



## Using The Redefinition Of Iranian Architecture Terminologies In Designing Residences

Amin Khadam Shariye Samani\*

\*Department of Architecture, Qazvin branch, Islamic Azad University, Qazvin, Iran,  
Aminkhademshariyesamani@gmail.com.

### Abstract

The question is “How can the terminologies in Iranian architecture be investigated from a modern architectural perspective?” This study aimed to answer this question from a post-structuralist philosophical perspective. The study methodology to answer the question was to investigate the language of Iranian architecture in the structural philosophy, as a structural pattern can be used to analyze Iranian architecture, understand its semantic units and syntactical rules, and finally help discover its linguistic structure. From a structuralist perspective, the statistical population of Iranian architectural concepts can be divided into four elements based on their scales and functions. These elements include construction materials, components, spatial organs, and urban organs. Now, to understand the spatial structure of Iranian architecture, its spatial organs and combined rules are analyzed, and these terms are deconstructed to achieve a new definition of architectural terminologies. The outcome of this study was to redefine spatial patterns to familiarize with the language of this architecture, which helps develop a method to deal with concerns about how to use those patterns in the design process; this is like learning the vocabulary and the syntactical rules of any other language, which helps the learner to apply them to daily speeches based on his tastes. In other words, the outcome of post-structuralism in Iranian architecture is to teach a designer the sense of space or some spatial patterns such as courtyards, etc. based on design conditions, such as climate, and to help him use these patterns if necessary.

**Keywords:** Post-structuralism, structuralism, deconstruction in architecture, spatial patterns of Iranian architecture

### Introduction

Architecture should meet our physical and psychological needs about the surrounding environment and help develop a structure and a framework for daily activities; most importantly, this framework should indicate the cultural, moral, and symbolic values of our architecture. It should be pointed out to what extent a building of our past can affect our subjective image of it. Since nature always disrupts its order, a creative motive in a work raises a question and a reevaluation. To answer this question, old experiences emerge and the new generation should define them again.

Post-structuralism is a construct that discovers the semantic framework of cultural phenomena, and since architecture is a cultural category, it falls under this approach. Post-structuralists, like architects, break down the meaningful elements of cultural phenomena to redefine relevant terminologies. The discovery of these new semantic structures helps reproduce cultural phenomena. Thus, based on these structures, a modern pattern apart from forms with special historical aspects can be developed. This is just like what Propp did to discover the linguistic structure of the *Fairy Tales*, where he developed a new procedure to discover the main pieces of the stories by providing a general model and reproducing new stories based on those patterns. This recognition and semantic process in architecture is called post-structuralism in architecture. According to the structuralists' perspective, a general system or a rule refers to linguistic units (Langue), which are the subsets of a language meaning personal or individual actions, and semantic units (Parole) in architecture meaning speech by a designer. From the structuralist perspective of Iranian architectural patterns, semantic units can be divided into four elements based on their scales and functions. These elements are as follows:

1. **Construction Materials:** Bricks, Ahar<sup>1</sup>, Arash, lime cement mortar, Charoug<sup>2</sup>, Chelipai<sup>3</sup>, Zhazh<sup>4</sup>, Simgel<sup>5</sup> or Sim Kahgel<sup>6</sup>, tiles, etc.

<sup>1</sup> Substance made of starch, resin or gum or glaze and the like to coat clothes, paper and other things to make them hard and strong.

<sup>2</sup> It is a type of traditional and waterproof mortar that has been widely used in Iranian architecture

<sup>3</sup> Symbolic pattern

<sup>4</sup> Zhazh: A type of soil that is used in some desert areas instead of straw in mud straw mixture.

<sup>5</sup> Simgel (Sim Kahgel) is a mortar that is used like plaster and soil for the bottom layer of the final coating or for the purpose of final coating in enclosing walls.

<sup>6</sup> Also mud straw mixture

2. **Components:** Brickwork, Asemaneh<sup>7</sup>, quay, side light, Pachang<sup>8</sup>, Palaneh<sup>9</sup>, Poshteh<sup>10</sup>, Pishani<sup>11</sup>, Tas, Nim Tas, Torreh<sup>12</sup>, Tungan<sup>13</sup>, Jenaghi<sup>14</sup>, Jahaz, Chofd<sup>15</sup>, Tevizeh<sup>16</sup>, Patkaneh<sup>17</sup>, stalactite work, Chapirah<sup>18</sup>, Khyarah<sup>19</sup>, Dandan Moushi<sup>20</sup>, Rasmi-Bandi<sup>21</sup>, Karbandi<sup>22</sup>, vaulting, domes, Horno<sup>23</sup>, Yazdi-Bandi<sup>24</sup>.
3. **Spatial Organs:** Atrium, rooms, porches, balconies (solar), terraces (sleeping porch), Pishtaq, Tabkhaneh, Chartaghi, ponds, alcove, halls (corridor), arcade, Setavand<sup>25</sup>, cellars, prayer halls, Suffa<sup>26</sup>, Gholam Dar Gardesh<sup>27</sup>, pavilion (summerhouse), rotunda, sunken courtyard, minarets, vestibule, and courtyard.
4. **Urban Organs:** Water cellars, fire temples, Arg<sup>28</sup>, bazaars, towers, Charbagh, Zigorat<sup>29</sup>, Sabat<sup>30</sup>, Sharestan<sup>31</sup>, caravanserais, bathhouses, minarets, schools, mosques, guesthouses, etc.

Research into the structure of meaningful elements and understanding this language help us to better realize the nature of the traditional architecture based on experience patterns over time and to use a poststructuralist model to discover the semantic layers of each term. This will thus enable us to use these patterns in real and educational designs and to give them cultural meanings. This approach could not only help better realize Iranian architecture but also opens a window to deal with traditional architecture in modern designs.

To understand this challenge, it is required to take a walk in one of the so-called modern cities of Iran to observe a set of architectural opposites. A set of classic and modern European facades, heterogenous skylines, a mismatch of shapes and functions, etc. are just small references to these opposites. To resolve these opposites, it is required to provide an order based on Iranian cultural patterns. Part of this challenge arises from our failure to understand our architectural language; for this, we need to better realize our architecture. Architectural journals have, in the meantime, confined architects to designing buildings without regard for cultural, local, and climatic conditions. Unfortunately, fashionism has penetrated the thoughts and minds of our architects and artists, and for this, it is thus required for modern architecture to have a new model and a language to define an Iranian architectural structure. However, a model that can lead modern designers to deal with the rich Iranian architecture and consolidate its position in the world's contemporary architecture is lacking. Much has been said of whether or not our architecture has a certain logic, but no study has ever embarked on redefining these architectural patterns. Deconstruction studies are one of the emerging scientific methods that deal with and help understand this kind of architecture. However, no serious study has ever been undertaken on this subject except for a few past studies.

### Structuralism

Structuralism is a model that investigates the framework of cultural phenomena in a linguistic form; this model realizes meaningful units such as vocabulary and their syntactical rules to explain a certain structure. Also, this structural model

<sup>7</sup> House ceiling

<sup>8</sup> Pachang: Refers to windows are lattice windows up from the ground.

<sup>9</sup> Palaneh (Paloneh): Holes or small round openings in the asemaneh or on the arches of bazaars, mosques, graves, imamzadeh shrines, etc., which are installed to purify the air. It is also called air conditioner.

<sup>10</sup> Mound

<sup>11</sup> Frontal parts

<sup>12</sup> Volumetric and surface element

<sup>13</sup> Carvings and patterns on wooden pillars are called "Tongan". These carvings on the top of the columns are considered a type of wooden stalactite work.

<sup>14</sup> Herringbone

<sup>15</sup> It is a curved structure in architecture

<sup>16</sup> The load-bearing beams of arched roofs that transfer compressive loads

<sup>17</sup> It is an organ that is defined based on its shape (geometric) characteristics and structural properties and includes several rows of ledges that are mounted on each other based on a specific and regular geometry and come forward.

<sup>18</sup> A transition area from the base square to the dome is called chapireh

<sup>19</sup> It is a type of toothed decoration in architecture or objects and containers

<sup>20</sup> In the classic view, it is a set of rectangular blocks that are a little apart and form a template.

<sup>21</sup> It is one of the Karbandi methods in the traditional architecture of Iran, which aims to decorate and cover the buildings to divide the surface of the door, under the dome, and the porch.

<sup>22</sup> The distance between the quadrilateral design where the stalk of the dome starts

<sup>23</sup> Horno in traditional Iranian architecture is called lighting above the ceiling/skylight

<sup>24</sup> it is an ornamental element used in arches

<sup>25</sup> Stavand is a porch that is placed in front of the facade of a building and forms a low façade (veranda)

<sup>26</sup> Any covered space, whether curved or flat

<sup>27</sup> Open or covered corridor around buildings and big buildings

<sup>28</sup> Small castle/ a ruler domicile

<sup>29</sup> Ziggurats were solid buildings that were built like stairs

<sup>30</sup> Archway

<sup>31</sup> A government fortress with palaces and gardens and the main fire temple for kings and the privileged class

can help analyze structural concepts in architecture, realize semantic units and relevant syntactical rules, and finally discover their linguistic structure (Ebrahimi-Ganje, 2017:5).

Structuralism was established predominately in France in 1950 and was advocated by European and American researchers and academics. This branch of science also found its way into anthropology, philosophy, aestheticism, artistic critique, literature, psychiatry, political studies, and even architecture. Structuralism has been defined as a method, creed, enlightenment style, and ideology. A pioneer in modern critique, Babak Ahmadi, calls structuralism a scholarly (philosophical and scientific) approach to analyzing cultural phenomena in general (Ahmadi, 2001:7). Structuralism first began to study linguistic structures; however, it was later developed to cover human and mythological subjects. Structuralists concluded that language is a social construct and each culture reproduces semantic structures, narratives, or texts based on a common underlying pattern; thus, this can help people organize their experiences and give meanings to them (Jahanbaglou, 2005:50). Semantic constructs emerge out of micro-structures of a macro-structure, which are themselves products of special relations between various components of that structure; thus, we need to investigate them from a structuralist point of view (Ahmadi, 2001:95).

### **Post-Structuralism**

Deconstruction has been defined as breaking down structures, analyzing the underlying significance, and the disassociation of foundations. Other definitions include long-standing misleading, skepticism and anti-rationalism, pseudo-transcendentalism, neo-Heideggerism, etc. Each of these approaches has found and raised aspects of deconstruction. Deconstruction is defined to be a farewell with speech and is said to result from myths, allegories, and amphibology. That said, deconstruction cannot be exactly defined because it naturally opposes logic, delimitation, and definition, and for this, in a letter to Prof. Izutsu, Derrida suggests that definitions of deconstruction and what it is and what is not are doomed to failure or should be at least regarded as false (Ansari, 2004:12).

Deconstruction is a kind of reading a text, which seeks to discover presumptions within a text; Jean Jacques Derrida uses deconstruction, another aspect of metaphysical critique, to dismantle structures and to reveal the true nature, and in this connection, he aims to reveal the origin and the role of an authoritative, dominant, and excellent center within the structuralism of a structure itself. Hence, Derridean deconstruction never carries a negative concept of demolition or destruction. In a letter to Jean Jacques Derrida, Peter Eisenman suggests: unlike language, architecture is overshadowed by presence due to the real presence of the signified; architecture requires man to not only separate the signified from the signifier but also to remove it from its presence. For example, a hole on a surface or a vertical element should be detached not only from its signifier, i.e., a window or a column but also from its presence, i.e., from the signs of the possibility of light, air, or structure, without causing the room to fall into darkness or the building to collapse; however, this does not apply to language. Thus, according to Jean Jacques Derrida, the traditional dialectic of presence and absence can be used to play with such words as *glas* and *post* or with *glaze* and *gaze* (Pirbadian 2014).

Although architecture, having been developed, is associated with a kind of stability, it runs into conflict with the nature of deconstruction; this conflict, however, not only did not cause the deconstruction movement in architecture to be ceased but was also revealed to have a special facet in it. The metaphysics of presence that Derrida considers as the common aspect of all Western schools of thinking is replaced in architecture with pure geometric forms; forms that reached their peak in the modern movement. In the critique of modern architectural forms, there are broken, entangled, inconsistent, and unfamiliar forms, which over time create buildings, which reveal the formative principles of deconstructivist architecture. Thus, this thinking converts into a style, which itself involves untold principles that form a work of architecture; This is because deconstruction is not a method and it is impossible to be converted into a method. A deconstructivist architecture ignores the principle of the no-principle deconstruction philosophy to only demonstrate its true nature, while practically distancing from it (Rafiei, 2016:14).

Modern architecture avoids popular forms and postmodernism underestimates the styles and forms, previously belonging to a superior or popular culture, and blends them. Hence, postmodern architecture takes an intertextual procedure and seeks to reflect the existence of the users of a building. Thus, postmodernism advocates architecture that has a professional and popular foundation in line with architecture founded on new and old techniques and patterns. In the meantime, dual coding as denoting both aspects of popularity and novelty is an old issue, and there are cogent reasons for this conflicting duality (Rouhi, 2019).

Stirling's postmodernism reflects contemporary coincidences and the plurality of cultural groupings and styles to represent an epitome of intertextuality and to involve coding in dual postmodern architecture. Jencks' postmodernism, apart from Jameson's discernment, is represented as an intertextual approach where "language" once again relates this term to the social architectural situation by emphasizing Bakhtin's approach (Shahroudi, 2012).

### **Caravanserais**

There is no doubt that a caravanserai is an original Iranian term, which derives from *Karabat* meaning a house or a caravan, and was used in the pre-Islam Iran instead of a caravanserai (Ghobadian, 2018:18). Caravanserais had different functions in the past and for this, they had different names, as suggested by dictionaries, including *Karabat*, *Rebat*, *Sabat*, and *Khan*

(Kiani, 1994:1). In the historical literature, there are similar terms for caravanserais, which cannot be distinguished from each other. Such terms as Sabat, Karabat, Khan, Zaviyah, Khaneghah, Rebat, and Manzelgah fall in this category. These terms appear to perform a large spectrum of functions similar to those of caravanserais. For this, researchers and historical sources have failed to agree on a definition of caravanserais, and for this, there is no comprehensive definition. Apparently, in the past, any stopover in the middle of a road was called a caravanserai. Some considered caravanserais to be a center for the exchange of goods and a kind of guesthouse in the East, while others considered it as a safe place for protecting caravans and providing their comfort, which served as a castle. According to the Larus Encyclopedia, a caravanserai is defined to be a guesthouse and a safe place for the accommodation and sleeping of travelers in large groups. The main point here is that a caravanserai was a building for a caravan. A close look at this term reveals that the word caravan comes from the word Karaban (Maher Al-Naghsh, 2008:15). A caravanserai denotes a house for a caravan, which is the main definition of a caravanserai from a trade and commercial angle (Hadizadeh, 2014:34). This place was used to be a place for caravans to trade and to prevent bandits. These places, used for travelers' comfort and rest, included rooms for stay and were spaces for keeping quadrupeds. Caravanserais also had such secondary spaces as ponds, fountains, and other service areas for travelers (Ehsani, 2002:62).

From an architectural point of view, Iranian caravanserais were diverse and Iranian architecture used various patterns and styles to create caravanserais. The diversity of caravanserai plans and styles in Iran made them fall into various groups with special characteristics. Since Iranian caravanserais had expanded for various reasons, it is required to examine the climatic conditions and regional architectural styles of those caravanserais. Iranian caravanserais can be divided into eight groups in terms of geographical situations, which are impressive in terms of diversity, despite much similarity that exists between the buildings of each group (Moeini, 2015:8).

### Structuralism in Iranian Architecture

Like Greek architecture and the Western and classic cultures, Iranian architecture has been established on a certain linguistic pattern and structure. This linguistic pattern is composed of certain meaningful units arranged alongside each other based on specific syntactic rules and has brought about our architecture. In a structuralist approach to Iranian architectural patterns, these units can be divided into four elements based on their scales and functions as follows:

1. Construction materials; 2. Components; 3. Spatial organs, and 4. Urban organs. These meaningful elements in architecture help create an urban structure. To better understand the subject, let's carefully compare these elements with a sentence structure in linguistics. Meaningful units in sentences are respectively as follows: 1. Letters; 2. Words; 3. Phrases, and finally 4. Sentences. At last, when sentences are arranged along each other, they produce texts. Note that the arrangement of the following two diagrams does not mean the alignment of the same-level meaningful units on each of the diagrams. In essence, a phrase is aligned with a structural element, while a word is on the same level as a spatial element.

Concerning meaningful units, Iranian architecture also has the same story. For example, the Sheikh Lotfullah Mosque is made of such materials as seven-colored tiles, faience mosaic, wood, stones, bricks, and mortars, which have combined to establish the mosque based on a special rule. The meaningful unit in this analysis is materials. Here, materials can be replaced by such structural elements as walls, floors, ceilings, half-columns, domes, etc., or by such spatial elements as doorways, porches, corridors, rotunda, altars, and Maqsureh. For this, an analyzer determines the text and meaningful elements based on a goal he has considered. Our goal in this study was to investigate, interpret, and break down the word structures of the spatial organs in Iranian architecture; thus, the meaningful element is regarded as the spatial organ.

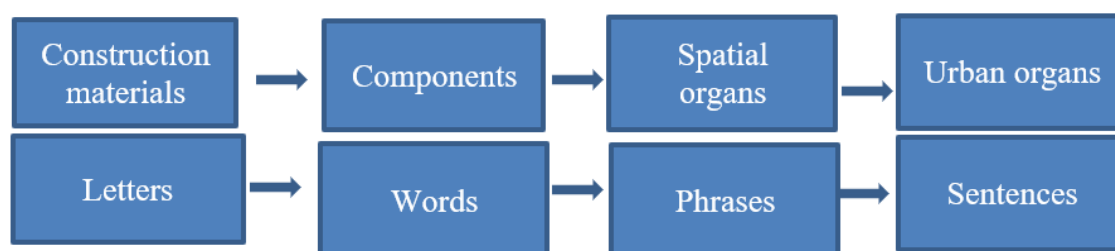


Figure 1: Comparison of textual structures in architectural terminologies

### Research Literature

Most research has briefly investigated the structures of Iranian architecture and has sought to understand its nature or fallen under urban development categories. For example, out of the Western and Iranian studies, the following can be mentioned:

The first structural and typological studies in architecture were conducted by Gholamhossein Memarian in the form of two books titled "An Introduction to Iranian Residential Architecture (Introvert Typology)" and "An Introduction to the Iranian Residential Architecture (Extrovert Typology)". In these books, Memarian has debated different types in a general way but refrains from delving into the details. In the urban area, the book "Isfahan's School: The Language of Urban

Design in Ancient Cities” written by Mohsen Habibi and Zahra Ahari can be cited, investigates the language and pattern of architecture in Isfahan’s urban development domains. This book is a significant work in terms of research structure. Other studies in this category are mostly concerned with residential architecture in a single city. In this connection, the book “The Alphabet of Yazd’s Traditional Houses” written by Mohammad Reza Ghezelbash and Farhad Abulzoya, and articles about Sabzevar’s house fabric can be cited.

There are also student theses in this regard, including studies on designs in specific ancient textures in different cities of Shiraz, and in ancient neighborhoods on the back of Isfahan’s Naghsh-e-Jahan Square; these studies have only discussed texture conditions and failed to investigate structures in both patterns and languages.

This subject has been taken up in the West more seriously and scientifically. For example, general architecture books have investigated forms, spaces, and order, and analyzed different angles of architecture. In the book “Architectural Composition”, for example, Rob Krier aims to discover the language and structure of classic European architecture to provide past patterns of architecture. Also, Derrida repeatedly emphasizes his stance by suggesting that every time he writes he thinks of drafting a piece of writing he will once write; a piece of writing he has not yet dared to write; for this, every time he writes, he repeats past works with the feeling that he has not sufficiently and necessarily written. Since each repetition differs from the previous one, his work leads to a game of repetition and difference. Derrida’s utopian enthusiasm for a free textual game will finally break down the established wisdom of language and moves toward a chaotic state. A game of this kind with writing that leads from one text to another will mark a main principle for deconstruction, which suggests that deconstruction must undo itself from within (Derrida, 1973:33).

In my view, Derrida suggests, “Your deconstruction of the dialectic of presence and absence for architecture is insufficient exactly because architecture is not a two-term system but a three-term system. Another condition is also deemed necessary, which I call ‘nowness’, it is neither an absence nor a presence, neither a form nor a function, neither a special use of a sign nor a drude existence of reality; rather it is a radical condition between a sign and Heidegger’s interpretation of <Being>; it is the formation and systematization of reasoning that is by itself called architecture.”

### Methodology

Part of this study falls under field studies, which include visits, and the collection of maps and documents relating to spatial organs and the deconstruction of structural and spatial elements at the place intended. Examples under study were examined based on field studies. Consistent with these studies, library studies were conducted about the meanings and functions of architectural terminologies; also, basic studies were performed about structuralism, while visual studies were used in analyzing and reproducing meaning.

A study of case studies in this article revealed three important subjects; the first subject concerned a sample of ancient Iranian architecture and its structure; the second subject related to the redefinition of Iranian architecture in modern architecture while the third one pertained to poststructuralism in world architecture. In this connection, the following architectural projects were examined in line with the subject under study.

**1. Mahyar Caravanserai:** In the Safavid era, out-of-city caravanserais had become prosperous for being situated on pilgrimage and commercial routes while hosting caravans and tourists. Caravanserais were used like modern hotels (Kiani, 2014:269). The Mahyar caravanserai was one of the most famous caravanserais of the Safavid era, which was located in the Mahyar village in south Isfahan and on the link road to Shiraz. The initial foundation of this caravanserai was erected during the Shah Esmail reign but was destroyed due to natural catastrophes, and was then reconstructed in the Shah Soleiman rule, with some parts added to it. In front of the Mahyar caravanserai stood a forecourt, including a bazaar with several chambers or shops for trade and exchange, a mosque, a teahouse, a butchery, a bakery, and a mill, which met the needs of travelers. These features were less common in other caravanserais (Mehdi, 2013:271). This caravanserai is rectangular at 82\*82 m and stands in a four-porch form. The building’s central courtyard is also rectangular with dimensions of 38\*48 m, with a total of 30 rooms of 5\*4 m each around the courtyard. Each of the rooms has a porch in the entrance section. In many caravanserais, especially since the Safavid era onwards, a wall fireplace or a place for making fire was embedded. The fireplaces were either in the rooms or in indoor areas outside the rooms. Inside the rooms of the Mahyar Caravanserai are eleven niches and a wall fireplace (Namvar-Motlagh, 2015:92). The Safavid era caravanserais, like many of their contemporary buildings, were decorated with architectural elements such as brickwork, tiling, plasterwork, and stonework. The decorations were generally used in the outer façades of the caravanserais, in the entrance section, on the archways, and the main porches (Kiani, 2014:273) (Figure 2).

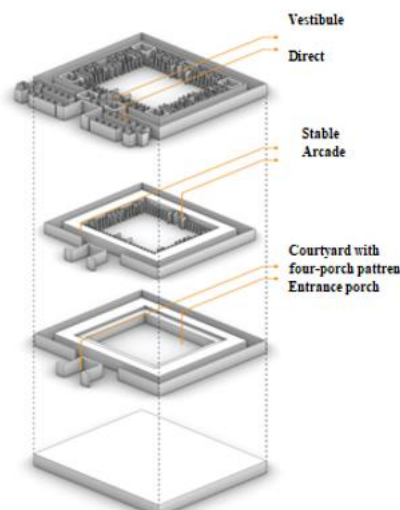


Figure 2: Spatial diagram of the Mahyar caravanserai (Source: authors)

## 2. Sang Siah Hotel

The project area is a complex museum site with a history of several hundred years. The project has been designed along surrounding buildings and based on contemporary needs, technologies, and facilities. Hence, the site has imitated the type, geometry, mass, texture, and color of the surrounding area, while its outer geometry is consistent with the pathways; meanwhile, its inner geometry is orderly and the internal diagram corresponds to the project's needs. The building has been constructed based on a courtyard pattern in the middle, with all the openings facing inwards, with the skyline formed based on adjacency with the surrounding buildings, especially the historical Mirza Hadi Mosque. The mild curve of the entrance shape is an attempt to invite guests to an all-brick introverted center that goes through a funnel-shaped spiral to provide for internal accesses and future expansion predictions on different levels. The more the spiral goes up, the wider it becomes. The project's rooftop is a vantage point in the middle of the Sang Siah Museum site that extends with tableaus representing the surrounding historical buildings.

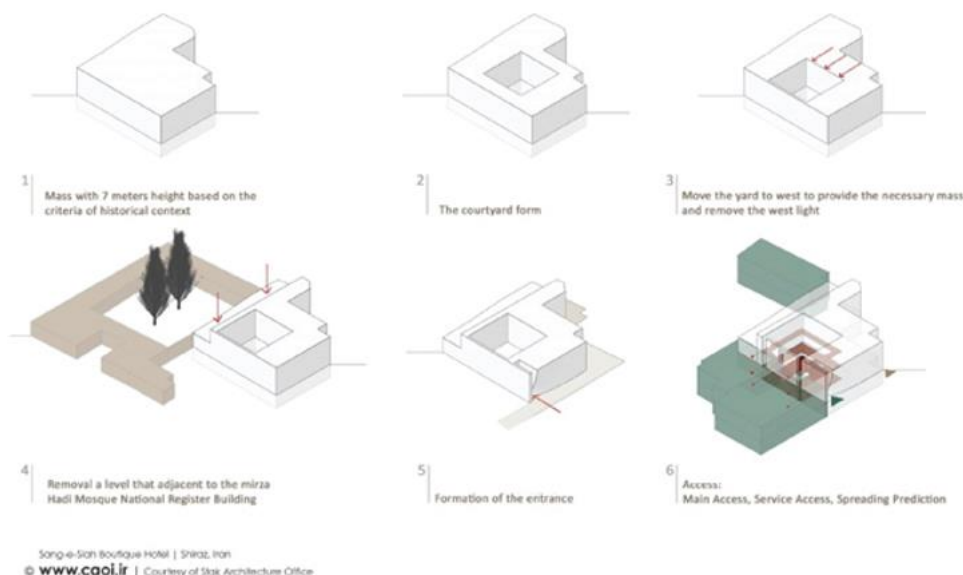


Figure 3: Spatial diagram of the Sang Siah Hotel (Source: Contemporary Iran's architecture site (<http://www.caoi.ir>))

## 3. House No. VI

This house is located in a flat area in Cornwall, Connecticut, U.S. House No. VI is like a statue standing over the ground. This plan has been taken from a conceptual and subjective process initiated by a network. Eisenman modified this network and divided the house into four parts, as the building could have been thought of as a unique and unprecedented design process during its completion. Therefore, the structural elements of the work and hence the process were noticeable, though it was not always understandable. Thus, the house became a place for the study of theoretical and real structures. This work has been effectively constructed by using a protective system and simple lighting equipment. However, some columns or lighting rays play no structural role and are only established to promote and improve the conceptual and subjective design of the building. For example, there is a column over the top of the kitchen table that does not even reach

the ground. In other spaces, light rays reach each other but do not intersect each other, and thus, create a protective or support complex. On this house, Robert Gutmann says: “Many of the columns do not play a protective or strength role in the building plan; however, they are present in the house like slits on the walls, ceiling, and the floor highlighting the rhythmic and geometric system of Eisenman’s subjective beliefs. The structure of this house is in harmony with Eisenmann’s network in expressing a design that creates an inner space with a set of plans that neutralize each other (Figure 4).

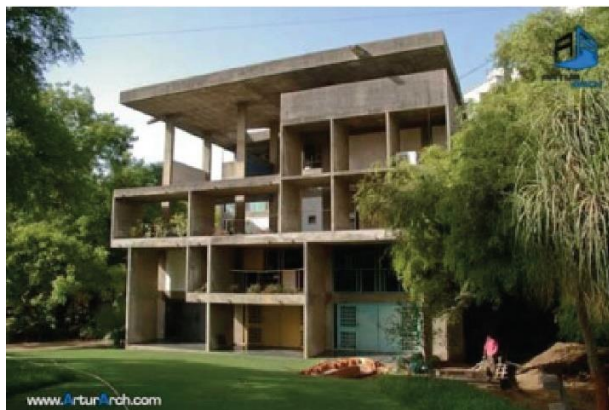


Figure 4: House No. VI (Source: Architecture Saita Iran (<https://iranmemari.com>))

**Site analysis**

The geographical situation the site is in the central neighborhood of Tehran and has access to Pamenar Street from the west. The differential plan is as follows: (Figure 5)

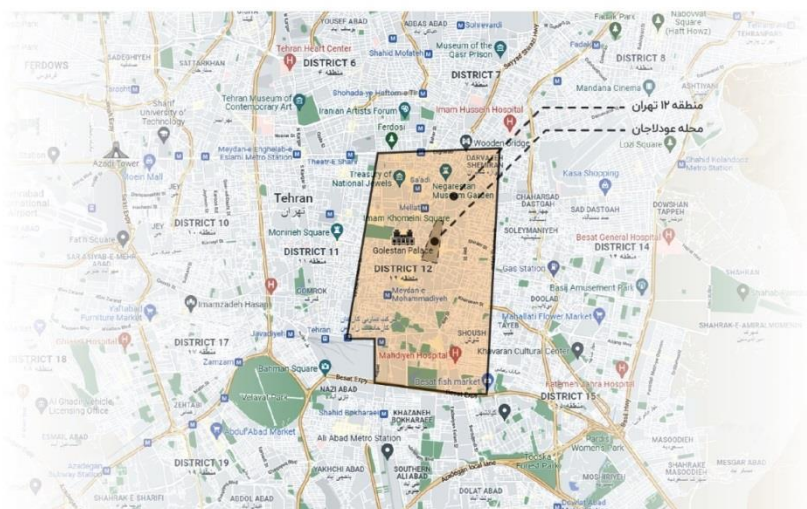
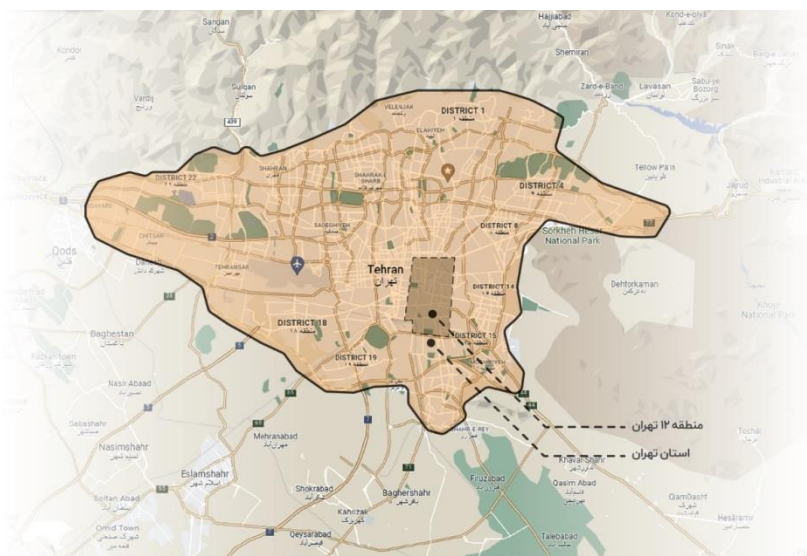


Figure 5: Site’s geographical situation (Source: author)

**Site address:** Moshir Khalvat Alley, Oudlajan Neighborhood, Pamenar St., District 12, Tehran. The dimensions of the land are 86\*95 m and its area is 8 thousand m.

### Findings

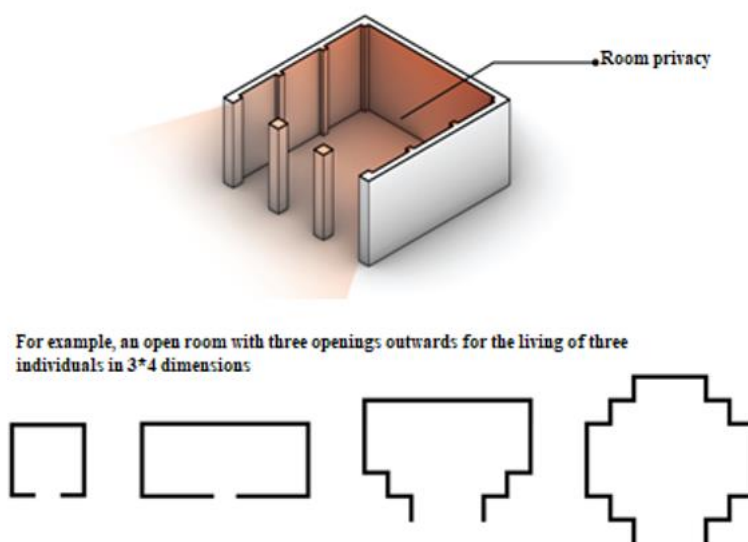
This study investigated spatial organ terminologies in the philosophy of structuralism. Now, to analyze data, we need to redefine these terms and provide a new reading of them. A number of these terms were selected based on the subject under study, which could help us design residential complexes. New definitions provided for the terms are attempts to deconstruct them and can involve a different reading. These new definitions have been introduced by the study author and are not necessarily true definitions of those terms, because there is no criterion for the truth or falsity of a concept in deconstruction. Each selected term has its fabric and concepts defined. In this section, in addition to defining the fabric and concept of terms, we will redefine the, which would help us design a new structure of residential spaces in Iranian architecture. A redefinition of these terms is as follows alphabetically:

**1. Room:** It is a spatial organ of a building with a special function; this organ is a fundamental organ of a house based on its special functions.

**Geometric shape:** It is a square- or rectangular-shaped space separated from other spaces with an inner wall, and connected to the courtyard with an outer wall.

**Physical structure:** Depending on its use and position in the space, a room is represented with different structures and names

**Room redefined:** It is a space for one or several people to experience a sense of security and comfort, which may physically change based on the number of uses it has; it is a space that connects to other adjacent spaces and involves openings.



**Figure 3: Spatial diagram of a redefined room (Source: author)**

**2. Porch:** It is an architectural roofed organ wide open to the outside from one to three sides; it is semi-open shaped (open from one side, and closed from three sides).

**Geometric shape:** Spatial U-shaped

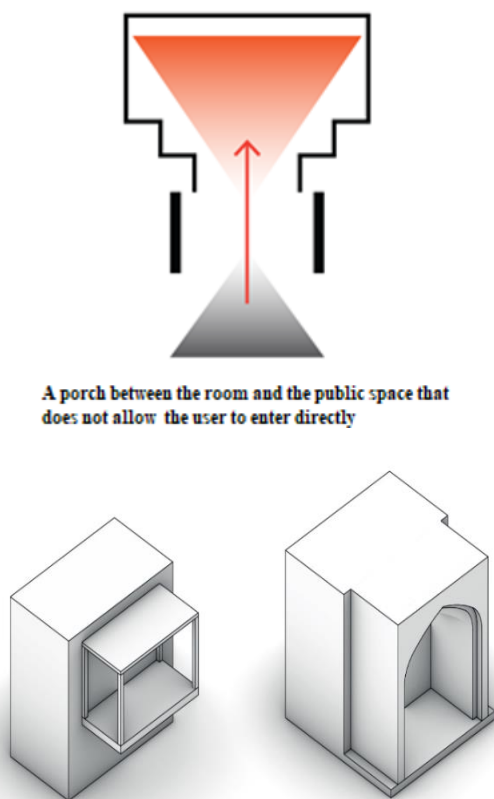
**Physical structure:** A porch space has generally three structural members; it has a curved ceiling and is represented as a symbolic index among other spaces of a building.

**Function:** It is an interface between open and closed spaces; an inviting space with a hierarchy

**Typology (Portals):** It has been represented as a porch and the only element for the introduction of introverted public buildings in the Safavid era with special characteristics that varied depending on the building node.

**Porch redefined:** A porch is an interstitial space (separating and connecting) between private and public spaces, and functions to create a boundary between the inner and outer space; meanwhile, it displays the significance of space for users due to its form and size.





A porch between the room and the public space that does not allow the user to enter directly

Figure 4: Spatial diagram of the redefined porch space (Source: author)

**3. Sleeping terrace (sleeping porch):** A sleeping terrace or Mahtabi<sup>32</sup> is an unroofed space that is above the courtyard. This space is usually made of three closed sides and overlooks the courtyard from the fourth side.

**Geometric shape:** It has a rectangular form without a roof while being closed from three sides and overlooking an open space from the fourth angle.

**Physical structure:** It is an unroofed space that is above the courtyard and lower than the rooftop. It has walls harmonious and proportionate to other elements. Its fabric resembles a porch with no ceiling, as access to this space is made through the intermediate stairs between the courtyard and the rooftop.

**Function:** It is a space for summer nights, and is usually used as a sleeping space and the privacy of family members. This space is often used in houses and schools.

**Sleeping terrace redefined:** It is a semi-open space that is adjacent to private rooms on the one side and includes the characteristics of a public space on the other side. This space is constructed for establishing communication between the sky and the user to experience a sense of security in a space with public space features. This space is also used for taking a rest in Iranian architecture. To connect with this space, it is required to enter it through the private space because it is different from the courtyard space from a height angle.

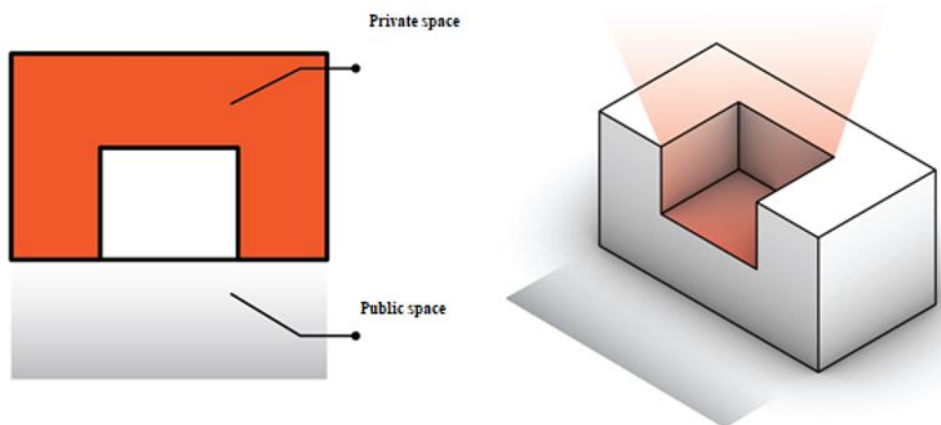


Figure 5: Spatial diagram of the redefined sleeping terrace space (Source: author)

<sup>32</sup> An unroofed chamber upstairs that reflects moonshine by nights

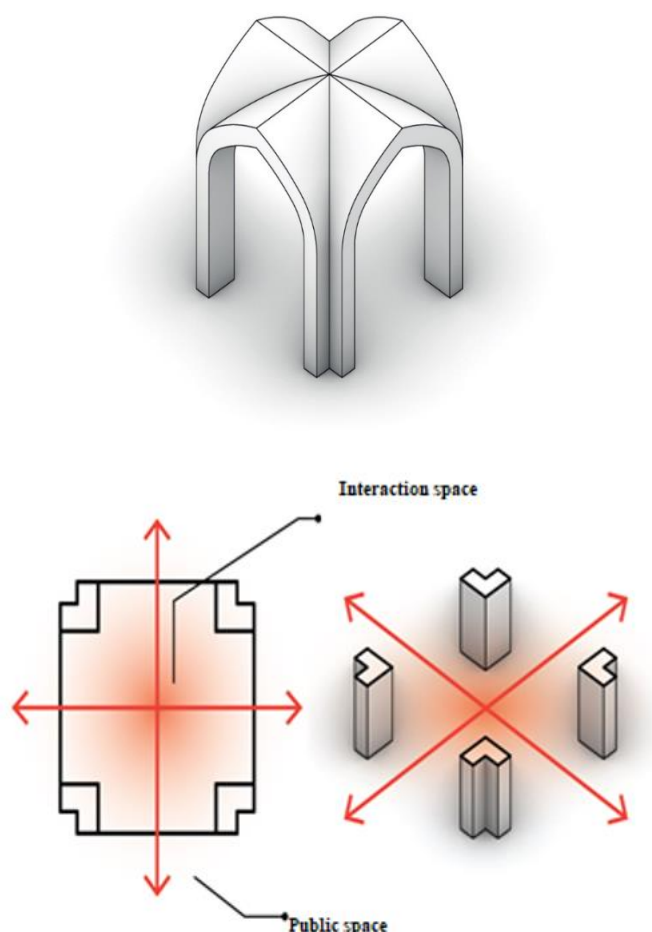
**4. Chahartaghi (Chartaghi):** It is a domed or roofed building founded on four pillars, with all four sides wide open. Chahartaghi structures are square-shaped and their pillars are made of stone over which lies a dome.

**Geometric shape:** It has four pillars both separated and connected by a dome.

**Physical structure:** This structure has a four-pillar form on four sides, falling under an individual type with an open and extrovert form, with a central spherical cap type implemented, while its connected form involves closed and introvert spaces. In the domed type, seen in the Safavid era mausoleum, central symmetry is noted.

**Functions:** Its type involves a mausoleum, a shrine (Imamzadeh), and a chapel, while its connected form includes palaces as in Hasht Behesht.

**Chahartaghi redefined:** It refers to a space directly connected to the outside. This space is created from two axes intersected, which helps the user to see the main axes of a building. The center of this space is generally used for user interactions.



**Figure 6: Spatial diagram of the redefined Chahartaghi (Source: author)**

**5. Corridor:** A corridor was a pathway located in the entrance sections of houses, Serais<sup>33</sup>, caravanserais, shrine sites, etc., and as the name speaks, it was a long and dim passage with a curved vault.

**Geometric shape:** It had an extended, sometimes twisted, rectangular shape depending on spatial land use nodes.

**Physical structure:** It involves many connecting elements between two or several spaces in different forms.

**Functions:** It is an intermediate space that adjoins spaces together, has a hierarchy, and is used in palaces, houses, caravanserais, bathhouses, mosques, and schools with different land uses.

**Corridor redefined:** It is an axis with pathway proportions, which prepares the user to get to a space with a different use. This space is used for the user to spend some time moving from one space to another. Its physical features may vary depending on the space that follows it.

<sup>33</sup> Mansion

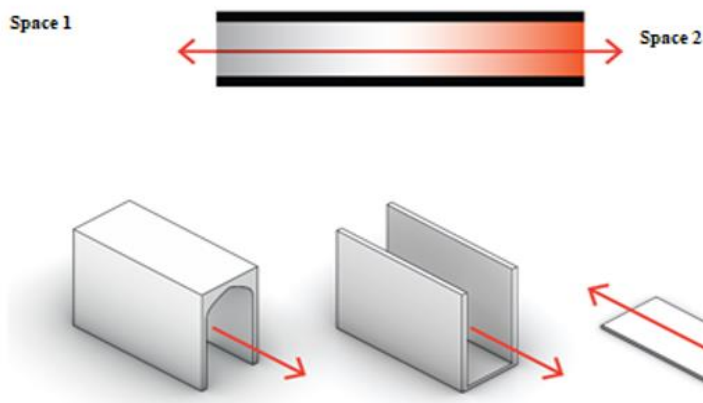


Figure 7: Spatial diagram of the corridor (Source: author)

**6. Direct:** It is an indoor and roofed pathway in a bazaar surrounded on two sides by shops and chambers.

**Geometric shape:** It has a linear channel divided by regularly rectangular shapes.

**Physical structure:** A bazaar direct is the skeleton and the main spinal cord of a bazaar passage. Branches cut off from a direct are called Rasteh involving secondary passages. Directs and Rasteh are distinguished by physical and subjective components.

**Function:** A direct is the core element of a space and contains chambers and shops with a diversity of goods. In Rasteh, however, there is less good diversity and the shops are usually coordinated and belong to a special guild such as the Rasteh of coppersmiths and the Rasteh of goldsmiths.

**Direct redefined:** It is a crowded axis characterized by the physical features of an inner space; however, its land use is similar to that of a public space, surrounded by spaces for relation with users. This space creates a sense of security for the user to communicate with other spaces.

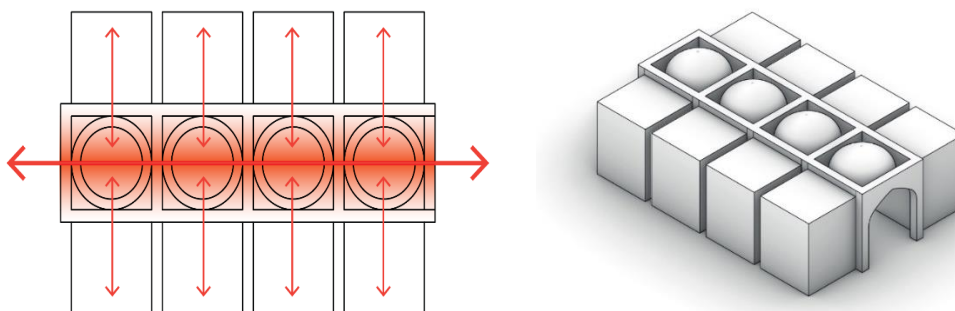


Figure 8: Spatial diagram of direct (Source: author)

**7. Arcade:** It is an indoor and columned space, made of vaults constructed on different sides of a courtyard, which connects the entrance of a building to a prayer hall or a rotunda.

**Geometric shape:** It has an extended columned space in a direction

**Physical structure:** It has a semi-open columned space usually positioned across the angle of one or several fronts of the courtyard.

**Function:** It is an intermediary between the open and closed spaces, and creates a hierarchy.

**Arcade redefined:** It refers to a space for maintaining the security of adjacent spaces; this space both connects and separates private spaces from public spaces. Physically, an arcade had a low width because the user does not waste much time there and usually goes through it.

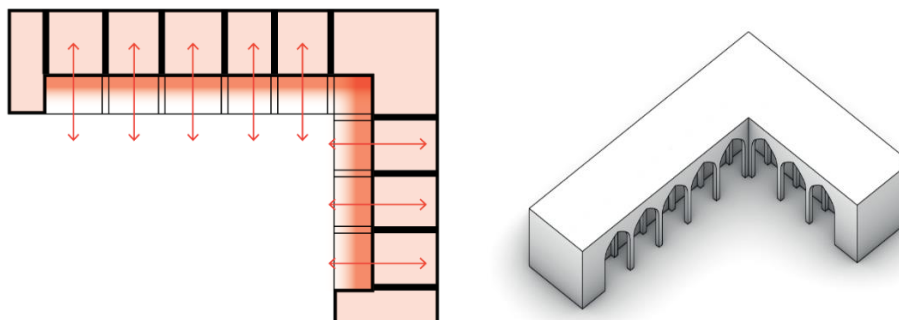


Figure 9: Spatial diagram of the redefinition of arcade (Source: author)

**8. Portico (Setavand<sup>34</sup>):** A Setavand refers to a plurality of columns (also known as Chehlsotuns) with no walls on three sides, and are semi-open in shape (i.e., open from three sides and closed from one side)

**Geometric shape:** Spatial U-shaped

**Physical structure:** It has a flat ceiling and uses columns to control the ceiling loads

**Function:** It is an intermediary between the open and closed spaces and serves as an entrance; an inviting space with a hierarchy

**Portico redefined:** It is a semi-closed space for the user to interact with the space that follows. A portico reveals the importance of its adjacent space; for this, this space has a broad fabric and involves continuous columns. This space has inner features but with outer land use because it is a semi-closed space.

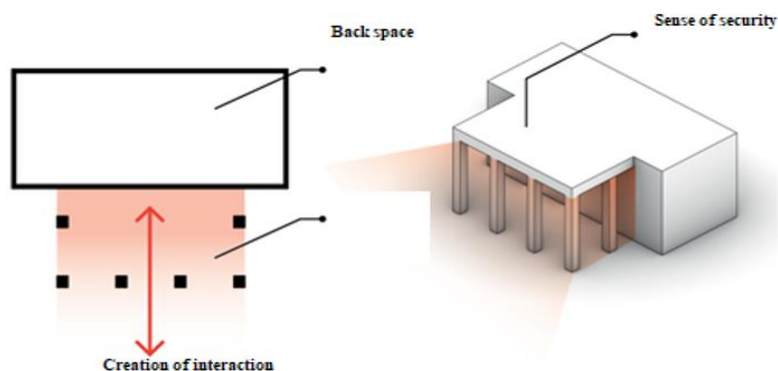


Figure 10: Spatial diagram of the redefinition of the portico (Setavand) (Source: author)

**9. Prayer hall:** It is a large indoor space that uses some piers and columns. The large surface of its ceiling is divided into smaller sections.

**Geometric shape:** It is an indoor space with uniform columns similar to Chahartaghis alongside each other (Tagh Cheshmeh).

**Physical structure:** Bearing arches are constructed on pillars, while spherical caps are used as fillers to cover the vaults.

**Functions:** In different religious ceremonies in mosques and chapels.

**Prayer hall redefined:** It is a semi-closed space inside which the user feels safe and comfortable and can interact with other users. This space has a broad fabric, which involves repetitive columns. This space has inner features with collective usage.

**10. Rotunda:** A house with a circular plan or a dome-shaped design.

**Geometric shape:** It is a square-shaped space covered by a dome.

**Physical structure:** Its structure includes Chapirah with Bashen<sup>35</sup>, corners (Gousheh), vaulting, and the dome chamber

**Functions:** The form of the building may vary depending on the type of land use, i.e., in mosques, schools, or palaces. This space is located under the main dome of a mosque and includes a Maqsureh and an altar.

**Rotunda redefined:** It is an inner space constructed at the intersection of two main axes. It is especially important because it has a large fabric and a greater level of height. This space has many uses, with less important spaces built in the adjacency of rotundas.

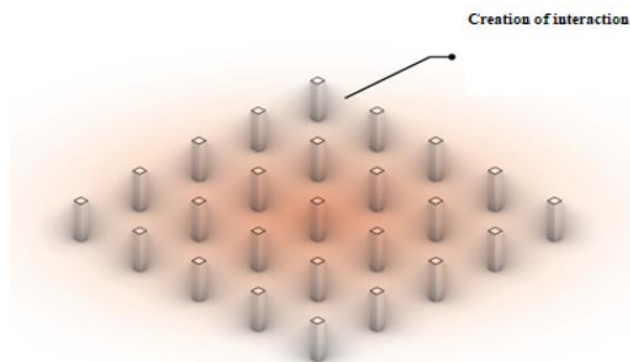


Figure 11: Spatial diagram of the redefinition of prayer hall (Source: author)

<sup>34</sup> Setavand is a porch that is placed in front of the facade of a building and forms a low facade. It may also be a vestibule. The difference between a Setavand and a porch is that the upper space of a porch can be used, but in Setavands, the space below the structure is used and it is usually positioned at the entrance of the building.

<sup>35</sup> The chest of a wall, the facing of a wall, the surface of piers

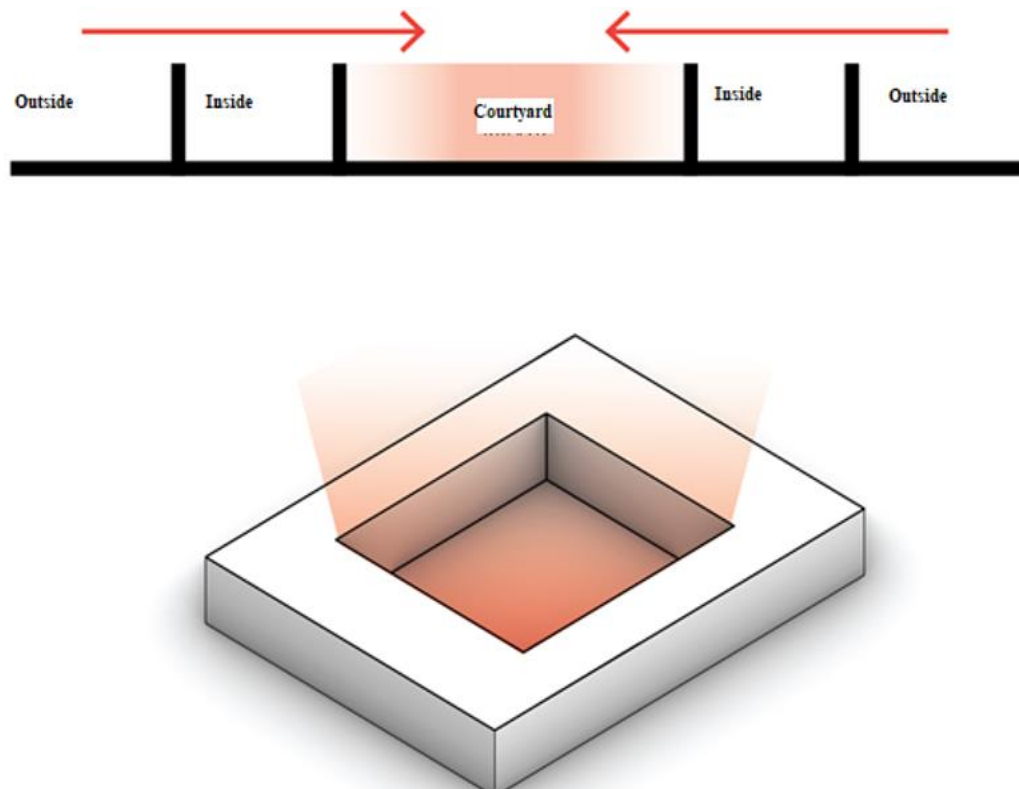
**11. Courtyard (Miansara):** It is an outdoor space without an Asemaneh, which is somehow enclosed and connects other building organs.

**Geometric shape:** It is a square- and rectangular-shaped space in some caravanserais, taking an octagonal form.

**Physical structure:** It is a courtyard when it is introverted and a garden when it is extroverted, with golden proportions used for its dimensions and sizes.

**Functions:** It serves as an element that organizes the main spaces in mosques, houses, schools, serais or mansions, palaces, etc., and includes water and airflow.

**Courtyard redefined:** A courtyard is a space characterized by outer properties. This space is fully private, which makes the user feel comfortable. In Iranian architecture, it is the most important space for the user to interact with all spatial components. A courtyard is known for its centrality, which makes spaces interact with each other.



**Figure 12: Spatial diagram of the redefinition of the courtyard (Source: author)**

**12. Vestibule:** A vestibule or Keryas was an outside section constructed in various forms; it was a covered space connected both to the alley and the courtyard. It was a space after the entrance space, immediately lying after the doorway, which helped establish relations with the outside. Most importantly, a vestibule functioned to divide the entrance pathway into two or several directions and to protect the house security.

**Geometric shape:** It involves various quadrilateral, square, and rectangular shapes, octagonal, etc.

**Physical structure:** It usually involves a small dome with a small opening that helps light enter the space and serves as a filter after the entrance section. In vestibules were platforms inside the heart of the walls.

**Functions:** It functions as an intermediary space between a main and secondary space, between an inner or outer space, or between an open or a closed space; it includes a hierarchy and protects privacy. It has different land uses in palaces, houses, caravanserais, bathhouses, mosques, schools, etc. In some houses, it had a common space for receiving guests.

**Vestibule redefined:** It is a dividing space with two main axes. The first axis is the vertical axis and the second axis leads towards the courtyard. This space helps establish communications; for this, it is physically multi-faceted. A vestibule is made of passage spaces and is responsible for directing users.

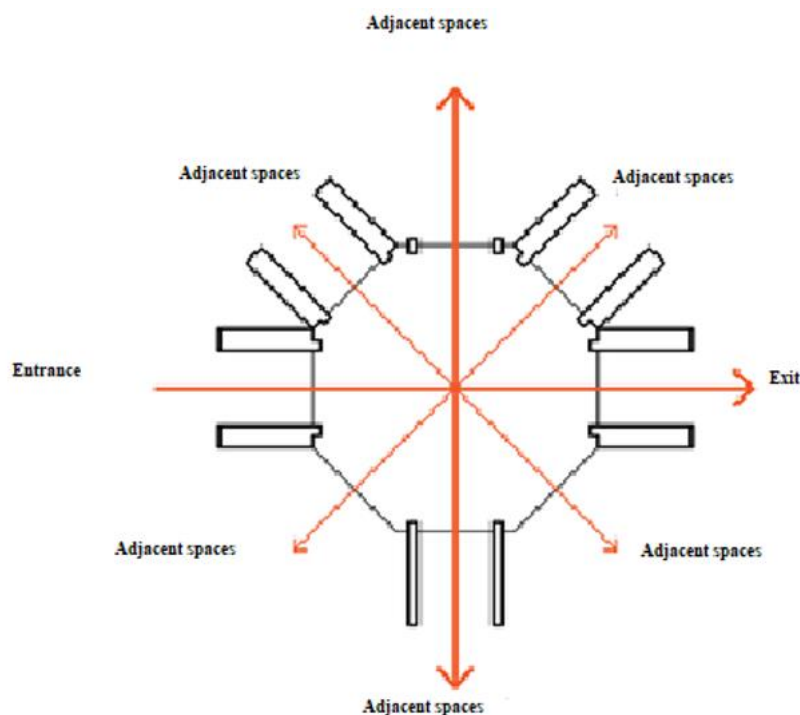


Figure 13: The spatial diagram of the redefinition of the vestibule (Source: author)

### Conclusion

Structuralists adhere to a common principle and that is similarity in linguistic principles between phenomena that we observe. This is the principle that inverts conventional underlying and surface structure patterns and prefers what we perceived to be conventional surface structures over what we thought of as the underlying patterns. Structuralists preferred the concept of language, an external manifestation, over thoughts, an internal affair; this does not mean that we should put what is inside of us into a language; rather, a language is a structural window that leads us to a conversation. Structuralists argue that nature also speaks from the window of culture; put simply, it leads our language structure toward communication and makes the culture of nature speak. To better perceive structuralism and its aspects, let's refer to its philosophers and their theories, which are underlined by the same foundation.

A review of terms and concepts in Iranian architecture from a post-structuralist perspective indicates that this type of architecture contains patterns upon which the spatial structure of buildings is formed. Today, it is clear to all that the past works of Iranian architecture need to be perceived; a redefinition of these patterns is a method for familiarity with the language of this architecture, which helps develop a method to deal with concerns about how to use those patterns in the design process. This is like learning the vocabulary and the syntactical rules of any other language, which helps the learner to apply them to daily speeches based on his tastes. Similarly, these two levels in architecture are also expanded to help the designer redefine spatial terms and combine their syntactic rules to provide a pattern for future designs. These patterns help designers to recognize the conceptual and linguistic basics of this architecture, apart from historical forms. Redefinition helps designers to gain a new perspective and better analyze concepts and combinations to use them in design as meaning an individual creation; meanwhile, designers apply the structuralism of the architectural language to employ spatial terms within the design language based on design plans. In other words, the outcome of post-structuralism in architecture is not to provide a recipe as in cooking or producing concrete models for building mosques, palaces, etc., rather, the designer is expected to learn the situation and conditions of designs such as climate, the sense of space, scale or the requirement of spatial patterns such as forecourts or central courtyards, and to use them if necessary. The language of architecture from the post-structuralist perspective can discover patterns and rules to present a logical architecture based on the framework and essence of Iranian architecture.

### References

1. Ahmadi, B. 2004, Structure and Hermeneutics, 6th edition, Gam-e-Now Publication, Tehran
2. Ansari, H.R. 2004, The influence of Derrida's ideas on architecture, Faculty of Fine Arts Publications
3. Derrida J, (1973), Speech and Phenomena, trans B. Allison D, North Western University Press, Evanston, page.33
4. Ebrahimi Ganja, Y. 2017, Structuralism of Iranian architecture; pattern and language) Semnan, Shahrood University of Technology
5. Ehsani, Mohammad T. 2002, A reminder of caravanserais, rabats and caravans in Iran) Sepehr Publications
6. Ghobadian, V. 2018. Climatic survey of Iran's traditional buildings, University of Tehran Publications Institute
7. Hadizadeh Kakhki, S. 2014. Caravanseras in Iran, Tehran, Center for Cultural Research, 2nd edition
8. Jahanbaglu, R. 2005, Fourth wave, (M., Gudarzi, Trans.) Fourth edition, Nei Publication, Tehran

9. Kayani, Mohammad Y. 2014. History of Iranian architectural art in the Islamic Period, Tehran, SAMT Publications.
10. Maher al-Naghsh, M. 2008. Technical principles of construction. Tehran, Azadeh Publications
11. Mehdi, F. 2013. History of Iranian Engineering, Tehran, Mirmah Publications
12. Moeini, S. 2015. Investigating the influence of deconstruction style on the identity of contemporary architecture),
13. Namvar-Motlagh, B., 2015, An introduction to intertextuality, White Circle Publications, Tehran
14. Pirbadian, A., 2012, Iranian caravanserais, Tehran, Haft Rang
15. Rafiei Sarshaki, B. 2016, Mehrazi Dictionary (Architecture of Iran) Road, Housing and Urban Development Research Center
16. Rouhi, P., 2019. Peter Eisenman; Notes - Conversations - Debates Tehran Kasra Library Publications
17. Sabzevari, M., 2018, An introduction to linguistics schools), Bouy-e-Kaghaz Publications, Tehran
18. Shahroudi, A. & Seydian. 2012. Principles and basics of hotel design, Elam and Danesh Publications