyday life. Since the vital prerequisite for human behaviors is setting an appropriate framework for that, neighborhoods in Yazd historic district were designed to develop neighborly relations while benefitting from special architectural solutions. Moreover, a proper interaction was established between these relations and solutions. In this case, the social norms and spatial patterns had a combined effect on cultivating neighborly relations and also a reciprocal relationship. However, it should be stated that this matter is not just about the historic district of Yazd and its neighborhoods but about the adaptability of spatial arrangement with various levels of social needs and physical determinants of the neighborhoods in Islamic cities. [In these cities] the formation of public and semi-public zones was tailored to each level of social needs in the way that there were related spatial layers and facilities in the district (Anjomani, 2012)

Considering that neighborhood as a positive social element has weakened in the Iranian contemporary society (Serre-Ali & Purdeyheymi, 2016, 19); therefore, social interactions, consensus of opinions, participation and security have declined, leading to negative social consequences.

Architecture seems to play a strategic role in rehabilitation of neighborly relations and provide a favorable condition for bringing back the modern equivalent of them. Therefore, with prospect of discovering the spatial factors in order to redefine the modern neighborhood patterns in contemporary architecture and urbanization, this research tries to study the traditional neighborhoods, examine the determinants of neighborhood architecture and provide the solutions for achieving them. As a result, contemporary architecture and urbanization can make a contribution to the revival of this distinguished social tradition. Accordingly, the main questions of this research are as follows:

1. Which one of the three zones of Yazd historic district can be a factor for the realization of neighborhood architecture?
2. What are the spatial patterns of neighborhood architecture in the historic district of Yazd?
3. What are the architectural solutions to neighborhood architecture in the historic district of Yazd?
4. What are the determinants of neighborhood architecture and its principles in Yazd historic district?

Methodology

This research which is aimed to examine the architectural features of neighborhood architecture in the historic city of Yazd is a fundamental study conducted through Grounded Theory method. As regards the various types of neighborhood in this district, this study benefited from a theoretical sampling procedure. The search for the samples continued until the stage of theoretical saturation and deriving repetitive data, some of which will be described in the following. This means that apart from the collection of limited documentaries, the majority of data were gathered through field investigation by purposeful observation of prototypes in Yazd historic district (the firsthand material sources) and the places where the neighborly relations develop Afterwards, while the

similarities and differences of them were tried to discover systematically, the distinct types of this architecture were detected, studied and analyzed by means of Grounded Theory paradigm. In the end, the similarities were sorted, and the architectural solutions for creating each type were identified and introduced. Most of the analytical process was carried out with taking frequent photographs, drawing spatial diagrams and schematic plans, making graphic and written notes and then coding them. Based on the coding method, the large quantities of primary codes were categorized as axial codes and then selective codes (research results) in a reduced process.

Literature review and theoretical framework

• Neighborhood

In Dekhoda's Loqat-name "Neighborhood" means being neighbor, in close proximity and in the vicinity; Moreover, "neighbor" stands for two next-door families (Loqat-name, 1998, 28; Oxford Dictionaries, 2019; Farahidi, 2004).

Weber (1922) states that neighborhood is a social interaction based on mutual assistance in times of crisis and emergency. In "The Urban Neighborhood: A Sociological Perspective", Keller indicates that a neighborhood is a geographical location in which neighbors live and neighborly activities take place. This area might be a specific district with well-defined boundaries whose people adopt traditional and time-honored manners (Seddiq Sarvestani & Nimruzi, 2010). Were the house and society considered to be the indoor and outdoor spaces respectively, neighborhood would be a transitional space. Indeed, this continuation between the inner and outer environment can play a crucial role in impressibility and influence of an individual and society (Wallace, 1939).

In traditional cities of Iran, neighborly relations occurred inside neighborhood area and after the kinship (inside a house) (Shakuyi, 1986, 48). Neighborhood in Iranian historical cities is a

specific area of a city, considered to be the major determinant of forming cities and one of the key elements of urban spatial divisions (Bastani Rad, 2012, 22). A segment of society with commonality and close relations reside in these areas (Shakuyi, 1986, 50; Pakzad, 1990, 18). In traditional cities of Iran, neighborhoods are specific identity units that have meaningful similarities and differences although the identical features are considered to be more important than differences. A brief survey on historical texts such as Ketab-Al-Boldan (Ya'qubi) in 3rd century AH, Ahsan-Al-Tghasim (Al-Maqdisi) in 4th century AH, Masalek va Mamalek (Istakhri) in 4th century AH and other sources having pointed to urban structure implies that Iranian urban structure was founded on different scales of a city, neighborhoods and neighborhood units. On all three scales of a city, it came down to social solidarity. Homogeneous residents and their blood, race and trade ties were the chief attributes on all bigger residential scales than household scale of a traditional city, including its neighborhood units (Pakzad, 1990, 18).

What is obvious about the word neighbor, observation of neighborhood zones and the review of documentary sources is that the physical proximity of houses is a prerequisite for building a neighborhood. Adjacency is a key element in neighborhood units of Iranian traditional cities although in modern cities, Keller (1968, 23) states that "neighbors may be worlds apart, even though they live next door". As a result, however, physical proximity is a critical factor in establishing social relations (Festinger, 1951), in the past, neighbors apart from physical nearness, enjoyed social solidarity and close relations, which were the results of a heterogeneous society and common attributes among neighbors (Rapoport, 1980). Neighbors, for example, gathered together based on being compatriot as in Arab-ha' darband, engaging in common activities as in Araqpaz-ha Passage and being relative such as in Ali Agha Shirazi darband, all of which exist in Yazd

(Purja'far & Pourjafar, 2012, 17). Accordingly, the concept of being neighbor conveys a broader message than physical proximity and can be interpreted as "friendly proximity" (Serre-Ali & Purdeyheymi, 2016, 19). Therefore, in traditional cities, neighborhood zones were the places that neighborly interactions took place. After the family interactions, they were the strongest, closest and the most dynamic social relations that were also harmonious and constant. These relations among two or more households developed as cooperative activities in a communal place. Such relations included every interaction from everyday greetings and face-to-face conversations to celebrations, night-time gatherings, mutual exchanges and daily interactions among next-door neighbors.

Indeed, neighborship is a small but close-knit community that forms the nucleus of quarters. The cornerstone of Iranian historical cities in creation of their spatial and social structures was based on these neighborly relations (Falamaki, 1995, 131; Pakzad, 1990, 18) which consisted of two pillars "physical proximity" and "social solidarity".

• Neighborhood architecture

As per the importance of neighborly relations, the place it occurs which is neighborhood architecture is also of central importance. Primarily, architecture is where the human meaningful relationships flourish, and neighborhood architecture is a response to fulfil these relations as part of human needs. Therefore, in addition to social issues (friendship, relations and social exchanges), neighborship is a social-spatial matter (David & Herbert, 1993; Chaskin, 1997, 523). The spatial dimension needs a specific architecture and is supposed to bring into a particular physical existence (Campbell, Henly & Elliott, 2009, 463), which is the focus of attention in this article, its determinants and principles. Basically, it is possible to introduce two concepts of neighborhood and neighborhood architecture. In *Gemeinschaft*, neighbors had not only physical proximity but also kinship, race ties, memories and cooperative

activities. In such traditional neighborhoods was a friendly and close relationship among different households and a largely social homogeneity, which was on a small but strong scale. On the contrary, in *Gesellschaft*, neighborhoods forms based on logistical and contractual obligations with specific ends in view yet without any social or family background. Therefore, in modern neighborhoods, the social relations cannot be realized in their true sense (Abrams & Martin, 1986; Azodanlu, 2007, 530; Sarokhani, 1991, 746).

Regarding the dimensions of the new concept of neighborhood architecture, several studies have been done, and certain individuals such as Clarence Perry, Andres Duany, Elizabeth Plater-Zyberk and Richard Rogers have introduced models. The theory of "neighborhood unit" in the early 20th century is the most notable one in this field, relating to which several theoretical and empirical studies have been done (See: Perry, 1929). This theory also influenced Iranian urban planning. Despite these borrowed theories, few studies have been conducted on traditional forms of urban planning in different countries. Although the modern semantic meaning of neighborhood architecture and its traditional concept in historic cities have some features in common, the differences between these modern and traditional meanings arise from the modern lifestyle and the arrival of automobiles in urban life (Seqat al-Eslam & Aminzade, 2013, 33; Wellman & Barry, 1979)

With reviewing conducted studies on neighborhood architecture in historical cities of Iran, it is noticed that aside from neighborhood, the matter of neighborhood units also came into notice. Several research has been carried out on the importance and role of traditional neighborhoods in Iran which the prominent ones belong to Habibi (2003), Tavassoli (1997), Soltanzade (1988) and Falamaki (1987). In spite of the possibility that dimensions of neighborhood units can be understood considering neighborhood literature, there is no implication of Iranian neighborhood units. In studies by Movaqar,

Ranjbar & Purja'far (2015) and Pakzad (1990), "neighborhood in historical cities" was considered to be equivalent to "neighborhood units in western culture". However, Seqat al-Eslam and Aminzade (2013) found these two concept substantially different by analogy. Purja'far and Purja'far (2012), in a study on the history of neighborhood and neighborhood units of Iranian countries in Islamic era, gave Islamic instructions as a reason for importance of neighborhood in Islamic cities. It seems that the comparative discussion on traditional and modern concept of neighborhood has only been brought up by Serre-Ali and Purdeyheymi (2016) in the article "neighborhood and being neighbor". Following the conducted studies, this present research intends to create content for neighborhood architecture in Iranian historical cities based on a field investigation of Yazd historic district, as a quantitatively and qualitatively rich statistical community.

Neighborhood architecture in the historic district of Yazd

In our historical cities, spatial hierarchy continued on all scales of a city from its structure to its architectural constructions (Tabibiyan, Charbgu & Abdollahimehr, 2011, 1). These hierarchical organizations connected the most public places in a city to the most private spaces. Yazd historic district also benefits from this hierarchical system, and neighborhood zones are one of the major levels of an urban hierarchy, ranging between public relations on a social scale and personal ones on a residential scale (Fig. 1). In general, it can be claimed that the creation of a neighborhood zone in historical cities, specifically Yazd historic district, was successfully accomplished in terms of hierarchy.

In Yazd historic city, there is a coherent synthesis of neighborhoods consisted of neighborhood units with houses and public land uses. These zone boundaries were created based on family, trade, race and religious ties under a defined set of rules



Fig. 1. Hierarchy of social zones in historic cities of Yazd. Source: authors.

(Pirniya, 2005, 3; Bastani Rad, 2012, 9-10) (Fig. 2). In Yazd, neighborhoods have made it possible to develop physical existence appearing as a social institution. This means that a neighborhood creates a particular spatial pattern (Fig. 3) with a defined architecture which helps provide a meaningful urban environment with personality and a specific identity module called neighborhood unit (Campbell et al., 2009) his city akin to most historical cities has its special boundaries and territories as for each activity and social behavior such as neighborship. accordingly, every space has

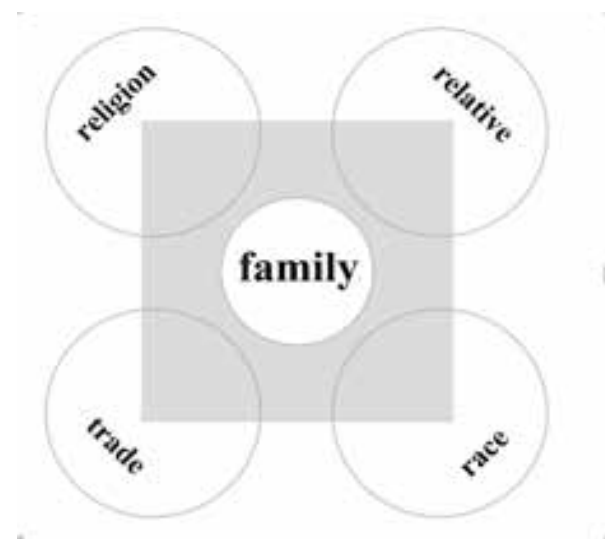


Fig. 2. Variety of neighborhood relationship in Yazd. Source: authors.

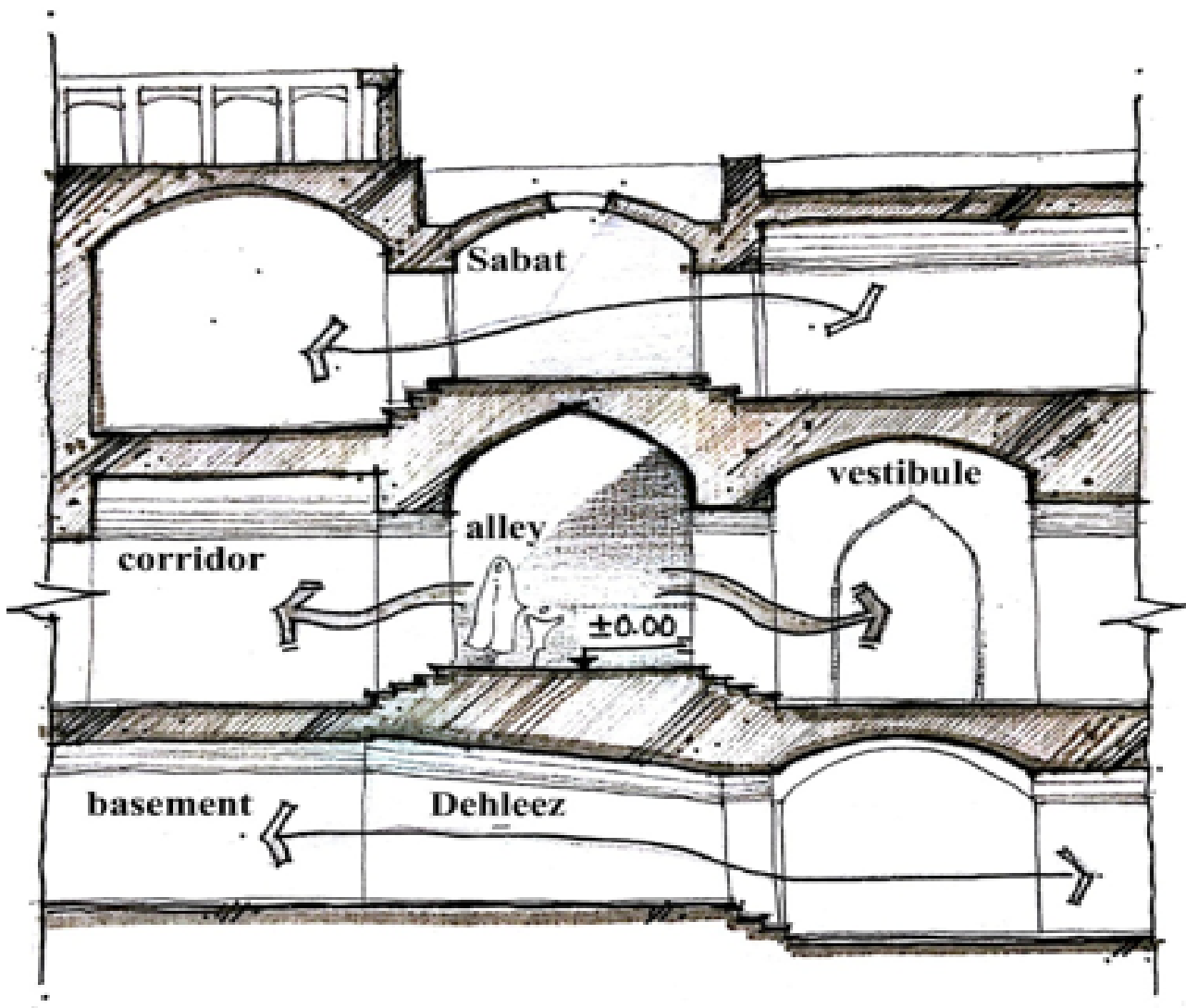


Fig. 3. Neighborhood relationships with three levels basement, ground floor and first floor. Source: authors.

its own sanctity and boundary. Yazd historic district can be divided into three main zones, namely public, private and semipublic-semiprivate, according to public presence and the quality and limitation of presence (Pakzad, 2010, 76-78). With the study of our ancestors' experience in Iranian historical cities, it is clear that houses, courtyards and their components set the boundaries of private areas. In addition, entrances, Darbands and sabats are determined to be semipublic-semiprivate spaces, and public zones are places like passages and squares (Tavassoli, 2003, 14) (Fig. 4). Neighborly relations in Yazd historic city tends to occur in semi-public zones, not having the restrictions

of private places in terms of accessibility. However, due to their specific functions or their design process and conventional features, are not usable for all locals. In fact, the architectural neighborhood zone is within the boundaries of family private zone and neighborhood public zone. Therefore, interactions among neighbors establish in semi-public zones located outdoors but near to houses apart from private residential zones and also in distances between houses creating a pleasant situation for people. This zone benefits from a special architecture which is this article's focus of attention. Herein, the term "neighborhood architecture" is applied to this zone.

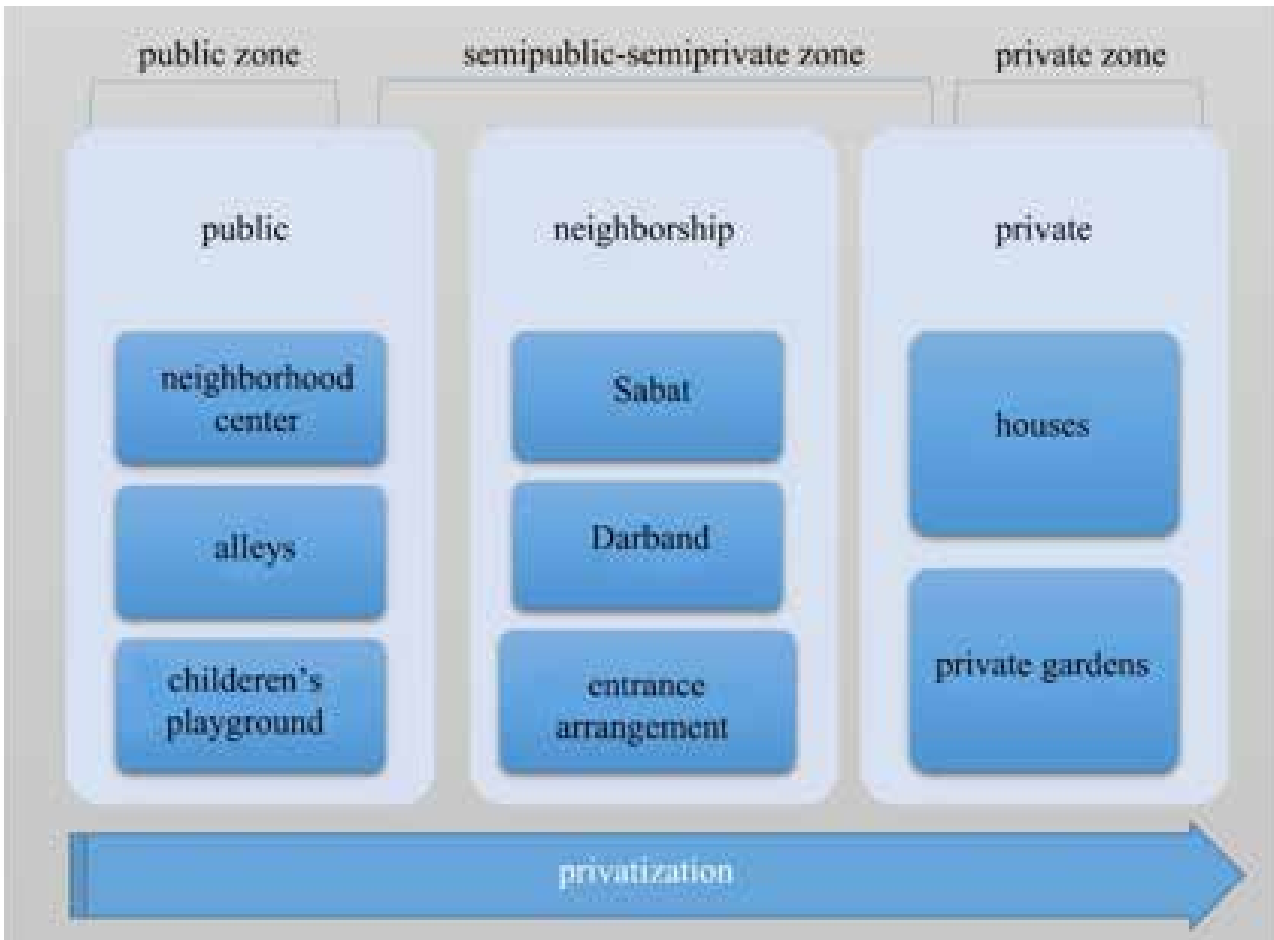


Fig. 4. Hierarchical zones of Yazd historic district. Source: authors.

Two main dimensions of neighborhood zone, specifically "physical proximity" and "architectural attributes", are the effective factors in the depth and intensity of neighborly relations (Serre-Ali & Purdeyheymi, 2016, 20). These two factors are noticeably used in Yazd neighborhood architecture with its specific architectural features and solutions. In this case, the distances between two or more houses offer a proper context for neighborhood. Technically, this neighborhood architecture, thanks to the architectural solutions that came up by architects of Yazd, provides a context in which a particular social relationship flourishes among next-door houses. In fact, in spite of that this neighborhood architecture has diverse patterns, it has so many common features which strengthen

and facilitate neighborly relations. In the following, firstly, the patterns of this architecture, and then its features and principles will be examined.

Categories of architectural neighborhood in Yazd historic district

The study of distinct neighborhood architectures in Yazd historic district points out that the neighborhood concept realizes in diverse physical contexts. As a result, they have various architectural patterns. This kind of architecture includes different shapes and forms as per items such as location, neighbors' affordability, means of livelihood and occupation. The most renowned architectural categories (spatial patterns) defining such relations in Yazd historic city are "entrance-

axis”, “darband-axis” and “sabat-axis” ones. At the same time, an amalgam of these categories tends to observe frequently.

• **Entrance arrangement**

The simplest form of neighborhood architecture is defined with the arrangement and composition of entrances. In fact, the arrangement of several nearby entrances in a specific form and near to each other provides a context for establishing neighborly relations (Fig. 5). Along the passageways of Yazd historic city, there are spots where a more public zone has been formed with putting entrance doors side by side or in front of each other as well as using special but limited architectural components. Therefore, it evokes a feeling that this part of passage belongs to the houses arranged around. Occasionally, within the distances of these entrances, the type of pavement changes. Moreover, with building one or more buttresses, a territory for neighborly relations among the households settles. Despite a semi-public zone not forming in its entirety in this neighborhood term, the concept of neighborhood zone can be widely perceived.

• **Darband**

darband carries several meanings. However, in this present article, it means a narrow short dead-end alley with a door leading off it (Farhang-e Mo'in,

1971). It is a semi-public dead-end alley or a vestibule connecting with several houses. This place is midway between the private zone of a house and the public area of an alley. While some darbands have doors closed at night-time, most of which do not have a door and architecturally speaking, were designed to exclude strangers. Meanwhile, regarding the safe and exclusive place to residents, it allows them to take part in neighborly activities. This cozy and peaceful zone lets them gather together and have relationship without intervention from strangers in the activities of this semi-public space. This zone belongs to its inner houses and causes a closer relationship and further interactions among residents. Since darband is mainly used by the residents around it, it is away from the hustle and bustle of the public (Khaksari, Shakibamanesh, & Ghorbaniyan, 2006). darbands are often not only neighborhood complexes, but also family complexes, meaning that there are ties of kinship among that residents. It is claimed that darbands are the axes bringing together family members and their houses. Moreover, they are usually narrow twisty roofed corridors, with doors leading off them (Khademzade, 2007). In Yazd historic district, darband can be considered to be the prominent zone of neighborhood architecture (Fig 6).

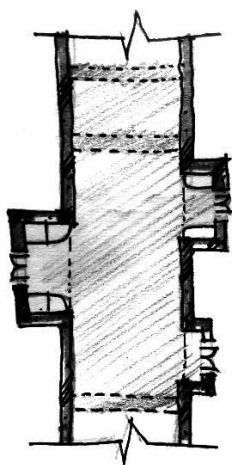


Fig. 5. Arrangement of entrances and the formation of neighborhood zones, Yazd, Rasoulia alley. Source: authors.

The forms of darbands are in two categories: narrow alleys (short straight ones, twisty dead-end ones) and vestibules (being square, octagonal or other regular polygons in shape). Due to having portals, entrance doors, narrow short doors, different proportions and scales, light and shadow change and being lower than road level, darbands have high privacy. In fact, a place with qualities such as privacy, security, human scale, climatic comfort (due to providing shadow and ventilation) and functional facilities can lead to build strong neighborly relations and a private cozy space far from strangers' interference

• **Sabat**

The word sabat has a historical root in Persian language. The first part "sa" means comfort and the second part "baat" is a symbol for a building or an oasis (Pirniya, 2005). It is equivalent to a corridor, a passage cover and a roof below which is the entrance to a house (Farhang-e Amid, 1982, 680). Sabats are classified according to roof type and the function above their roof. In other words, sabats fall into four main categories: covered with flat roofs made of straw bale and wooden beams, covered with vaults, having a residential use above them with one or two unfixed doors overlooking the alley, and being corridors linking houses on the two opposite side of an alley. In

addition to spatial function of these structures, it is worth mentioning their social function in creating neighborhood zones. Inside plenty of sabats, there are entrances of several houses which inspire residents' neighborly feelings (Pirniya, 2005). In fact, due to human-conformity, privacy along with security and providing good climatic and spatial condition, a sabat changes from just a "passage" to a place for "presence" of neighbors (Fig. 7). In terms of privacy level in neighborhood zone, sabats have two more patterns. In general, the design of sabats is divided into two groups vaulted and decked. Vaulted sabats are only part of the alley which is covered and defined with a vault. Moreover, decked sabats are rooms elevated from the alley and command a view of it. These kinds of sabat are often located at the entrance to neighborhoods or have a view of an open space such as a neighborhood square. The sabats protect passersby from burning sun's rays by covering a part of alleys, and create a favorable space by providing proper ventilation. Meanwhile, the built benches in most sabats offer a chance to chill out, hang out and interact. Totally, these features change these spaces to areas of presence not just corridors in alleys. In particular, where the doors open onto the houses, a way better context provides for establishing neighborly relations.

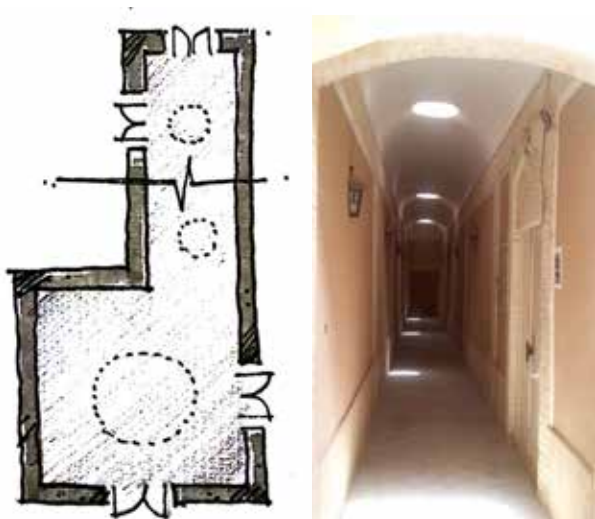


Fig. 6. Darband and the formation of neighborhood zones. Source: authors.

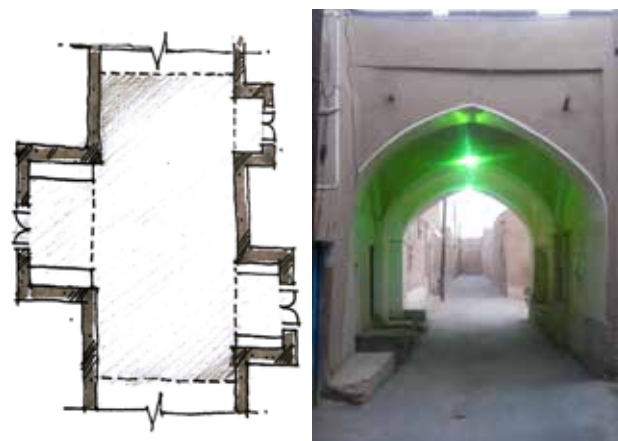


Fig. 7. Sabaat and the formation of neighborhood zones. Source: authors.

Determinants and solutions to a neighborhood architecture



With the study of neighborhood architecture types in historic city of Yazd, apart from the proximity of houses helping form a defined neighborhood zone, every sample has architectural determinants, often common ones but not always, which provide a good chance for neighborly relations and inspire neighbors to reinforce their relationship. In distinct neighborhood types, these determinants have different degrees from low to high which makes an aspect of neighborly relations important or otherwise. Each of these characters was formed by special architectural arrangements, named as architectural solutions

to neighborhood architecture in the present article. What is discussed in this section is the architectural solutions and determinants, both of which led to create neighborhood zones in Yazd historic city. The study of the threefold types of neighborhood architecture reveals that one of the most significant architectural solutions, which provide a spatial context for establishing neighborly relations in Yazd historic district, seem to be changing materials used for floors and walls (baseboards), covering spaces by putting roofs over them, creating split-level floors, opening up a possibility to sit temporarily, differing proportions, ornamenting and making different lights and shadows (Tables 1 & 2). Such architectural

Table 1. A case study of darbands in Yazd historic district. Source: authors.

Surveyed samples				
Architect- neighborhood solutions ture				
darband of Name	Shokuhi	-	Vaziri	-
doors house of Number	3	2	2	2
shape Plan	rectangular	square	octagonal	shaped-L
type Roof	vault barrel	roof no	dome	vault barrel
of front in bench built Having entrance	yes	no	yes	no
darband of entrance The Brickwork	door a without base-,door to near boards	door a without base-,door to near boards	portal a having baseboards	and portal a having door entrance an base-,door to near boards
Ornaments Stucco	-	-	karbandi ,door to near ceilings	on strips ,ceilings walls the
type flooring in Change	yes	yes	yes	yes
proportions in Change	yes	yes	yes	yes
light and Shadow	roofed throws roof The on shadow enough Hornos .darband combina- a provide and shadow of tion darbands in light ,brick ,(hay) thatch wood	entrance short the increasing With the between ratio of width and length shadow dense ,walls ,produced be can ,brick ,(hay) thatch wood	entrance short throws roof The on shadow enough Hornos .darband combination a provide in light and shadow of ,darbands ,brick ,(hay) thatch plaster ,wood	entrance short throws roof The on shadow enough Hornos .darband combina- a provide and shadow of tion darbands in light ,brick ,(hay) thatch plaster ,wood
Materials				

Table 2. A case study of Sabats in Yazd historic district. Source: authors.

Surveyed samples				
Architect- neighborhood solutions ture				
number door	2	2	2	2
type roof	vault rib	vault barrel ,vault rib	vault rib	vault barrel
decked	-	-	yes	yes
bench built having	yes	yes	no	no
brickwork	built ,baseboards benches	base- ,door to near boards	baseboards	built ,baseboards benches
ornaments				
stucco	ceil- ,door to near ings	-	-	-
type flooring in change	no	no	yes	yes
proportions in change	yes	yes	yes	yes
	roofed	roofed	narrowed and roofed	nar- and roofed rowed
light and shadow	but length short width considerable adequate ,height and both from lighting pass- ,roofed ,sides welfare s'ersby	both from Pourlighting pass- ,roofed ,sides welfare s'ersby	great and length short from lighting ,width ,roofed ,sides both welfare s'passersby	from Pourlighting ,roofed ,sides both welfare s'passersby
materials	,brick ,(hay) thatch plaster	brick ,(hay) thatch	brick ,(hay) thatch	brick ,(hay) thatch

solutions can form an architecture with specific determinants which the major one of them are as follows.. Human-conformity and human scale: With increasing details and allocating small land lots, the sense of belonging improves, the places maintain people’s interest for longer time, and the presence in the space becomes stronger.

2. Climatic comfort (casting a shadow, providing ventilation): It strengthens the motivation for presence in the space and regular maintenance of it.

3. Privacy: It causes the presence in a place and dependence on it to be of longer duration.

4. Territory: It strengthens the public perception of the space and the tendency for presence in it. Moreover, it makes the durability of space increase.

5. Spatial comfort: It increases the motivation for presence in space.

6. Security and safety: It improves the tendency for presence in space and its durability.

All the aforementioned features make the “presence” in space longer, and considering the closeness of house entrances, a proper context for formation and cultivation of neighborly relations is provided.

Conclusion

The study of neighborhood architecture in Yazd historic city shows that, as per two principles “physical proximity” and change in “spatial attributes”, the architects of Yazd created

semi-public zones in neighborhoods, built a meaningful link among two or more houses and fostered the interactions among neighbors. Using architectural solutions such as covering spaces by putting roofs over them, creating split-level floors, opening up a possibility to sit temporarily, differing proportions, ornamenting and making different lights and shadows (Fig. 8) together with spatial features, specifically human-

conformity, climatic and spatial comfort, privacy, territory and security, these architects tended to strengthen the level of presence in part of a passage (Fig. 9). Such features led to a particular architecture in Yazd historic district which can be called “neighborhood architecture”. This kind of architecture can be identified by three patterns “arrangement of entrances”, “darband” and “sabat” (Fig. 10). However, the degree of

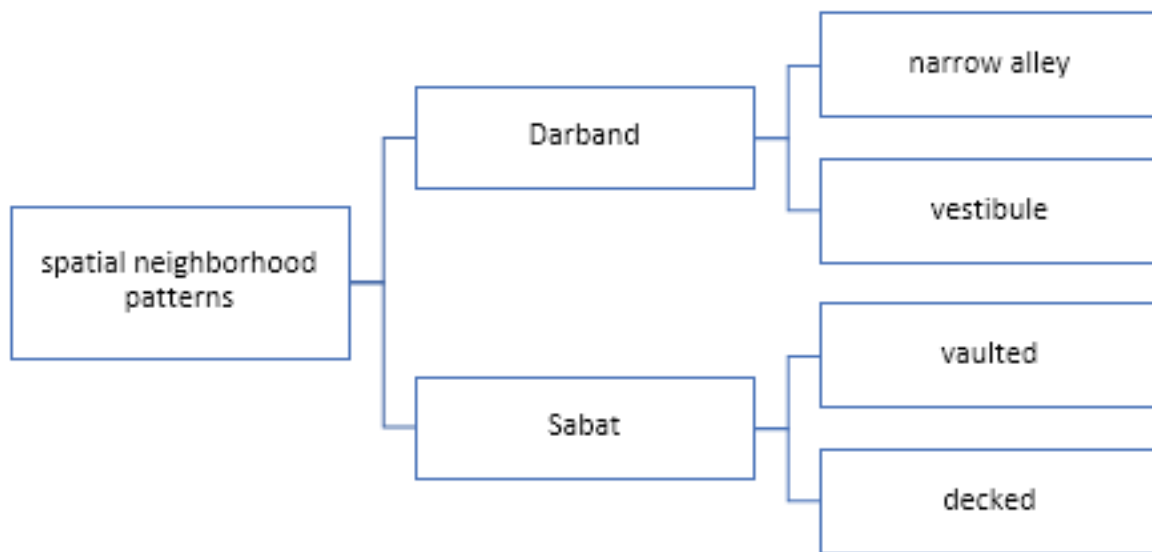


Fig. 8. The spatial patterns of neighborhoods in the historic district of Yazd. Source: authors.

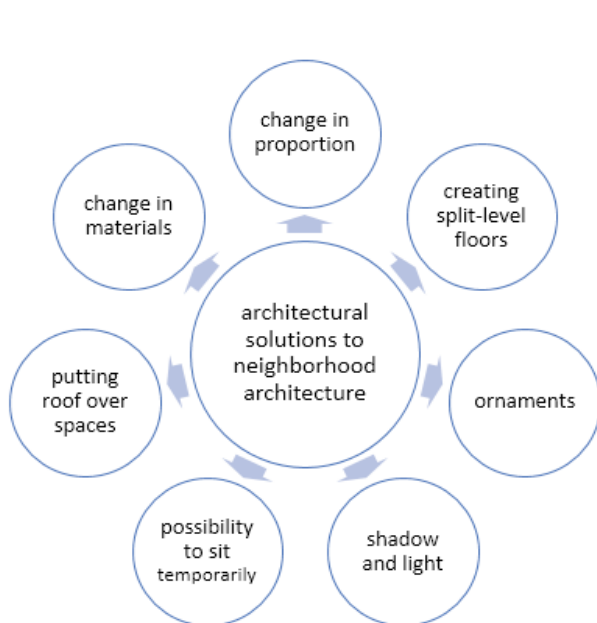


Fig. 10. The architectural determinants of neighborhoods in the historic district of Yazd. Source: authors.

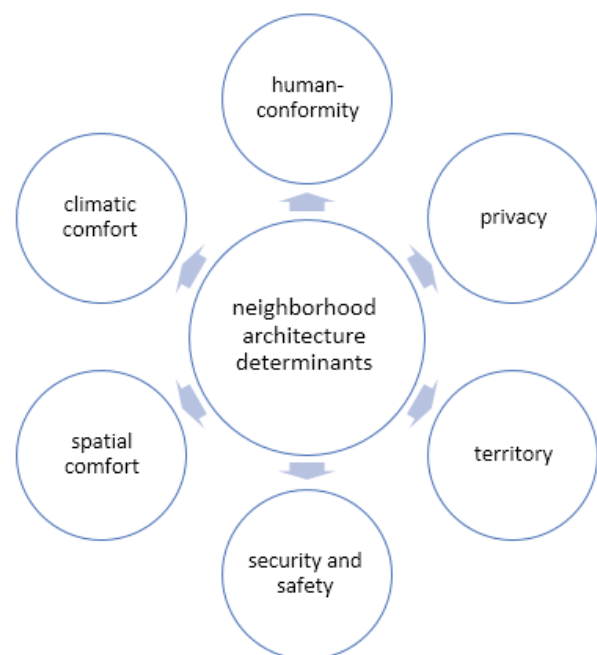


Fig 9. Architectural solutions to the realization of neighborhood architecture. Source: authors.

neighborly relations, whether low or high, is not equal, their common spatial features caused to provide a context for formation and cultivation of neighborly relations in the semi-public zone of historic district of Yazd.

References list

- Abrams, P., & Martin, B. (1986). *Neighbours: The Work of Philip Abrams*. New York: Cambridge University Press.
- Anjomani, Z. (2012). *Proceedings of the review of the position and concept of neighborhood in the heart of Islamic city. Paper presented at National Conference on Architecture and Identity with the Focus of Iranian Islamic Housing*. Sama Educational Center, Hamedan.
- Azodanlu, H. (2007). *Fundamental Sociological Concepts, An Introduction* (vol. 2). Tehran: Ney.
- Bastani Rad, H. (2012). district in the Iranian cities of early Islamic centuries. *Historical Researches*, (10), 1-30.
- Campbell, E., Henly, R., Elliott, S., & Irwin, K. (2009). Subjective constructions of neighborhood boundaries: lessons from a qualitative study of four neighborhoods. *Journal of Urban Affairs*, 31(4), 461-490.
- Chaskin, R. (1997). *Perspectives on Neighborhood and Community: a Review of the Literature, Social Service Review*. Chicago: University of Chicago.
- David, W., & Herbert, D. (1993). *Communities within Cities: an Urban Social Geography*. London: Belhaven Press.
- Falamaki, M. (1987). *Sheklgiri-ye Shahr-ha-ye Iran* [The Formation of the Cities of Iran] (vol. 2). Tehran: Jahad-e Daneshgahi.
- Falamaki, M. (1995). *Revitalisation of Historical Manuments and Cities* (vol. 3). Tehran: University of Tehran.
- Farahidi, Kh. (2004). *Al-'Ain. By Sazman-e Oqaf va Omur-e Kheyriye*. Tehran: Osve.
- *Farhang-e Amid*. (1982). H. Amid (Ed.), Tehran: Ebnesina.
- *Farhang-e Mo'in*. (1971). M. Mo'in (Ed.). Tehran: Amir Kabir.
- Festinger, L. (1951). Architecture and group membership. *Journal of social issues*, 7(1 & 2), 152-163.
- Habibi, S. (2003). *De la cite a la ville*. Tehran: University of Tehran.
- Keller, S. (1968). *The Urban Neighborhood: a Sociological Perspective*. New York: Random House.
- Khademzade, M. (2007). *Historical Neighborhoods of Yazd City*. Tehran: Sobhan-e-Noor.
- Khaksari, A., Shakibamaneh, A., & Ghorbaniyan, M. (2006). *Urban Neighborhoods in Iran*. Tehran: Institute of Humanities and Cultural Studies.
- *Loqat-name*. (1998). A. Dehkhoda (Ed.). Tehran: Rozaneh.
- Movaqar, H., Ranjbar, E., & Purja'far, M. (2015). Relearning the concept of mahalleh [neighborhood] in Iranian desert cities, case study: mahallehs in Nayin. *Iranian Architectural Studies*, (8), 35-56.
- *Oxford Dictionaries*. (2019). Retrieved from www.Oxforddictionaries.com
- Pakzad, J. (1990). Neighborhood unit. *Soffe*, (1), 16-20.
- Pakzad, J. (2010). *Mabani-ye Nazari va Farayand-e Tarrahi-ye Shahri* [Theoretical Basis and Urban Design Process]. Tehran: Shahidi
- Perry, C. (1929). The neighborhood unit, a scheme of arrangement for the family-life community: regional survey of New York and its environs. *Neighborhood and community planning*, (7), 22-140.
- Pirniya, M. (2005) *Ashna'i ba Me'mari-ye Eslami Iran* [Introduction to Iranian Islamic Architecture] (vol. 10). Tehran: Soroush-e Danesh.
- Purja'far, M., & PourJafar, A. (2012). Proposed «Mohallah» with centrality of mosque and public spaces in Persian-Islamic city Iranian-Islamic city. *Journal of Studies on Iranian-Islamic City*, 3(10), 15-24.
- Rapoport, A. (1980). Neighborhood heterogeneity or homogeneity. *Architecture and Behavior*, 1(1), 65-77.
- Sarokhani, B. (1991). *The Social Sciences Encyclopedia*. Tehran: Keyhan.
- Seddiq Sarvestani, R., & Nimruzi, N. (2010). The relationship between neighborhood cooperation and sense of security in Mashhad rural areas. *Danesh-e-Entezami*, 2(12), 185-220.
- Seqat al-Eslam, A., & Aminzade, B. (2013). a comparative study on the concept and design principles of Iranian mahalleh and western neighborhood. *Hoviatshahr*, 7(13), 33-45.
- Serre-Ali, R., & Purdeyheymi, S. (2016). Neighborhood unit and neighboring. *Soffe*, 1(26), 5-25.
- Shakuyi, H. (1986). *Urban Social Geography, the Urban Ecology*. R. Moshiri (Ed.) Tehran: Osve.
- Soltanzade, H. (1988). *Moghadame bar Tarikh-e Shahr va Shahrneshini dar Iran* [An Introduction to the History of City and Urbanization in Iran] (vol. 2). Tehran: Amirkabir.
- Tabibiyan, M., Charbgu, N., & Abdollahimehr, A. (2011). The principle of hierarchy reflection in Islamic Iranian cities. *Armanshahr*, 7(4), 63-76.
- Tavassoli, M. (1997). *Osul va Ravesh-ha-ye Tarrahi-ye Shahri va Faza-ha-ye Maskuni dar Iran* [Principles and Methods of Urban Design and Residential Spaces in Iran] (vol. 1). Tehran: Markaz-e Motale'at va Tahqiqat-e Shahr-sazi va Me'mari-ye Iran.
- Tavassoli, M. (2003). Principle of communication in urban

design. *Honar-Ha-Ye Ziba*, 14(14), 32-39

• Wallace, A. (1939). *Housing and Social Structure: a Preliminary Survey, with a Particular Reference to Multi-Story, Low-Rent, Public Housing Projects*. London: London University Press.

• Weber, M. (1922). *Economy and Society* (A. Manuchehri, M. Torabinezhad & M. Emadzade, Trans.). Tehran: Mowla.

• Wellman, B., & Barry, L. (1979). Networks, neighborhoods and communities: approaches to the study of the community question. *Urban Affairs Quarterly*, 14(3), 363-390.

COPYRIGHTS

Copyright for this article is retained by the author(s), with publication rights granted to the Bagh-e Nazar Journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>).



HOW TO CITE THIS ARTICLE

Abbasi Harofte, M. & Sadeghian, A. (2020). Spatial patterns of neighborhoods in the historic city of Yazd determinants, architectural solutions and principles of neighborhood architecture, *Bagh-e Nazar*, 16(80), 5-18.

DOI: 10.22034/bagh.2020.133330.3592

URL: http://www.bagh-sj.com/article_101644_en.html

