

# Physical Patterns and Neighborhood Architecture in the Historical Context of Dezful City (Principles of Neighborhood Architecture and Architectural Tools)

Hamed Hayati<sup>a\*</sup> - Mohammad Amin Ameri<sup>b</sup>

<sup>a</sup> Assistant Professor of Architecture, Faculty of Technical and Engineering, Qom University, Qom, Iran (Corresponding Author).

<sup>b</sup> M.A. Student in Architecture, Faculty of Architecture and Construction, Khuzestan University Jihad Institute of Higher Education, Ahvaz, Iran.

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## ABSTRACT

Neighborhood is one of the important factors of social interactions, and the presence of people in the community, neighborhoods, and public spaces are significant factors in neighborhood architecture. Today, because of widespread changes in urban construction, less attention is paid to the relationships between people in the community. Still, in the traditional contexts of cities, the amount of neighborhood relations is higher due to the type of neighborhood architectural patterns used in traditional contexts. This research aims to present architectural body patterns, which, by recognizing and analyzing the physical areas of the neighborhood, along with the typology of physical patterns, introduces architectural tools and principles in this architecture, and its purpose is to introduce these patterns in the historical context of Dezful city. The research method, from the perspective of knowledge in the theoretical interpretive or constructional model, is structuralism, from the standpoint of method of reasoning is comparative, from the perspective of the type of data is quantitative (mixed) and qualitative, from the perspective of the type of results is descriptive-analytical and from the perspective of approach is historical-interpretive that is analyzed via collection of library data (documents) and map reading tools, note taking and document reading. By this method, the samples of each period are first described and then analyzed and examined, and the features and existing patterns of each course have been presented. The results of the research reveal that using architectural tools such as changing floor materials, long and short passage walls, changes in light and shadow, roofing alleys and passages, creating a difference in level, and changing proportions and decorations has shaped the three basic neighborhood patterns for semi-urban areas in the historical context, which includes patterns, sabat, entrance, Darband (dead-end alleys). Issues like security, privacy, secrecy, climatic and functional comfort, and people's love have increased people's presence in these fields. These positive points in the architecture of the historical context have caused a close relationship between neighbors, which is called neighborhood architecture.

**Keywords:** Neighborhood Architecture, Neighborhood Relations, Physical Patterns, Historical Context, Dezful.

\* E\_mail: hamedhayaty@yahoo.com

## 1. INTRODUCTION

Neighborly relations are more significant in Iranian and Islamic rituals and customs. They are considered one of the basic priorities of life, as it was said that a good neighbor is better than a relative. Neighborly relations are significant in hadiths and Islamic teachings of the Holy Qur'an. Kindness and respect for neighbors are always highlighted, and Muslims are asked to be kind and generous in their relations with their neighbors. Due to this fact, the quantity and quality of neighborhood relations, the reduction of neighbors' social interactions, and the weakness of coherent and stable relations in cities is a question that has received the serious attention of many social science thinkers (Razaghi et al. 2015). Social relations between two or more families can be defined as neighborhood relations (Abbasi Herfteh et al. 2010). One of the important forms of urban society is the neighborhood network, which is the number of neighboring households with a range of social relations<sup>1</sup> and relatively common behavioral patterns. One of the needs of neighborhood bonding is valuable environments where socialistic values prevail over individualistic values (Sediq Sarostani et al. 2009). The neighborhood environment and unit are important factors affecting the formation of human personality because it grows there and interacts with others (Shahidi 2013; Ibn Shuba 2016). Relations between neighbors have been very significant as these relations originate from needs, values, and social culture (Herfteh et al. 2019).

In the traditional neighborhoods of Iran, strong social cohesion has been created between residents who had common values and strengthened neighborly relations and a sense of cooperation between neighbors, and the neighborhood was a suitable body for different social groups with different origins (Thagha Al-Islami et al. 2011).

The issue of neighborhood physical patterns in the historical context of Dezful is a topic addressed in this research. For instance, regardless of the interior of the house, recognizing the place where communication between neighbors is realized.

Since the body is effective on human behavior, in the historical context of Dezful, neighborhood architecture has helped to establish a two-way interaction by taking advantage of neighborhood behavior and architectural tools. As it can be seen, in this context, physical patterns and social norms<sup>2</sup> have a two-way relationship and a synergistic interaction in the realization of neighborly relations between them. With the ever-increasing development of urbanization and the creation of megacities, more than ever, it has been faced with the disappearance of the neighborhood in urban society or the change of the neighborhood concept (Yousefi et al. 2008).

The change in the behavior patterns and lifestyle of the residents of urban areas, particularly the neighborhood network and social relations, has caused

extensive changes in the urban area. So, relations between neighbors in urban areas have disappeared, and people are less involved in neighborly relations. One of the significant points of these changes is the lost functions of some neighborhood links. Neighbors' social support for each other in the past or joint activities that neighbors did to improve each other's lives were carried out with the neighborhood concept (Sharapur 2008).

Based on the literature that has been formed so far on the subject of neighborhood relations, it seems that the quality and quantity of the physical structure of the neighborhood have a significant relationship with the relations between the neighbors in that neighborhood. This research also aims to deal with the same hypothesis in the contemporary time section and the spatial section of Dezful City. Architecture can play a strategic role in reviving neighborhood relations, and creating a suitable platform is the basis for re-establishing these relations in today's form. On the other hand, with the perspective of getting closer to the physical components that are desirable to define a new model of neighborhood in the current architecture and urban planning, in this research, an attempt has been made to study the spaces that played a role in the neighborhood in the past and the principles of neighborhood architecture and by taking advantage of them, current architecture and urban planning can contribute to the revival of this good social tradition.

### 1.2. Research Questions

The city of Dezful is one of the most important areas of Iranian architecture, and considering the number of valuable historical houses remaining in the city of Dezful, it is necessary to know the architecture of the neighborhood in the historical houses to compare similar examples and examine the patterns used.

1. What are the neighborhood fields in the historical context of Dezful?
2. What are the physical patterns of neighborhood architecture in the historical context of Dezful? What are the tools and principles of neighborhood architecture in the historical context of Dezful?

### 1.3. Research Hypothesis

Due to special architectural features for the occurrence of a neighborhood between two or more houses, neighborhood architecture has transformed the historical context of Dezful into a legible form. Practically, with the help of architectural tools, the neighborhood's architecture has been able to provide the ground for forming a special and social relationship among the neighboring houses. In this context, considering the diversity of the neighborhood and the patterns it includes, it has common features that facilitate and strengthen relations between neighbors. It seems that the neighborhood space included a range between the family's private area and

the neighborhood's public area.

## 2. RESEARCH BACKGROUND

“Neighborhood” is a concept belonging to sociology and social psychology objectified in the physical environment (Mahmoudi Farahani 2016). Accordingly, most of the research related to the topic of this article has been done in the fields of behavioral sciences, sociology, social psychology, etc., as well as environmental design. Table 1 lists some of the most significant related research. Up to now, the issue of the relationship between physical structure and neighborhood relations has been investigated in various research. For instance, research has mentioned that residents form significant social relationships in residential blocks where houses face each other along the street, or the residents of roundabouts or cul-de-sacs have better knowledge of each other than the residents near the passing streets (Lang 2002). Some research on interactions between neighbors in social spaces designed for this purpose shows that citizens who participate in social interactions in such spaces are only a part of the population living in the neighborhood, and many social activities are done in other places. Among these places, we can mention the terraces or balconies overlooking the passages, the entrance stairs of the building, etc., because these spaces enable the residents to enjoy the privacy created for themselves while communicating with passers-by or other people in the neighborhood; they can enjoy the privacy created for themselves and have a sense of personal safety and comfort (Ferguson and Ferguson 2016, 196).

Within the scope of studies on the concept of the neighborhood unit and the review of the research literature, it designates that despite the passage of several decades since the presentation of Clarence Perry's theory about the “neighborhood unit” in the 1920s, many studies have been made to explain and clarify the various dimensions of this theory and its evolution, development and how the neighborhood unit is formed over time and also based on scientific experiences in different societies. With the compilation and detailed definitions of the neighborhood unit by Herbert and Davis from the 1920s to the 1990s

and the researches of Banerjee and Baer under the title “Beyond the Neighborhood Unit,” they have studied in detail the history of the formation of the neighborhood unit theory, theoretical foundations and practical experiences based on it. Via studying and reviewing different theories of the neighborhood unit, Robert Chaskin has expressed and presented different dimensions. In the Dictionary of Urbanism, Robert Cowan has made a brief and useful overview of the sub-terms and definitions of “neighborhood”. In similar studies, many other researchers, such as Johnson, Gloster, Brady, Patrikios, etc., have discussed the backgrounds and roots of the emergence of the single neighborhood theory and its effects on contemporary urban planning and design. Before presenting the theory of the neighborhood unit and the interactions between neighbors, the study and review of the available resources in the social relations between neighbors have been of interest to researchers, and some of these researches have been effective in presenting the theory of the neighborhood unit. One of the Chicago school sociologists, Robert Park, in research entitled “The City: Suggestions for the Investigation of Human Behavior in the City Environment”, considered the simplest social bond to be the relationship between neighbors to order urban life. One of the research of the following decades that can be mentioned is the article by Herbert Gans entitled “Design and Social Life”, which effectively analyzes how variables affect the social relations of neighbors in communities around the city. In a similar research, although in more detail, Philip Abrams discussed the definitions, terminology, and main features of neighborhood relations in his “Neighbors” research. Suzanne Keller also gave definitions of neighbor and neighborliness in the book “The Urban Neighborhood”, before stating the definitions of the neighborhood unit. In his research, Barry Wellman defined the unit of neighborhood, neighborliness, and local community. Also, he described their differences and the impact of social networks and internet programs on neighbors' interactions. Talja Blokland's urban links research is particularly important because it creates a suitable framework for understanding the nature of all kinds of relations between neighbors.

**Table 1. Research conducted on the Factors Affecting Neighborhood Relations**

Researcher	Research Title	Explained Variables	Reference
Festinger	Architecture and group membership	Physical Proximity, Access Routes, Stairways	(Festinger 1951)
Gans	Design and social life	Physical Proximity, Residents' Similarity in Values, Interests, Social Status, Economic Status, And Leisure Activities	(Gans 1961)
Newman	Creating a defensible space	Marking Security Territories	(Newman 1996)
Appleyard and Lintell	Environmental quality of urban streets	Motor Vehicle Traffic Volume	(Appleyard and Lintell 1972)

Researcher	Research Title	Explained Variables	Reference
White	Social life, small urban spaces	Shape of Space, Size, Space, Sitting Places, Climatic Variables, Natural Elements, the Existence of Delis	(White 1980)
Higgs	Factors of size and shape in communication activity space	Size of General Space, Shape of General Space	(Higgs 1980)
Unger and Wandersman	Neighborhood in urban environment	Length of Residence, Satisfaction with the Neighborhood Environment, Feeling of Social Suspension, Participation in Neighborhood Affairs, Overall Life Satisfaction	(Unger and Wandersman 1982)
Campbell and Lee	Origin of personal networks, neighborhood, social solidarity, need, or time?	Residents' Socioeconomic Base, Age, Gender	(Campbell and Lee. 1992)
Skjaeveland and Garling	Effect of the whole space on neighborhood relations	Physical and Perceptual Characteristics of the Open Space of Residential Units	(Skjaeveland and Garling 1997)
Abu-Ghazze	Housing plan, social interaction, and place of social connection in Abu Nasir city, Jordan	Block Arrangement, Physical and Perceptual Characteristics of Open Space	(Abu-Ghazze 1996)
Oldenburg	many fine buildings	"Third Places" Roles (Hairdresser, Bookstore, etc.)	(Oldenburg 1999)
Cooper Marcus	The shared exterior space and social life	Shared Exterior Space between Residential Units	(Cooper Marcus 1974)
Macdonald	Facing the residential units to the street and the vitality	Residential Units at Street Level, How to Enter the Residential Units (directly from the Street or Indirectly)	(Macdonald 2005)
Buonfino and Hilder	Neighborhoods in contemporary Britain	Social Variables, Demographics, Security, Physical Variables of the Environment	(Buonfino and Hilder. 2010)
Holtan et al.	Community life under vegetation Social capital in Baltimore, Maryland	Personal Variables (Age, Education, Income), Local Green Space	(Holtan et al. 2015)
Mahmoudi Farahani	Neighborhood patterns in suburban residential developments in Australia	Physical Distance, Plot Size, Occupancy Level, Building Setback, Entrance Porch, Transparency, Personalization	(Mahmoudi Farahani 2016)

(Sar Ali et al. 2016)

Most domestic research in neighborhood relations studies big cities like Tehran or Mashhad. In small cities, particularly southern cities, with the increasing trend of urbanization, issues related to neighborhood relations have been less studied and architecturally analyzed. In other countries, studies in the neighborhood relations field have emphasized ethnic, racial, and religious diversity and neighborhood effects concerning cultural contexts. Among the important and influential variables in neighborly relations abroad is the decrease in people's trust towards each other and issues related to social capital. However, domestic research has focused on the consequences of neighborhood relations and people's sense of security, fear, and worries. Despite the above explanations, so far, no research has been done on the spaces in the historical context of Dezfoul to study and examine the architectural tools of the neighborhood and the tools to realize them, and this research aims

to address this gap.

### 3. METHOD

The method of this research from the perspective of knowledge in the theoretical model of interpretation or construction (structuralism) is theoretical; from the perspective of reasoning, method is comparative; from the perspective of the type of data<sup>3</sup>, it is qualitative and quantitative (combined), the type of results is descriptive-analytical. From the approach perspective, historical-interpretive is done via analyzing and compiling the library data (documents) and map reading tool, note taking, and document reading. With this method, first, the samples of each period are described and then analyzed and examined, and the features and existing patterns of each course are introduced. The analysis process was largely done via repeated photography, drawing

spatial diagrams, visual and written notes, schematic plans, sketches, and then coding. Based on the coding method, the initial numerous codes have ended up in a descending process in the central and selective codes (research results). Among the reasons for choosing the reviewed samples is that, based on different types of architecture, minimal intervention in historical buildings, and the characteristics of cultural heritage registration, nine samples have been selected by purposive sampling.

Based on the definitions provided by the experts, the priority selection criteria for sabat and houses in Dezful City are as follows:

1. The sabat must be complete; that is, it must have an open or closed use on the roof;
2. Sabat is the installer of the entrance of the house.
3. Sabat has a special feature in terms of the way it is located in the urban space or the type of plan.
4. Sabat should be adjacent to a building that has a historical record.
5. The sabat is only a veiled passage.
6. Being historical, staying healthy, being studied, completeness of architectural documents, being organized in terms of physical proportions of the building, and relatively sufficient architectural information.

#### 4. THEORETICAL FOUNDATIONS

In most of today's societies, the neighborhood has altered. The numerous factors of these changes depend on customs, traditions, personal and social relations, education, etc. Every society has certain rights and privileges in the neighborhood. The theory of the neighborhood unit has appeared in the fields of architecture and urban planning in different ways and forms. Experts and researchers have different definitions of neighboring units and have presented them with other characteristics<sup>4</sup>. However, it was following a goal of developing and improving the quality of collective and individual life between people and families who were the smallest members of the neighborhood (Mehdizadeh et al. 2016).

##### 4.1. Concept of Neighborhood Unit

The term "neighborhood unit"<sup>5</sup> was first used by Clarence Perry in the 1920s in New York, which was the result of six years of work by Perry and his colleagues from 1923 to 1929 at the Russell Sage Foundation to present a plan for the development of the suburbs of New York. Taking advantage of the consultation of experts and researchers of the Russell Sage Foundation in the fields of sociology, traffic engineering, education, recreation, and entertainment to strengthen the collective life and reform the urban system, Perry presented the theory of the neighborhood unit from the combination of theories in the field of sociology, architecture, and urban planning (Sar Ali et al. 2016).

##### 4.2. Concept of Being a Neighbor

Referring to the principles and theoretical foundations of the concept of "neighborhood unit" reveals that the creation of a local cohesive society and face-to-face interactions of neighbors were the goals of most theorists in this field, which often did not attain the desired result because the separation of the city into important parts due to differentiation, instead of the planned social connection, will bring social chaos (Madanipour 2012).

According to Madanipour, one should be informed about the different dimensions of "planning through the neighborhood unit" and avoid influencing the belief in "spatial organization". According to this researcher, in urban planning and design, the designer should not pretend that he can create cohesive social units but should help (positively, although limited) to create relationships and develop social interactions, not be alienated from himself, and not surrender to the isolation of populations (Madanipour 2012). It seems that the correct starting point to approach such a goal is to know the social relations of neighbors from the perspective of social sciences because understanding the nature of the social interactions of neighbors, the desired level and intensity of these interactions, and how the background conditions of each society affect the social relations of neighbors is a necessary condition for creating a suitable physical platform that supports desirable neighborhood interactions.

##### 4.3. Ratio of the Neighborhood Unit to the Neighborhood

Via examining the history of Iran's architecture and urban planning, it is evident that the factors of traditional cities and their division into parts such as neighborhoods or alleys were the same as geographical, cultural, economic, political, and social (Bastani Rad 2012).

Many external and internal factors have continuously influenced the formation and development of neighborhoods in Iran. The neighborhood formation and influencing factors include government orders, sudden migrations due to war or natural hazards, political developments, power transfer, wars, numerous invasions, construction measures of agents, etc. (Zia Tawana 1991).

A brief review of some historical sources such as Al-Baldan (Yaqoubi, 3rd century AH), Ahsan al-Taqasim (Maqdisi, 4th century AH), Masalak and Malik (Istakhari, 4th century AH) and a review of some historical sources and books such as Al-Baldan (Yaqut Hamavi, 7th century AH) described cities and social structure, which indicated the formation of the neighborhood from a specific tribe, class, race, religion or sect. (Bastani Rad 2012) and there has been a strong social unity and solidarity between the neighborhood residents. The social relations of the neighbors have a significant impact on the ossification

and formation of the neighborhood (Pakzad 1990), and according to the social and economic conditions of the society, the physical structure of the neighborhood has a certain coherence and homogeneity of spatial crystallization. The perpetual existence of uniform and homogeneous neighborhoods based on social variables is agreed upon according to historical and archaeological evidence and does not need to be proved by researchers (Rapoport 2012). This homogeneity and social uniformity of the localities resulted in physical cohesion. In another definition, the formation and emergence of localities in the traditional periods of different countries is based on a social concept of settlement. Neighborhoods in Iranian architecture have provided a suitable body for the life of different social groups (Thagha Al-Islami et al. 2011). Due to this fact, the neighborhoods do not have a clear boundary, and the size and population differ (Azizi et al. 2008). Generally, the range and border of neighborhoods are defined subjectively for the residents, and most of the collective agreement of the residents of the neighborhoods has been due to its social homogeneity (Rapoport 1980). Conversely, as stated in the definition of the neighborhood unit and some researchers have clearly stated, the neighborhood unit concept generally emphasizes a specific geographic and spatial unit that residents share in predefined conditions (Abdulahi et al. 2010). Accordingly, the neighborhood unit is a pre-planned physical unit with a physical concept and important references to social relationships and interactions. The neighborhood unit is an inflexible and stereotyped pattern planned and recommended by external factors. In terms of the resident population, it is the level of separating borders and public facilities, and in the best case, it supports the social relations of mostly heterogeneous residents. At the same time, the endogenous formation of traditional neighborhoods makes the "homogeneity of residents" an "inherent quality" of these neighborhoods. (the existence of a cohesive local community in a certain place) the need for internal solidarity and protection of the insider group against others has also justified the neighborhood's relative self-sufficiency regarding services and facilities (Abdulahi et al. 2010). Accordingly, it can be decided that the principles and methods of formation and development of traditional neighborhoods in different countries, including (Iran) and the neighborhood unit in the West, have specific substantive differences, and it is not equivalent to assuming these two concepts are correct (Sar Ali et al. 2016).

#### 4.4. Social Relations in Neighboring Units

The provision of social relationship situations and people's inherent need to establish communication in all kinds of environments is done with a specific purpose: an emotional relationship such as kinship friendship or neighborly or logical relationship that

seeks to achieve a goal. The connection between social relations and cultural systems means that the continuity of social relations strengthens values or culture. On the other hand, culture causes the formation of social ties, which are formed in space. In such a way that the space includes a place and a special group of social and cultural relationships that have a specific time. Consequently, social life is limited to space and time. Giving meaning to space depends on the intensity and type of relationships that happen in it. Social relations include various forms, including quantity and quality, which are two patterns based on relations. Among the researchers and thinkers of behavioral sciences who have dealt with urban issues, we can mention Rappaport, who presented the interaction between humans and the environment. According to Rapoport, urban environments are a set of mutual relationships between people and environmental elements that follow a certain pattern. Two characteristics are given to such environments. First, there is a multiplicity of types of environments; every urban environment is a set of social, physical, cultural, etc.

Second- The relationship between the changes in the existing environment and other environments; by achieving this knowledge in the first stage of Rapoport, they noted that during the organization and design, attention should be paid to how the environment and humans interact in any urban environment (Rapoport 2012).

#### 4.5. Neighborhood Architecture in the Historical Context of Dezful

In our old cities, hierarchy has been considered continuously in all scales, from architectural compositions to urban ossification (Tabibian et al. 2011).

One of the distinguishing features of the past cities is the observance of hierarchy in architectural buildings and cities, which is the emergence and strengthening of introversion. Another effect of applying hierarchy in the scope of individual and collective life in cities and buildings is introversion. In other words, preserving and using values such as solitude, security, privacy, modesty, peace, and environmental conditions and paying more attention to the inside than the outside has created a strong, unique, and clear hierarchy in Islamic cities (Nasr 2001). Hierarchy in the neighborhood of Dezful's historical context shows that the relationships on the scale of family and society are public and private relations, which is the basis of the formation of the neighborhood unit in the hierarchy of Dezful's historical context.

The historical texture of Dezful City consists of neighborhoods and a set of neighborhood arenas, and housing and public spaces are created together, which are based on family, trade, religious affinities, etc., formed by a certain definition and order together (Pyrenees 2014; Bastani Rad 2012).

Like the country's traditional cities, the city of Dezful has its neighborhood activities, territory, and privacy; every space you have is your private space. Due to people's lives in historical (traditional) contexts, spaces are divided into three public, private, and semi-private arenas (Pakzad 2010). By examining the spaces in the historical context, the private spaces, including the entrance, darband, sabat, and the public spaces in the form of passages and streets, have been determined (Yousefi 2005). In the historical context of Dezful City, neighborhood relations happen in semi-private places. Some spaces have no restrictions in terms of access. Still, because of their specific function or design and features, they are not used by all people in the neighborhood, and the neighborhood is located in the area of the neighborhood that is the subject of this article. The components of the neighborhood field include spatial proximity and neighborhood architecture, which are important factors in neighborhood relations (Sar Ali et al. 2016). From its creation until today, the historical context of Dezful has been recognized with a historical perspective on the field of urban developments and in the field of physical, visual, and functional features, access networks, and urban signs. In the field of

physical investigations, first of all, it is mentioned to know the elements of the main structure, which means a continuous and orderly set that is a combination of the main aspects and urban activities, where the main space of the city consists of squares and streets (Tavasli et al. 1992).

The traditional texture and architecture are full of precious concepts and approaches, most of which are focused on the safety and comfort of the residents of the house (Mahdovinejad 2002). Nowadays, historical contexts are part of the context of the country's cities, which are the relics of the past two or one century or the current half-century. In spite of the value of these houses and historical structures, most of them are dilapidated. Nevertheless, architects, designers, and urban planners have always emphasized the need to preserve, recreate, and respect such textures (Majdi 2010). One of the unique works in urban architecture is the historical and old texture of Dezful City. In this part of the city, no pure and exceptional materials have been used either in whole or in part of the building. No magnificent building exists, and no building shows arrogance and pride in others. Everything is humility and sincerity (Kamerova 2005).

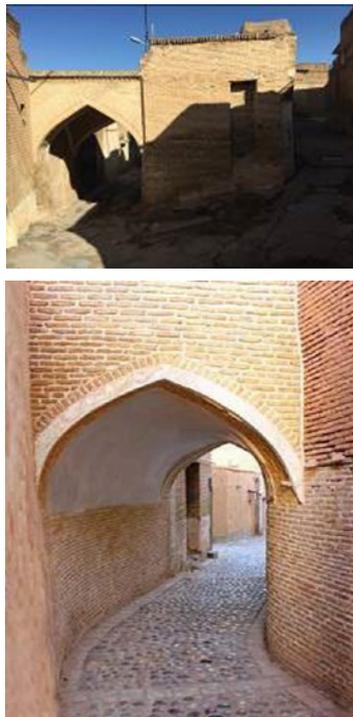


Fig.s 1&2. Physical Relations of Neighboring Houses

## 5. STUDIES AND REVIEWS

### 5.1. Types of Neighborhood Architecture in the Historical Context of Dezful

The neighborhood architecture in traditional houses of Dezful consists of semi-open communication

spaces and semi-open living spaces in the south- and north-facing areas. In most of these houses, open and semi-open spaces are composed of living open spaces in front of semi-open and closed spaces, and semi-open spaces are placed between closed spaces. Likewise in many houses, semi-open communication

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spaces are placed between closed spaces. In the hierarchy of these houses, to reach the closed living space (room) through the courtyard, one must pass through semi-open communication spaces or living spaces. Some Dezful houses have a hierarchy to reach the closed living space, which includes the yard to the open living space, then to the semi-open space, and then to the closed living space. By researching the neighborhood in the historical context of Dezful city, the neighborhood has diverse architectural patterns that have been realized in different places in the historical context. These patterns are indicated in different ways in the neighborhoods and according to the type of residence, livelihood, etc. there are various types. The most well-known of which are (physical models) that have defined neighborhood relations in historical contexts, including the entrance of the house, the gate, the sabat and the square.

The historical context of Dezful due to the decorations of the interior and exterior (Khavunchini) of old buildings, the narrow and winding alleys and the high height of the side walls (sometimes up to 3 stories), the presence of sabats which are masterpieces and symbols of traditional Dezful architecture. etc., has become known as the brick city of Iran. Every place of this ancient fabric has beautiful and eye-catching passages and alleys; by passing through them, the human soul is pampered, and the tongue opens to praise the creators of these works. In the Qaleh neighborhood and near the historical market of Dezful, Saffar Alley is located, which is one of the most beautiful passageways of the ancient context of Dezful due to the presence of Jubin, Safar, and Ketabi sabats, the twisting of the alley and the height of the side walls and the presence of historical houses (Fig. 3).



**Fig. 3. Narrow and Winding Alleys with High Heights and the Presence of Sabats in the Architecture of the Neighborhood are Characteristic of the Architecture of the Historical Context of Dezful City**

## 5.2. Entrance Space

The placement of residential units with a special order together in the traditional architecture of Dezful depends on the dimensions of the land, economic status, and livelihood, and for this reason, the residential units are visible in the appearance and exterior according to the internal formation system. In a traditional residential unit, the façade

is a continuous combination of filling components placed together according to the internal system of the unit (Habibi 1992). One of the important elements in the facade of Dezful City is the entrance. The entrance design's shape and importance represent the building's role and function. In the traditional context of Dezful City, architects and designers have covered residential buildings with bricks to create various effects of rhythm (Momeni et al. 2019) (Fig. 4).



**Fig. 4. Entrance Arrangement and Its Functional Space in Dezfulese Houses**

The simplest type of neighborhood architecture can be defined by combining and connecting inputs. To

create neighborly relations between people in the historical context, the entrances of the houses are

placed together and close to each other, which has created a close relationship between the neighbors (Fig. 5). Together, facing and side by side with special architecture, they have formed a more private

environment in such a way that it feels like that part of the passage is for those few houses, and they have a close relationship. This situation has been defined as a kind of neighborhood unit by approaching each other.



**Fig. 5. Juxtaposition of House Entrances in Dezful Alleys and Creating a Space for Neighborhood Relations**

### 5.3. SABAT

One of the noticeable architectural features of Dezful's historical context is its covered passages and alleys called Sabat. What is imprinted in the minds of the word Sabat is a covering on the passages to create shadow and wind protection. Sabat has an ancient root that consists of two parts: (Sa), meaning comfort, and (Bat), a symbol of mansion, building, or settlement (Pirnia 2004). At large, the construction of a structure for the comfort and well-being of passers-by and people in a building complex is sabat. One of the important goals of the implementation and design of sabat is to create shade and protect passers-by from direct sunlight. The placement of the sabat is such that the passerby is placed in the shadow space of the sabat in a suitable sequence. In terms of the sense of solidarity and neighborhood, in some sabats, the entrance of several houses is integrated, which is a very important point. Another characteristic of sabat is the confrontation with monsoons. Sabat was designed and made in two ways. In the first type, the roof was flat, and beams made of mats or wood were used to create a flat roof. In the second type, the sabat was made as an arch and a dome to transfer the roof's weight to the ground through the columns and walls. Such a function of this structure helped to transfer the pressure of the earthquake to the ground and prevented the destruction of properties and buildings against strong earthquake tremors. Furthermore, the semi-closed structure of sabat caused hot air in winter and cold air in summer. In summer, the semi-closed sabat causes blinding wind in its space and creates cool and pleasant air; for this reason, we see sabats in most of the tropical parts of Iran. The construction of sabats is very important in terms of the strength of the structures, and it has protected the buildings against strong winds. One of the most interesting uses of sabats was that, due to their height, horsemen couldn't pass through them. For this reason, bandits and attackers who attacked

the neighborhoods and houses, and their number was not small in the past, were not able to pass through the neighborhoods. Sabat has had positive functions in Iranian architecture from the point of view of security. In the past, the sudden attack of several bandits on old neighborhoods and alleys was common, but the presence of sabat prevented the horse bandits from entering. They have also had many cultural and social uses. Their existence made the houses next to each other build a kind of harmonious community together, and people gathered and talked about different issues, for example, to follow up on the general problems of the place, etc. A room was usually built on top of the sabats, used for gatherings and gatherings of men. In these rooms, there are chairs and tools for sitting and holding meetings so that men can gather together and socialize. The presence of Sabats has provided a passageway for the alleys to a place for the neighbors due to their popularity, privacy, security, and the creation of a functional climatic space (Fig. 6). It is a suitable platform for establishing relations between neighbors and its formation.

In the historical city of Dezful, the construction of sabat has been very common due to the weather conditions. Dezful people call Sabat Sabat, and there are still Dezful sabats from the past in some of the old neighborhoods of Dezful.



**Fig. 6. Sabats are a Place to Establish Relations between Neighbors**

In the historical context of the Dezful city, there are some dead-end alleys known as Darband; in the dictionary, they are called narrow and short alleys (Farhang Moin 1971). Among the important points mentioned about sabat is the entrance of the houses below it, which, due to the sense of neighborhood, is a means to control the monsoon winds and stay safe from the sun. Another point of sabat is the use of its roof in neighboring units, which sometimes appear as a room facing the street. Sabat is also performed in the dead-end alleys that have formed the entrance doors of some houses. Such spaces, which are dead-end alleys with entrance doors and sabat and some without doors, are called “Darband”, which is suitable for the safety of the alley residents. Such alleys are often seen in the old texture of Dezful. Darband made it possible for neighbors to be part of the activities

between houses and families (relationships between neighbors). This quiet and peaceful place has turned a semi-public space into a more private space where neighbors can gather in a semi-public space and communicate with each other without the interference of strangers. This area belongs to the neighborhood of the houses in it and has caused more communication, closeness, and interaction among the residents. Darband has been immune from crowding and traffic for the public (Khaksari et al. 2005). In addition to being a neighborhood, Darband has is composed of a family group, and its residents are usually closely related to each other. Accordingly, it is said that Darbandas are axes of family members and their houses, which have winding, narrow, covered alleys and entrances (Khademzadeh 2006) (Fig. 7).



Fig. 7. Dead-End Alley (Darband) and Its Physical Space

## 6. RESEARCH FINDINGS

### 6.1. Characteristics and Tools of Neighborhood Architecture

Via examining diverse examples of neighborhood architecture in the historical context of Dezful city, in addition to the houses being next to each other to realize the neighborhood, each of the examples has generally common characteristics and some different cases of realizing neighborhood relations in the historical context and facilitating these relations. These indicators, in diverse forms, have strengths and weaknesses that have caused an increase or decrease in the presence of residents and an aspect of neighborhood relations. Each of these features has been formed with precise architectural considerations. In the present article, by examining the patterns and tools of realizing neighborhood architecture in the historical context of Dezful, the items in Table 2 have been discussed. In line with the formation of neighborhood architecture, the study of different species indicates that the most important tools that facilitate the space in terms of physical relations between neighbors include things such as

roofed alleys, differences in the levels in the texture, changing floor materials, using bricks or different combinations, partitions, creation of space for temporary sitting, changes in proportions, decorations and creation of shadow and light.

These things have caused the formation of a special architecture that includes things like:

**Privacy:** A place that allows residents to be present and communicate with each other.

**Climatic characteristics:** Creating a space combining light, shadow, and climatic comfort.

**Attention to people:** Creating a sense of belonging to the place and the specific architecture of the environment.

**Function:** A space that creates the presence of people in it

**Security:** Presence in the space and staying in it and increasing security with the presence of people.

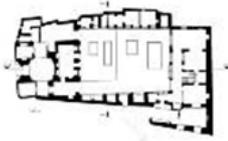
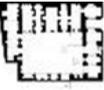
**Private space:** A space for communicating with neighbors and discussing.

These cases are positive features that have caused the presence of residents in the spaces of historical context.

Table 2. Examined Samples of Dezful Historical Texture Sabats

Sabat Name	Saffar Sabat	Zarshenas Sabat	Azizi Sabat	Old Bazaar Sabat	Ketabi Sabat	Seilani Sabat
						
Description	Sabat Saffar in Dezful is one of the valuable buildings of this context, which is located in Safar Alley of the Bazar neighborhood, next to the old market of Dezful, branching off from Imam Khomeini Street, the alley in front of the Jameh Mosque.	Zarshenas Sabat in Dezful is one of the beautiful sabats of the old texture of Dezful. The surrounding area of Zarshenas Sabat has valuable historical buildings such as Firuzi House, Molahaji Mosque, Sabat Kapesh, etc., and it is one of the most valuable axes for holding weaving tour programs.	Azizipour Sabat is one of the historical crossings of the old Dezful structure, located in Barbod Alley in the Lorian neighborhood. Around this valuable structure are works of national registration, such as Pla Bachilon, Turquoise House, and Sanii House in the Lorian neighborhood.	The Sabat of the old Bazaar of Dezful is located at the entrance of Ahangaran Row and has given it a beautiful appearance.	Ketabi Sabat is one of the beautiful historical monuments of the old texture of Dezful City. It is located near the Namadmalan row of the old market of Dezful city.	Seilani Sabat is one of the valuable buildings in the historical context. This sabat leads from the east to Kharratan Pass and from the west to the Abshar Pass. The name of this sabat is derived from the name of the nearby house called Seilani (Pakarzadeh).
Number of Doors	This sabat is L-shaped, its east-west opening is covered with a vault and toizeh, and its north-south opening is made with a four-part cover.	Three doors	L-shaped passage with two end doors of the entrance to the building in the east direction and its exit in the west direction	One door under the sabat	It has two doors With consecutive and winding cobwebs	One door
Type of Material	Brick, plaster, and straw	Brick arrangement	Brick, plaster	Brick and plaster decorations	Brick and plaster decorations	A combination of plaster bricks with ceiling decorations
Sitting Area	Does not have	Does not have	Has	Has	Has	Has
Decorations	Brick decorations	The traditional space of passage leading to Zarshenas Sabat, along with its beautiful brick layout, leads a person from the heart of the earth to the heaven of bricks.	Sabat brickwork style on the upper floor has exquisite brick arrays in key style and has a residential use.	Brick decorations at the entrance of the old market	A combination of brick with decorations on the wall	It has a combination of plaster and brick Especially the ceiling decorations
Flooring Type	Does not have	A cohesive combination of bricks	Does not have	Composition of cubic bricks	Has	Has Using stone in flooring
Light and Shadow	The height of the buildings around Safar Alley, the compatibility of the historical context of Dezful with the climatic conditions	Full and empty space and creating light and shadow	This sabat has a height of about 6.30 meters and a width of 2.5 meters. And it has less light	It has less light due to shading in front of the door of the residential environment	Combining full and empty spaces to create light and shadow	This sabat is longer than other sabats and is L-shaped at the end.
Proportions	It is in the middle of a neighborhood with a completely traditional texture and a winding alley with successive Sabats.	Has Roofing	Has It is roofed and has an upper-floor	Has Roofing	Has Roofing	Has Roofing

**Table 3. Examining three Examples of the Entrances of Houses in the Qaleh Neighborhood from the Historical Context of Dezful City**

Physical Patterns of Neighborhood Architecture			
House Name	Entrance to the Historical House of Zargar	Ghalambor Historical House	Tiz No House
Description	Zargar House is one of the most magnificent historical houses in Dezful, located in the Majdian neighborhood. The special importance of Zargar's house is due to its exterior, where the tasteful architects of Dezful built the largest brickwork in its entrance. The size and design of the entrances of traditional houses in Dezful, in addition to showing the builder's creativity, has also demonstrated the personality of the homes, and the houses with more wealthy owners have built more magnificent entrances.	The detailed and intricate brickwork of the vestibule ceiling, various types of porcelain and friezes, inscriptions on the facades of the courtyard, and types of five or seven arches, goat horns, crescents, chevrons, keel and arches, and ornaments are among the decorations of this building. Also, the types of wooden lattice doors, windows, and complex and beautiful plastering in the rooms and other building parts have doubled.	It is one of the most important and beautiful historical houses in the Qaleh neighborhood, which has all the features of Dezful houses from the point of view of architectural style. This structure is spread on the eastern side of the main square of the Dezful Castle neighborhood.
Sabat	It has, and it is located near Saffar Sabat.	Has	Does not Have
Plan Shape		First Floor Plan  Ground plan 	1st and 2nd floor plan  Ground plan 
Platform and Seating at the Entrance	There is a seat for older adults at the door and a platform.	Entrance, there is a seat for old people	It has an entrance platform but no seats for elderly people
House Entrance	After that, we enter the vestibule, the floor well-paved with natural stones from the Dez River. The entrance part of the house is well separated from its central courtyard by a vestibule and a narrow path, creating complete privacy at its entrance.	This magnificent house has an entrance hall on the west front and a beautiful vestibule on the southeast front.	This house has eight entrance doors, a central porch, rooms in the porches, ambulatory, Shabestan, and shavaadun, and beautiful brickwork of the frieze and Khavunchini type.
Materials	The special importance of Zargar's house is due to its exterior, where the tasteful architects of Dezful built the largest brickwork in its entrance.	This house has brick materials with Khavunchini compounds and defined entrances.	Detailed and complex brickwork (Khavunchini and frieze) and very beautiful and detailed inscriptions along with various types of arches used, such as five and seven arches, crescent, crossbow, goat's horn, kilil, and arch

**Table 4. An Example of the Positive Points of the Species in the Neighborhood Relations in the Alleys of the Historical Context of Dezful City**

			
The proximity of the entrance doors of the houses and being together between two sabats	Neighborhood space in context	Creating a space for sitting and talking and establishing neighborhood relations	The presence of seats for older adults at the entrance of houses of historical context
			
There are platforms in front of the houses in the neighborhood	The existence of winding alleys and the proximity of the entrance doors of the houses	The existence of dead-end alleys is one of the positive points in establishing relations between neighbors	The combination of two types of sabat together

## 7. CONCLUSION

Social interaction is the foundation of society, and being a society primarily depends on its interactions. According to the presented materials, it can be concluded that both concepts of “neighborhood unit” and “being a neighbor” have diverse physical, social, and perceptual dimensions, with the important difference that in the idea of neighborhood unit, the emphasis is on the physical size in several limited scales. An arena supporting social relations should be planned and designed. Inspecting neighborhood architecture in the historical context of Dezful, architects have prepared semi-public areas with the two categories of spatial and physical proximity (characteristics of roads and proximity to houses) to create a meaningful relationship between houses and people's interactions and to strengthen neighborhood relationships, and the surveys conducted on historical neighborhoods of Dezful show that by creating places such as roofing alleys (Sabat), creating a place to sit, stop and talk, creating climate comfort (hot and humid areas), bringing houses closer to each other, reducing the width of passages, creating differences in levels, entrance decorations, proportional changes, using materials such as bricks, creating light and shadow (Fig. 8) to create certain spatial qualities in public areas have been done. Things like security, privacy, solitude, climatic and functional comfort, and attention to people have increased people's presence in these fields. These positive points in the

architecture of the historical context have caused a close relationship between neighbors, which is called neighborhood architecture. This architecture is identified and separated by physical types such as sabat, entrances, and dead-end alleys. These existing common features have caused the formation and strengthening of neighborhood relations (Fig. 9).

Factors affecting the strengthening of social relations in the structure of the interconnectedness of houses and neighborhoods are:

1. “Gathering or scattering.” Paying attention to the issues that can cause the dispersion or gathering of people and activities on different scales. In such a structure, public spaces are the most important elements in the city map, and all other functions are effectively placed along the streets and towards them. Such a structure can be found in most old cities. This section is related to the quality and desirability of the space.
2. “To mix or separate”. To allow different activities and groups of people to perform various functions with each other or together. Separation means that various activities and groups of people are separated.
3. “To invite or repel”. Public spaces may be inviting and easily accessible. In this case, people are encouraged to be in the space. On the other hand, spaces can create repulsion, making the presence in the space less colorful. So, the attraction or repulsion of public space depends on its shape concerning private space and the relationship between the two.

4. "Opening or closing". Openness or closedness of the space depends a lot on human sensory experiences. The human being considers a space or place to be closed or open based on his experiences of being in the space by referring to his senses.

5. "Walkability". Walkability in space is one of the important conditions for keeping space alive and strengthening civil life. Factors such as the type of adjacent spaces, the quality of the space, as well as the activities in the space, can affect this feature.

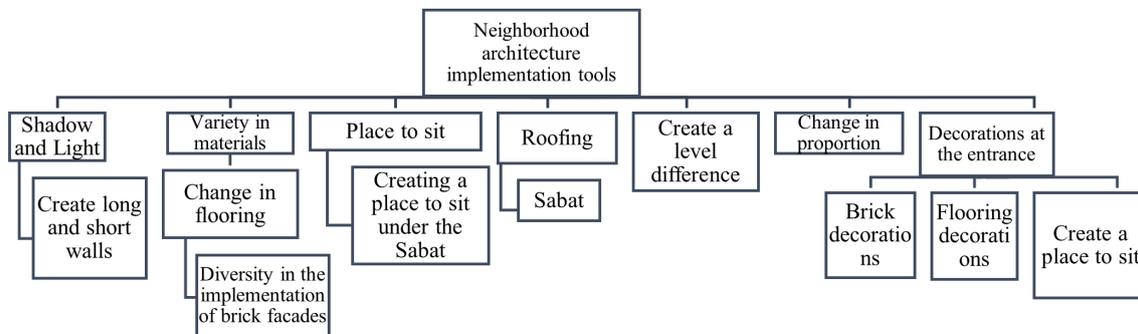


Fig. 8. Neighborhood Architecture Tools

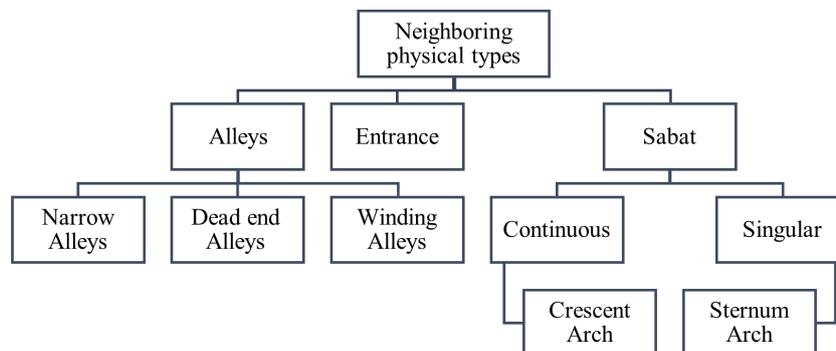


Fig. 9. Physical Types of the Historical Context of Dezful

Urban crossings in hot and humid areas, exclusively traditional texture, used sabat to protect from direct light and sunlight. High walls have been formed by creating shadows in the passageways, and the sabats have been formed in the urban space along the passages to create a balanced sequence of light and shadow. By creating winding arteries that often extend in a broken path, it has somehow defined the direction of the wind movement, and these factors have had a

positive effect on the neighborhood relations of the old tissues and have been a kind of communication factor between people. These types and valuable patterns in the architecture of the historical contexts of Dezful city need more attention to establish social relations and model the architecture of the past in order to play a positive role in the promotion of authentic Iranian architecture.

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The authors have no conflicts of interest to declare.

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## PARTICIPATION PERCENTAGE

The authors state that they have directly participated in the stages of conducting research and writing the article.

## ENDNOTE

1. Relations between two or more people that can be established verbally or non-verbally are called social relations (Weber 1995).
2. For example, in the context of the impact of neighborhood relations on society's norms, such as security, it has been proven that the feeling of social security is greater in areas where neighborhood relations have more depth, dependence, and satisfaction. Moreover, a strong and direct relationship exists between participation in neighborhood relations and a sense of security in city neighborhoods (Sediq Sarostani et al. 2009).
3. Grounded theory.
4. Banerjee and Baer (1984), in research titled "Beyond the Neighborhood Unit," and David and Herbert (1993), have presented various definitions of the neighborhood. Chaskin (1997) has listed the different dimensions of the neighborhood unit. Other researchers who have presented materials on the new neighborhood concepts include Patricios (2002) and Keller (1968).
5. See Perry (1929).

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