

# Comparative Analysis of Common Patterns of Language and Architecture in Traditional and Modern Mosques of Iran

## (Cases Study: Sheikh Lotfollah Mosque, Nasir Al-Molk Mosque, Al-Ghadir Mosque, Shahrak-e-Gharb Central Mosque)

<sup>1</sup>Faezeh Shooshtari, <sup>2</sup>Farah Habib, <sup>3</sup>Azadeh Shahcheraghi

<sup>1</sup>Ph.D. Candidate, Department of Architecture, Faculty of Civil, Architecture and Art, Science and Research Branch, Islamic Azad University, Tehran, Iran.

<sup>2</sup>Professor, Faculty of Civil, Architecture and Art, Science and Research Branch, Islamic Azad University, Tehran, Iran.

<sup>3</sup>Associate Professor, Faculty of Civil, Architecture and Art, Science and Research Branch, Islamic Azad University, Tehran, Iran.

Received 08.06.2017; Accepted 15.08.2017

**ABSTRACT:** In this paper, the system of language and architecture has been studied in three levels of elemental, structural and semantic in cases of traditional and modern mosques in Iran through the method of analyzing the content of texts and in a conceptual model. Then, in a comparative method, the common patterns of these systems have been explained at all three levels. The common features at the elemental level included double-edged signs, the notion of sign value, as well as syntagmatic relations. Concepts such as the two-way functioning of the systems, textuality and spatial cohesion were identified at the structural level. The concepts of marking, explicit and implicit meanings, and metaphors were investigated at the semantic level of the architecture of the mosques. In the following, the variables were categorized in tables based on the concepts and the data were analyzed through inferential analysis. Then, the findings were coded based on the indices of each variable. On this basis, it became clear that the common patterns, the mental forms of the language sign system can be translated into the physical forms of the architecture system through representation. The respondent also reads or interprets based on a picture or a represented form when confronting the representation. The research findings indicate that readings are based on the collective language and interpretations are based on the individual's personal language. In the meantime, the cultural, historical, and ethnic contexts, as well as the role of mass media are of high prominence.

**Keywords:** *Language sign system, Mosque architecture, Representation, Space textuality, Physical metaphor.*

### INTRODUCTION

Language should not be confused with speech. Language is only a certain part and, nevertheless, an essential part of speech. Language is, at the same time, a social product, as well as a set of essential contracts accepted by the community for the individuals to use the speech (De Saussure, 1983, 15). Language is a system of indications that expresses the thoughts and hence is measurable through script, deaf mute alphabet, symbolic rituals, tribute practices, military signs, etc. (De Saussure, 1983, 23). Moreover, the sign systems are patterns

that describe the world in which human beings live and make it. Among all these systems, language is the primary modeling system, and humanity understands the world through the pattern that the language presents. Mythology, cultural rules, religion, as well as art and science language are the secondary modeling systems (Lutmann, quoted by Sujudi, 2011, 8). Wittgenstein<sup>1</sup> considers language as a picture in the picture theory of meaning. According to this theory, language contains propositions that depict the world. Propositions are perceptible expressions of ideas, and thoughts are rational pictures of real

\*Corresponding Author Email: [f.habib@srbiau.ac.ir](mailto:f.habib@srbiau.ac.ir)

affairs. Each proposition must have a common logical form with the picture it represents (Kenny, 1973, 41). Meanwhile, the architecture system belongs to the secondary patterns based on Lotman's definition. Moreover, this sign system consists of propositions that express the physical form of the concepts. Therefore, finding the common patterns between the two sign systems of language and architecture allows the measurement of the architecture system. Therefore, the assumptions of this research include: Language system is a pattern for the creation of architecture based on comparative analysis, and Transfer of meaning is possible by architecture through linking architecture and language.

### MATERIALS AND METHODS

Since this research belongs to the interdisciplinary domain of language and architecture, all the dimensions of the subject of this research have not been found continuously and uniformly in the existing literature. However, discrete research has been done in this regard. In an article entitled "Urban textuality metrics and the methodology for their analysis" in the field of urban planning studied the common patterns of the text and the city (Shole, 2011). Furthermore, in the field of meaning, in a dissertation entitled "Recognition and application of symbolism in Iranian-Islamic cities (Case study: Yazd) adapted the layer theory of meaning to the city (Zarabadi, 2009). In the elemental level, various mosques have been investigated as cases in various dissertations and articles. According to the research carried out in this field, it is observed that this position in the field of architecture requires a research that embraces all levels of linguistics. This research is fundamental. The data were first collected through library research, documentation, and field research, and were then classified based on the analytical methodology of texts. The purpose of using this method is to develop a conceptual model based on the common patterns of language and architecture at elemental, structural and semantic levels through comparison. Then, the variables of each level were identified and drawn up in a table based on the quantitative and qualitative indices. They were analyzed then

by inferential analysis as random cases. Finally, the findings were obtained by inferential analysis method.

### Theoretical Framework

#### Common patterns of language system and architecture at the elemental level

Double-edged signs and the notion of sign value: De Saussure presents a "double-edged" pattern of sign including a signifier or vocal conception and a signified or conceptual conception which is implied by the signifier. A language sign does not link an object to a name, but a concept to a vocal representation (De Saussure 1983, 96). From De Saussure's point of view, both signifier and signified aspects are psychological, and they have no material aspect. They both belong to an abstract and social system that De Saussure called *langue*. They both are form, not substance (Sujudi, 2008, 14). De Saussure also refers to a concept called the value of sign. The value of any sign depends on its relations with other signs within the system. De Saussure's conception is a completely structural and relationship-based term. Priority is given to the relationship of signs within a system rather than the things of the outside world. No sign is meaningful independently since its value is due to its relationship. Both the signifier and the signified are concepts of reciprocity and based on their position and relationship with the other components of the system (Fig.1) (Sujudi, 2008, 15)

As the double-edged sign plays a prominent role at the elemental level of the language system, in the architecture system, the physical components form the elemental level of this system. Therefore, the position of the physical components, such as linguistic signs, depends on the adjacent elements of the whole spatial system and its hierarchy. For example, the common elements of the Iranian mosques, including the entrance, courtyard, portico, minaret, dome, nave, and the altar are in contact with each other in the space. This conjunction is not only functional but also semantic. For example, the portico in the courtyard and the portico inside the nave will allow two different experiences of the portico element. (Fig.2)

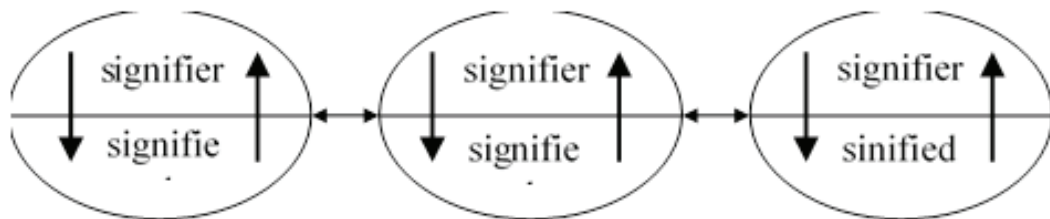


Fig.1: De Saussure's pattern of the place of sign in the general system of language  
(Source: De Saussure, 1983, 165)



Fig.2: From left to right: the portico of the courtyard and the portico of the nave Shahrak-e-Gharb Mosque.

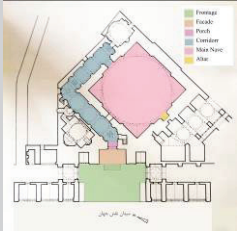
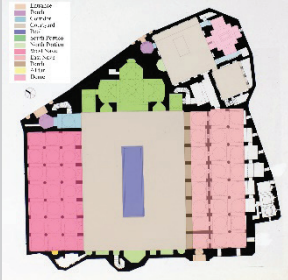
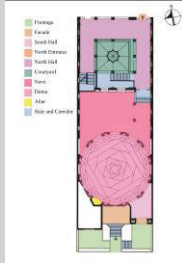
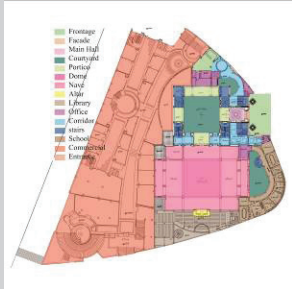
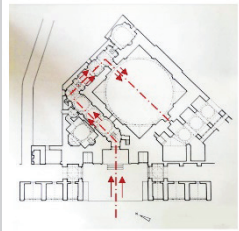
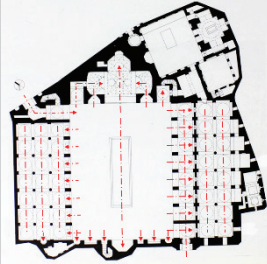
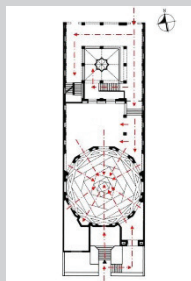
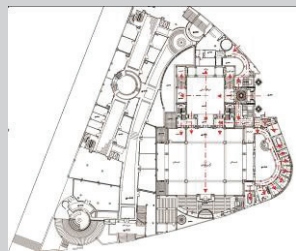
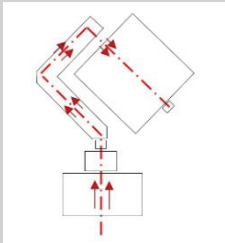
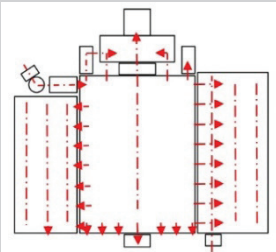

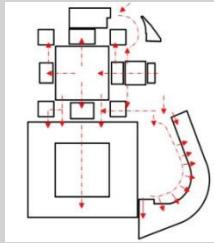
Language syntagmatic relations in architecture: Words in speech, due to their sequences, establish relationships between themselves based on the linear and one-dimensional feature of the language; these elements are arranged one after the other on the speech syntagme. These compounds can be called “syntagmes” due to their dependence on time length. An element on a syntagme is valuable only when it is confronted with the other elements before and after it or both (De Saussure, 1983, 176). This feature of language also exists in architecture, meaning that the spaces are placed on the axis in a set based on the hierarchy. The principle of hierarchy means to organize and combine spaces and elements based on some of their functional physical features, which lead to the emergence of hierarchy in the way of the placement or use or observation of the elements (Soltanzadeh, 1993, 106). Hierarchy in the mosque is of functional and semantic type which makes easier the entrance to the mosque. The hierarchy of space is the cause of the continuity of movement in the mosque (Afshar Naderi, 1995, 71). The axis of human movement in the mosque usually begins with the frontage, the facade and the courtyard, and lasts until the moment a person calms down and begins his spiritual journey. In the movement axis, only the access to the desired place is not important, but the creation of mental readiness is one of the factors which is effective in organizing the path and arrangement of the spatial hierarchy (Zargar, 2007, 108). In Table 1, first, the hierarchy of the physical elements have been shown in different colors. Then, the spatial movement axis has been determined in the cases, and finally, they have been coincided on each other. This table shows that the spatial hierarchy of all four cases adheres to the spatial movement axis. Common patterns of language and architecture at the structural level

**Two-way function of language in space structure:** De Saussure considers the communicative meaning of language as the result of the dialectical function between a positive and

negative process. On the one hand, the sign distinguishes its denomination through the ellipsis of other signs in a differential process, and creates the system. On the other hand, it has a positive implication within a domain defined in a negative way (Sujudi, 2011, 18). Although the meaning [signifier] and the face [signified] are separately distinguished and negative, their combination will be positive, because the linguistic feature of the entity is to maintain the parallelism between the two classes of difference (De Saussure, 1983, 173). This two-way function of the system of language in the architecture is characterized by features such as the inner and outer unity, the conjunction with the external environment, as well as the balance, rhythm and harmony in the structure. It has to be noted that features such as unity inside and outside, and conjunction with the external environment form the negative process of the system, in the sense that, as elements of language, the meaning and function of space are manifested and limited based on the bonding and adjacency with the other elements. Moreover, balance, symmetry, and rhythm create the positive process of the sign system through the creation of meaning and function of space .In the traditional Iranian architecture, the mosque, which was considered the most important building of the city was located alongside the bazaar. The city's public buildings gathered around the mosque (Memarian, 2008, 293). In the Iranian mosque, though the border is clear between the inside and the outside, this contradiction does not mean a passive contradictory function, but the mosque and its suburbs are connected like a lock and a clip (Shaterian, 2011, 221). In Table 2, the way of conjunction of the cases with the surrounding environment, including commercial, residential and educational textures, are distinguished from each other. As noted above, the conjunction with the external environment is a negative process, that is, the space is functional and meaningful in conjunction with the environment.

In traditional Iranian architecture, the outer space has the same

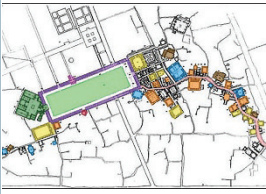
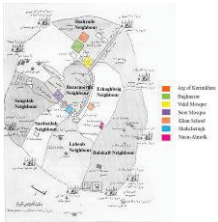


Table 1: Adherence of the spatial hierarchies to the movement axis, corresponding to the language syntagmatic relations (Source: Authors, 2018)

Title	Sheikh Lotfollah Mosque	Nasir Al-Molk Mosque	Al-Ghadir Mosque	Shahrak-e-Gharb Central Mosque
Physical elements hierarchy	 <p>(Fig.3) (Najm Abadi, 2002, Analysis by Authors, 2018)</p>	 <p>(Fig.4) (Haji Qasemi, 2004, Analysis by Authors, 2018)</p>	 <p>(Fig.5) (Mirmiran &amp; Etesam, 2008, Analysis by Authors, 2018)</p>	 <p>(Fig.6) (Atienegar, 2015 Analysis by Authors, 2018)</p>
Axis equal to time linear dimension	 <p>(Fig.7) (Najm Abadi, 2002, Analysis by Authors, 2018)</p>	 <p>(Fig.8) (Haji Qasemi, 2004, Analysis by Authors, 2018)</p>	 <p>(Fig.9) (Mirmiran &amp; Etesam, 2008, Analysis by Authors, 2018)</p>	 <p>(Fig.10) (Atienegar, 2015 Analysis by Authors, 2018)</p>
Access to spaces	 <p>(Fig.11) (Authors, 2018)</p>	 <p>(Fig.12) (Authors, 2018)</p>	 <p>(Fig.13) (Authors, 2018)</p>	 <p>(Fig.14) (Authors, 2018)</p>
Sequence of spaces	<p>Frontage, entrance hall, porch, corridor, nave, and altar</p>	<p>Entrance hall, porch, corridor, courtyard, portico, nave, and altar</p>	<p>Courtyard, facade, front entrance, hallway, nave, dome, and altar</p>	<p>Frontage, facade, front entrance, hallway, colonnade, hallway, nave, dome, and altar</p>

Just as the elements in the language system adhere to its linear feature and together create a syntagmatic relationship, in the architecture system, the layout of the physical elements is based on the spatial movement axis. All the analyses of this table are done by the authors and the references refer to the raw plans.



Table 2: The conjunction of cases with the surrounding environment (Source: Authors, 2018)

Texture type	Sheikh Lotfollah Mosque	Nasir Al-Molk Mosque	Al-Ghadir Mosque	Shahrak-e-Gharb Central Mosque
Residential texture	Residential neighborhood behind Naqsh-e-Jahan Square	God Araban residential neighborhood	Mirdamad residential neighborhood	Saif Street and Farahzadi Boulevard residential neighborhood
Commercial texture	Naqsh-e-Jahan Square, bazar, caravansary	Commercial texture in Lotfali Khan Zand Street and near Shah Cheragh	Mirdamad Boulevard commercial texture	Farahzadi Boulevard commercial texture, Golestan, Milad Noor and Lidoma Malls
Educational texture	Traditional texture schools behind the bazars	Near Khan School	Educational classes held at Al-Qhadir Mosque conference hall and library	Seminary and library of Shahrak-e-Gharb Central Mosque
Picture				
	(Fig.15) (Fiload, 2013, Analysis by Authors, 2017)	(Fig.16) (Wikimedia Commons, 2011 Analysis by Authors, 2017)	(Fig.17) (Google Map, 2017, Analysis by Authors, 2017)	(Fig.18) (Google Map, 2017, Analysis by Authors, 2017)

order of the rules inside. Ultimately, this is the whole thing that needs to be perceived as a united concept, so much in the whole, different parts of the entanglement are abundant, again, thanks to the balance, the whole is perceived, and the balance is the basis of beauty (Shaterian, 2011, 221). Recognition of the balance also requires the recognition of the symmetry. Balance is associated with rhythm and frequency, and rhythm is stronger than scale, because it is deeply rooted in the emotion which is one of the features of the deeper architecture. The effect created by the rhythm is intrinsic. It is a part of the flow of life that human beings breathe, and this is the fastest response of the human being to the rhythm that coordinates with. Rhythm sometimes gets faster symmetrically and regularly and gets the so-called happier quality (Mayes, 2007, 255). Table 3 shows the negative characteristics of the unity inside and outside, and the positive features of balance, harmony, rhythm and symmetry in Sheikh Lotfollah Mosque.

**Textuality and spatial cohesion:** the concept of “text” refers to any sample of language, in any media, that makes sense to someone who understands that language. Text is something that occurs in the form of speaking or writing, listening or reading (Halliday, quoted by Sasani, 2010, 128). The concept of textuality refers to all the features that convert a text into a text, that is, textuality (Alborzi, 2007, 151). Halliday categorizes these characteristics in the following four categories:

**Outset and focal point:** The outset is the beginning the message begins with and the paragraph is about (Halliday, quoted by Sujudi, 2008, 98). In traditional Iranian architecture, the entrances and pawns before each original space have the

same role as the outset.

The entrance space, which usually comes with a long and beautiful facade, is designed at the entrance to invite the people to the mosque's worship space. The facades and entrances of most mosques are often decorated with decorations and tile works (Taqvayi, 2011, 73). The focal point considers the information structure, which focuses on what the speaker wants to present as the new information. In speech, the new information is highlighted through tone prominence (Halliday, quoted by Sujudi, 2008, 100). The focal points in the mosques are highlighted through decorations such as tile and Muqarnas works which emphasize the physical space valuation. Table 4 shows the focal points and their numbers in the cases studied.

**Lexical cohesion and reference:** Halliday considers the reference syntagme as one of the other important factors of cohesion in many texts, and believes that this feature is formed through two methods of lexical cohesion, that is, repetition and synonymy, as well as reference. He means by lexical cohesion a repetition of the word or its related terms along the text, and the formation of lexical cohesion relations in this way (Sujudi, 2008, 101). The characteristic of repetition is observed by a one-to-one correspondence in the architecture of the mosques, so that the forms of geometry or colors in each building are related to the underlying style used for that period, or the decorations of a type across a particular space that creates the spatial continuity. References are also derived from the association of these set of traits at each space. Moreover, the stylistic characteristics of each period creates the reference in the building. Table 5 shows the degree of spatial continuity

Table 3: Variables of the two-way function of architecture system in Sheikh Lotfollah Mosque (Source, Authors, 2018)


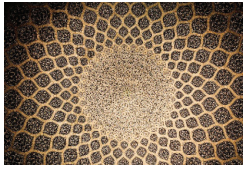
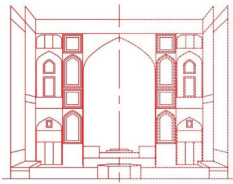
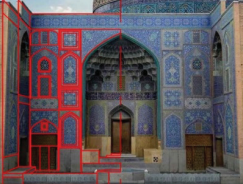
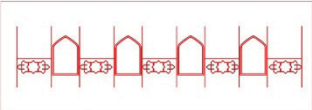

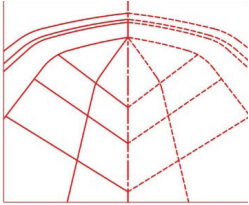
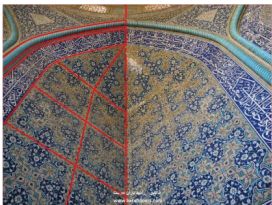
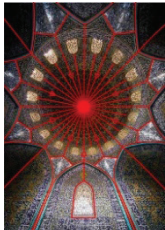
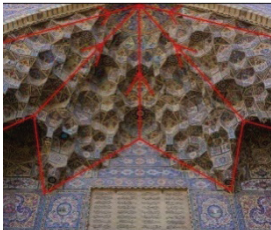
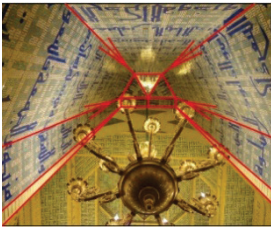
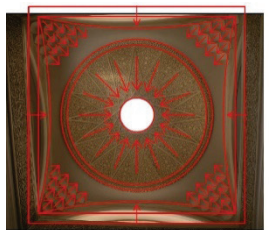
Variables	Examples	
<p>Unity inside and outside (negative process)</p> <p>Buff color in the exterior and interior shells of the dome has created the unity.</p>	 <p>(Fig.19) (Honarnama, 2017)</p>	 <p>(Fig.20) (Islamorient, 2017)</p>
<p>Balance and harmony (positive process)</p> <p>At the front, the layout of the frames has created a balanced composition</p>	 <p>(Fig.21) (Authors, 2017)</p>	 <p>(Fig.22) (Ghasrangasht, 2017, Analysis by Authors, 2017)</p>
<p>Rhythm (positive process)</p> <p>Regular rhythm creates balance through harmony.</p>	 <p>(Fig.23) (Authors, 2017)</p>	 <p>(Fig.24) (Hamgardi, 2017, Analysis by Authors, 2017)</p>
<p>Symmetry (positive process)</p> <p>In the four corners of the nave space, symmetry creates a spatial balance.</p>	 <p>(Fig.25) (Authors, 2017)</p>	 <p>(Fig.26) (Hamgardi, 2017, Analysis by Authors, 2017)</p>

Table 4: Focal points in the cases studied (Source: Authors, 2018)

Parameters	Sheikh Lotfollah Mosque	Nasir Al-Molk Mosque	Al-Ghadir Mosque	Shahrak-e-Gharb Central Mosque
Pictures	 <p>(Fig.27) (Karnaval, 2017, Analysis by Authors, 2017))</p>	 <p>(Fig.28) (Tripadvisor, 2017, Analysis by Authors, 2017))</p>	 <p>(Fig.29) (Authors, 2017)</p>	 <p>(Fig.30) (Authors, 2017)</p>
Focal points	Dome, altar Muqarnas, entrance Muqarnas, porch vault and corridor roof	Entrance Muqarnas, courtyard pond, porticoes, bedchambers and vesibules vaults, porches roofs, altar	Dome, altar, the northern entrance of the nave to the entrance, the patio roof behind the nave	facade, modern porch, main portico, dome, altar, corridors roofs
Number	14	74	4	7

As in the language system, a particular part of the speech syntagme is emphasized through tone prominence, in the architecture system, a particular area of space is emphasized in a centralized way by geometry or decorations, and even the focus of light. These points in both systems are called the focal points. The most part that is emphasized in the language system is the outset of the paragraph and the architecture system is the main entrance. The focal points can also be other points, such as the space below the domes or the porticoes Muqarnas. Therefore, the concept of focal point is one of the adaptations of the system of language and architecture. In this table, the number of focal points of each of the four samples is specified.

Table 5: Spatial cohesion based on the traits in the cases studied (Source: Authors, 2018)

Index	Sheikh Lotfollah Mosque		Nasir Al-Molk Mosque		Al-Ghadir Mosque		Shahrak-e-Gharb Central Mosque	
	Type	Number	Type	Number	Type	Number	Type	Number
Color	Bright blue	5	Pink	6	Buff	14	White	23
	Cyan	6	Cyan	9	Cyan	10	Red	3
	Cobalt blue	5	Cobalt blue	9				
	Green	5	Black	10				
	Yellow	4	Yellow	10				
	Buff	5	Buff	10				
	White	6	White	10				
Design	Flower and pot	5		5	Tile	10	Modern geometry	7
			Shiraz rose and lily				Kufi bannai script	7
			Bannai	10			Nastaliq script	7
Materials	Tile	6	Tile	10	Brick	14	Stone	23
			Brick	10				
Number of whole spaces	6		10		14		23	
The spatial continuity index of the mosque based on each of the total number of spaces	Bright blue	0.83	Pink	0.6	Buff	1	White	23
	Cyan	1	Cyan	0.9	Cyan	0.71	Red	3
	Cobalt blue	0.83	Cobalt blue	0.9				
	Green	0.83	Black	1				
	Yellow	0.67	Yellow	1				
	Buff	0.83	Buff	1				
	White	1	White	1				
	Flower and pot	0.83		0.5	Tile	0.71	Modern geometry	0.304
			Shiraz rose and lily				Kufi bannai script	0.304
			Bannai	1			Nastaliq script	0.304
	Tile material	1	Tile	1	Brick	1	Stone	1
		Brick	1					

In this table, the number of repetitions of these traits was evaluated and then the spatial cohesion index was calculated based on these traits. This index was obtained through the division of the number of repetitions of each trait in spaces on the total number of spaces considered. As the index shows, in traditional samples, all three indices of color, design and materials have a high correlation. In Al-Ghadir Mosque, the color index of buff and the brick material has a correlation value of one and the color of turquoise also has a close relation to one. In Shahrak-e Gharb Central Mosque, the white stone material index has a high degree of continuity. However, the index of continuity of the variables of red color, Nastaliq script, and Kufi bannai script is not high. This is due to the fact that in this mosque, these traits are used minimally. It can also be concluded that in the two traditional samples, a set of traits is integrated in the creation of the spatial continuity factor, but in the two modern samples, one trait is specifically the creator of the spatial continuity. In Al-Ghadir Mosque, the buff brick trait and in Shahrak-e-Gharb Central Mosque, the white stone trait has created the continuity.

Continue of Table 5: Spatial cohesion based on the traits in the cases studied (Source: Authors, 2018)

\*\* The total number of spaces examined in this title for each Mosques is as follows:

Sheikh Lotfollah Mosque: Frontage, facade, porch, corridor, main bedchamber, dome, and underground bedchamber.

Nasir Al-Molk Mosque: Main entrance and facade, porch, corridor, courtyard, dome, northern portico, southern portico, eastern bedchamber, western bedchamber, and colonnades.

Al-Ghadir Mosque: Southern entrance, modern porch, northern lobby, dome, male bedchamber, female bedchamber, eastern staircase, western staircase, basement corridor, conference hall, patio behind the bedchamber, indoor courtyard, dome, northern facade, and southern yard.

Shahrak-e Gharb Central Mosque: Conference hall, eastern outdoor wade, eastern corridor, western corridor, main entrance and facade, modern porch, minaret, central yard and porticoes, northern staircase, western corridor, female entrance, subsidiary entrance, bedchamber, dome, northern staircase, southern staircase, and exterior façade

based on the traits in the samples.

**Substitution and ellipsis:** Substitution means replacing an element with another element so that it has the same role in the text. Obviously, the elements that grammatically belong to one category can replace with each other (Sujudi, 2008, 103). The continuation of the lives of four arches or domes of the Sassanid period into the Iranian mosques of the post-Islamic period though the existence of bedchambers is an example of substitution (Hojjat et al., 2004, 21). Table 6 shows the replaced spaces in the samples.

The purpose of ellipsis is that a word or phrase is completely deleted, and unlike substitution, it does not have another form, but it can still be received (Sujudi, 2008, 103). The trait of ellipsis in mosques is easily recognizable. Entrance, courtyard, portico, minaret, dome, bedchamber and altar are common elements of mosques. It should be noted that some of the mosques lack courtyards and minarets, such as Sheikh Lotfollah Mosque in Isfahan, and a number of initial Islamic mosques do not have domes, such as Trikhane in Damghan. However, no mosque can lack an altar. Therefore, all of these elements are used somewhat little or too much in the mosque

buildings. For example, some mosques have several altars, such as Isfahan Central Mosque, which has nine altars. All mosques have at least one altar toward the direction of qiblah (Taqvayi, 2011, 73). Table 7 shows the number and type of ellipsis in the cases studied.

**Conjunctions:** Conjunctions or related elements are considered as factors providing cohesion in the text. The elements that make the link do not merely carry out the task of connecting a sentence to another sentence, but also has a meaning that leads to making presuppositions about the other elements in the text (Halliday, quoted by Sujudi, 2008, 104).

In the traditional architecture of the mosques, three types of open, closed and semi-open spaces can be distinguished. The partition between the closed and open spaces in an analytical survey can be considered as the connector of these two spaces (Shaterian, 2011, 219). For example, the portico as a semi-open space conjuncts the open space of the courtyard and the closed space of the bedchamber. Table 8 shows the conjuncting spaces and their number in the cases studied.

Common patterns of language system and architecture system at semantic level

Table 6: Replaced spaces in the cases studied (Source: Authors, 2018)

Subject	Sheikh Lotfollah Mosque	Nasir Al-Molk Mosque	Al-Ghadir Mosque	Shahrak-e-Gharb Central Mosque
Replaced spaces	Does not have	Does not have	Cone replaces circular dome	Discrete façade and minaret replaces the traditional design of façade and minaret
			Southern courtyard replaces frontage	Retreat of main entrance replaces frontage
			Southern lobby replaces porch	Modern square space replaces porch
			Indoor yard replaces courtyard ablution house replaces spring house	Fabric structure of the central courtyard roof replaces the traditional cover
Total number	0	0	5	4

In the language system, elements that have the same role in the text and grammatically belong to one category can be substituted for each other, and the meaning remains legible and understandable. Also, in the architecture system, spaces that have the same function can be replaced with the hierarchical space system, and the spatial function of the building is maintained. In all four samples, the physical elements of the spaces have been examined and the samples have been identified. As can be seen, there is no substitution in traditional samples, but in the two modern samples, several substitutions have been made. Therefore, it can be concluded that, in accordance with today's needs and cultural, demographic, and lifestyle changes, and even the literature of the society and the conceptual language, spaces need to be replaced with other spaces that can respond to the needs of the current life of the community. This point shows the necessity of creating new spaces.



Table 7: Removed spaces in the cases studied (Source: Authors, 2018)

Subject	Sheikh Lotfollah Mosque	Nasir Al-Molk Mosque	Al-Ghadir Mosque	Shahrak-e-Gharb Central Mosque
Removed spaces	Minaret Court yard altar Portico Spring house Colonnade Dome Seclusion	Does not have	Minaret Court yard Indoor portico Dome Porch Frontage Frontage Altar Altar Court yard Colonnade Seclusion	Porch Altar Frontage
Total number	7	0	12	3

In the language system, it is possible to remove words or phrases on condition of readability and preservation of meaning. In the architecture, there is also the possibility of removing spaces provided that the whole function of the space is preserved. The study of the four samples shows that in three out of four cases, the ellipsis of spaces has not damaged the spatial function of the mosque. Therefore, the issue of the ellipsis is one of the adaptations of the language system and architecture system.

Table 8: Conjunctions in the cases studied (Source: Authors, 2018)

Indices	Sheikh Lotfollah Mosque	Nasir Al-Molk Mosque	Al-Ghadir Mosque	Shahrak-e-Gharb Central Mosque
Conjunctions	Frontage and façade: from Naqsh-e-Jahan Square to the interior space of the mosque	Façade: from the alley to the interior space of the mosque	Basement corridor: from the southern area to the conference hall	Corridor: from the subsidiary entrance to the bedchamber
	Porch: from the entrance to the corridor	Porch: from the entrance to the corridor	Southern lobby: from the southern yard and dome entrance to the dome	Corridor: from the main yard to the seminary
	Corridor: from the porch and entrance to the bedchamber and dome	Corridor: from the porch and main entrance to the courtyard and pool	Southern area: from the public road and southern entrance to the dome and basement corridor	Corridor: from the female entrance to the outdoor wade
	Bedchamber: from the corridor to the altar	Corridor: from the porch and subsidiary entrance to the courtyard and pool	Male bedchamber: from the dome to the northern lobby	Main yard: from the porch to the bedchamber and dome
		Corridor: from the porch and subsidiary entrance to the small yard	Staircases and elevators: from the ground floor to the first and second floor	Porticoes: from the indoor area to the main yard
		Small yard: from the corridor to the dome	Basement corridor: from the kitchen to the indoor yard	Outdoor wade: from the underground and ground floors to the sky
		Eastern colonnades: from the courtyard to the eastern bedchamber	Indoor yard: from the underground to the northern lobby	Staircases and elevators (4): from the lower floors to the upper ones
		Northern booths: from the courtyard to the northern portico	Dome: from the male bedchamber to the southern lobby	Main doorway and entrances: from the public side walk to the modern porch
		Courtyard: from the eastern bedchamber to the western one		Bedchamber: from the dome to the corridors and main yard
		Courtyard: from the bedchambers to the porticoes		
Southern portico: from the courtyard to the lighthouse				
Bedchamber: from the courtyard to the altar				

Continue of Table 8: Conjunctions in the cases studied (Source: Authors, 2018)

Indices	Sheikh Lotfollah Mosque	Nasir Al-Molk Mosque	Al-Ghadir Mosque	Shahrak-e-Gharb Central Mosque
Total number of conjunctions	4	12	9	12
Number of conjunctions following the referential attributes of the entire space	4	12	8	5
Ratio of spatial cohesion to conjunctions	1	1	0.89	0.42

In the language system, conjunctions are cohesion factors that create semantic cohesion by connecting sentences together. In the physical system of the architecture, at the functional level, some spaces are responsible for connecting other spaces. These intermediate connecting spaces, not only connect two other spaces, but also adhere to the attributes of whole in terms of form, color, material, and decoration. Therefore, they provide spatial continuity. In the table above, the number and type of each conjunction in the samples were examined and identified. As can be seen, the number of conjunctions in each instance has been specified. Then, the number of those connecting elements that follow the referential attributes of the entire space have been determined. In the end, the numerical and quantitative values of the spatial continuity index have been calculated and presented based on the conjunctions. This numerical value is the result of dividing the number of connecting elements of each space into the number of connecting elements with reference attributes. The value of 1 indicates conjunction-based spatial continuity. In the two traditional mosques, the conjunctions have the spatial importance for the space user experience.

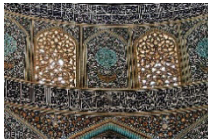

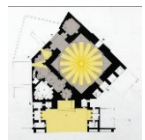

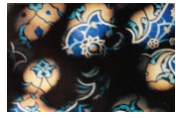
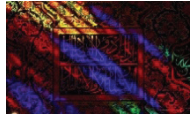



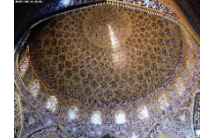
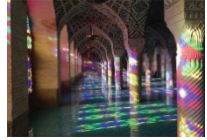



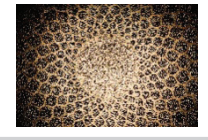
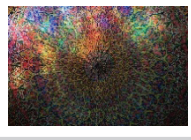

**Marking:** When one of the two words is used to ask and speak about the meaning of both words, the first word is the marked one and the other one is unmarked. A mark can be considered as something like the conditions necessary for the recognition of the concept of a word; in other words, it is similar to the characteristics of a verifier (Safavi, 2000, 122). Among the elements of the villages and cities, sanctuaries have always had a specific place more prominent than others. The sanctuary, as it was the largest building of the village, did not require a special mark at the outset and it spontaneously attracted every passing one. But, after the expansion of the villages, the residents and passers-by were guided to the sanctuary, first, by raising facades and tugh<sup>s</sup> (flags) on its highest place, and then by making tower near it (Memarian, 2008, 250). Therefore, an Islamic city has been marked with a mosque, and the mosque has been marked with its physical elements. For example, mosque is always represented in people’s minds with minarets and domes.

**Explicit meaning and implicit meaning:** In semantics, explicit meaning and implicit meaning are concepts that deal with the relationship between the signifier and signified and two significations are distinguished: the explicit and implicit ones. Both have meaning and certainly no one has priority over the other and the context is decisive (Chandler, 2002, 210). The “implicit meaning” refers to the socio-cultural and “personal” associations (ideological, emotional, etc.). Factors such as class, age, gender, and ethnic affiliation of the audience are involved in the formation of implicit meanings. Chandler discusses the “explicit” and “implicit” meanings, saying that the “explicit meaning” of a sign is the meaning that a larger number of a community with a common culture agree with it. The “implicit meanings”, he believes, are not completely individual meanings - they are the determinants of the signs

that the audience has access to them (Chandler, 2002, 212). The social doctrines rooted in the culture of each nation are acquired or inherited with the experiences and mental images of people, and determine many of the mental interpretations of the codes (Falahat & Noahi, 2011, 21). For the contemporary audiences, due to the cultural, historical and climatic contexts, and also under the influence of the important role of the media, some of these meanings have been socially constituted, and are recognizable as explicit meanings. Some others appear as the implicit meanings or even codes. To recognize this concept, the entrance door of the mosques can be referred to. In mystical terms, “door” is a reflection of study and erosion of the past deeds and pursuit of God as well as obeying the rules of behavior and progress toward the beloved one (Sajjadi, 1991, 281). Bab-al-Abvab also means "repenting" in mystical terms because repentance is the first thing that human beings enter into esteem through it (Sajjadi, 1991, 177). These types of meanings belong to the domain of implicit meanings of the physical element of door, as the explicit meaning of this element is the concept of entering and exiting.

**Metaphor and physical figuration:** Metaphor and the figuration are two forms of meaning transfer. The discourse may be formed with two different meanings. An issue may be followed by another in terms of similarity or proximity. The metaphorical method is the most appropriate name for the first case, and the figurative method can be considered the most desirable name for the second case, which find their most concise representation in metaphor and figuration, respectively (Jakobson, 2001, 116). Jakobson considers the substitution axis as the pole of the metaphor structure, and the axis of syntagmatic relations as the pole of figuration (Sujudi, 2008, 55). Figuration is based on various relations between the signified concepts, in particular in the causal relationship

Table 9: Types of metaphors in the cases studied (Source: Authors, 2018)

Type of metaphor	Sheikh Lotfollah Mosque	Nasir Al-Molk Mosque	Al-Ghadir Mosque	Shahrah-e-Gharb Central Mosque
Absence- presence- absence corresponding to the concepts of full and empty in the language system	 (Fig.31) (Hamgardi, 2017)	 (Fig.32) (Tripadvisor, 2017)	-	-
Crossing darkness to reach light (crossing the corridor to the bedchamber or courtyard)	 (Fig.33) (Haji Qasemi, 1996, Analysis by Authors, 2017)	 (Fig.34) (Haji Qasemi, 2004, Analysis by Authors, 2018)	-	-
Coincidence and contrast of light and darkness corresponding to good and evil	 (Fig.35) (Haji Qasemi, 1996)	 (Fig.36) (Tripadvisor, 2017)	-	-
Light penetrates into darkness and the existence is created	 (Fig.37) (Hamgardi, 2017)	 (Fig.38) (Tripadvisor, 2017)	-	 (Fig.39) (Authors, 2018)
Selection of light with the meaning of ascension, moving from earth to sky	 (Fig.40) (Karnaval, 2017)	 (Fig.41) (Tripadvisor, 2017)	-	 (Fig.42) (Authors, 2018)
A light shines and its brilliant glow will guide the inner world	 (Fig.43) (Hamgardi, 2017)	-	 (Fig.44) (Authors, 2018)	-
Inner movement toward the center of the universe- unity in plurality, plurality in unity	 (Fig.45) (Islamoriente, 2017)	 (Fig.46) (Tripadvisor, 2017)	-	 (Fig.47) (Authors, 2018)
Number	7	6	1	3

Continue of Table 9: Types of metaphors in the cases studied (Source: Authors, 2018)

Since metaphors are one of the fundamental features of the transition of meaning, they are of great importance in this comparative analysis. Metaphor enjoys substitution and syntagmatic relation, and transfers meanings through the intellectual treasures of individuals based on collective or personal language. Thus, as meaning is represented in the form of words and sentences, it can also be represented in the form of a physical element. All four mosques were examined and metaphor samples were identified in each of them. This table shows that there are numerous metaphors in the two examples of traditional mosques. The two examples of modern mosques have also had metaphors. Therefore, metaphors create a link between meaning and body in the representation, which in turn leads to the creation of a special experience for the user, because in physical metaphors, the focal points are powerful, and light is also of great importance. As you can see in the table above, six of the seven metaphors are related to light.

(Chandler, 2002, 196). Rhetorical techniques are not only concerned with how ideas are expressed, but also affect how to think. The use of rhetorical techniques is not merely specific to poetry and literary works, but has been promoted to a much broader level, and has become a fundamental mechanism in the formation of discourse as well as human knowledge of the world. Since metaphor and figuration are the fundamentals of meaning transfer, they are created in architecture in the domain of structure and are perceptible in the domain of meaning. The function of metaphor and figuration in the traditional mosque architecture of Iran is clearly visible. For example, the figurative function of minaret is in the pre-Islamic period, was used as a guidance tower and was associated with the meaning of guidance fire or light. It also preserved a part of its function and meaning after the Islamic period. Thus, it seems that the linear feature of time transfers the meaning from the past functions. And the concept of spiritual guidance is the metaphorical meaning of the minaret after the Islamic period. Several examples of metaphors can be found in the architecture of the mosques. Table 9 describes the metaphorical meanings of the physical elements of Iranian mosques.

## RESULT AND DISCUSSION

**Representation:** The most important philosophical concern of Wittgenstein during his lifetime is the nature of the language and its relation to the world (Kenny, 1973, 39). According to his picture theory of meaning, any proposition must have the same logical form with what it pictured (Kenny, 1973, 41). Each representation may present a true or false image of what it represents (Kenny, 1973, 107). What distinguishes the images from what they depict is the representational form and their common feature or element is the "pictorial form" (Kenny, 1973, 112). The spatial element is also a representation of concepts. If the representation is performed correctly, the audience will also be able to get the same implicit meanings or explicit meanings intended by the creator of the element, and if the representation is incorrect, the audience will encounter with codes and try to decode it, which will lead him to the implicit meaning or creation of a new meaning. The subject of creating meaning by the audience is discussed by post-structuralists such as Derrida and Barthes.

**Text from post-structural perspective:** Pierce introduced a three-dimensional pattern for a sign, which includes representation, interpretation, and subject (Pierce, 2002, 52). In Derrida's readings of Pierce, a sign system is continuously

moving from a sign to another and postpones the truth (Derrida, 1997, quoted by Sujudi, 2008, 128). Barthes is also in line with Derrida, and discusses a kind of textual analysis based on the substitution axis. The text is a multi-dimensional space in which a wide variety of writing contact with one another, though none of them is original (Barthes, 2001, p. 168). Barthes distinguishes the two concepts "reading text" and "writing text". The reading text does not usually consider the mental creation of the audience as the basis; however, the audience creates the writing text while reading and rewrites it (Ahmadi, 2007, 239). Corresponding to reading and writing, space can also be read or written. In this sense, concepts are represented by the body and space, and when the audience faces with this representation, these concepts are represented in his mind based on a pictorial or representational form. These associations simultaneously depend on each individual's personal language treasure and his collective language treasure based on social contracts. In the case of the representation of explicit meanings from the collective language treasures, the space will be reading, meaning that the intended message of the creator of the space has been properly received by the audience. The implicit meaning or decoded meaning of the spatial element also comes from the audience's personal language treasure when faced with a representational form. In this case, the space will be writing and the audience will create the meaning.

## CONCLUSION

The concept of representation plays a very important role in the audience's perception. If the representation leads to the creation of a right image or pictorial form, the explicit meaning or the meaning consistent with the social conventions will be represented for the audience because if the representation is not based on common human experiences, the notion of meaning transfer will be futile. However, representation can also be based on the implicit meanings and personal languages of the individuals, but in this case, the creation of meaning will occur not only by the author but also by the audience. This means that when the audience encounters the representational form, it leads to a lack of readability making the audience unable to find the explicit meanings. Thus, the audience tries to decode or create the meaning, since the representational form is not based on the collective language, but on the personal language. There are also pictorial and representational forms in the architecture. The pictorial form includes concepts referred to



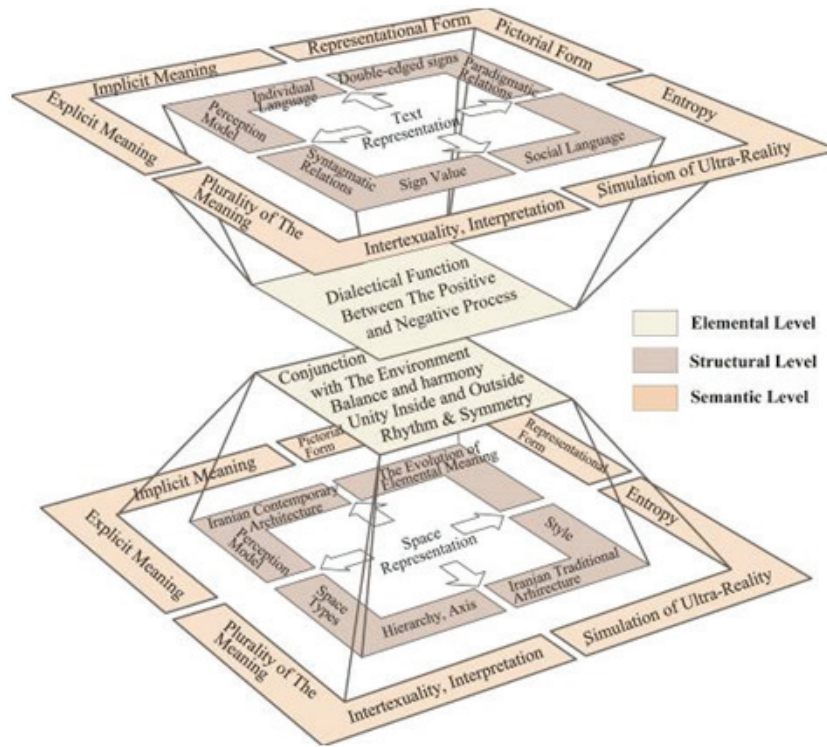


Fig. 48: An analytical model of representing common patterns of language system and architecture system

by the elements based on the social contracts. For example, the community may consider the minaret as a permanent feature of the mosque. In this case, any building with minaret will be regarded as a mosque. This recognition is based on systematic codes<sup>3</sup>. However, the representation al form occurs in the architecture of such spaces when, for example, a mosque is known with a minaret with unusual formal features and a new body is designed with the same functionality for this concept. In this case, the audience will decode and identify the elements. The important point is that this decoding will be based on process codes. In the domain of meaning, Peirce's three-dimensional pattern of sign can also be considered. He introduces the meaning of a sign as the whole process of meaning making. As described, the audience' decoding while facing the representational form is based on process codes. At this semantic level, the audience tries to create meaning based on the personal language treasure. In fact, the reader interprets the meaning, that is, when facing with a space that is not physically and formally in accordance with the social conventions and has created another way, the audience begins the process decoding and creates meaning for the new element based on the personal, collective, and semi-collective treasures. Media is also very influential today. In fact, the media are in some way controlled by the economic and political powers of the time. In addition, myth is the dominant ideology of every era that is made up by the media and survives. Patterns built beyond the reality replace the reality. In fact, this reality

simulation clearly tries to control the mind of the audience in order to survive the economic and political systems of the day. Today's audience has been suffering entropy impacted by media bombardment. Therefore, the subtype elements of media, such as simulation of ultra-reality, alternative patterns, boundaries collapse, entropy, and myths affect the audience and have a significant contribution to his choice of interpretation or reading. These factors also affect both audience groups, including the interpreters and the readers. (Fig. 48)

## ENDNOTES

1. In the history of Western philosophy, Wittgenstein's philosophical views are divided into two periods: the first period begins with the compilation of "logical dissertation" and the second period is related to the compilation of "philosophical doctrine" (Ekvan, 2001, 294).
2. Tugh (Turkish): Mourning flag which is placed on the tip of the dome as a symbol.
3. Johansen and Larson believe that structural codes connect a set of elements to a specific system which is not necessarily closed, and process codes connect at least two of such systems (Sujudi, 2008, 157).

## REFERENCES

- Atienegar (2015). Retrieved June, 2017, from <https://atienegar.com/content/>
- Afshar Naderi, K. (1995). Conjunction of contrasts in Iranian

- architecture. *Abadi Magazine*. 19, 68-75
- Ahmadi, B. (2007). *Text structure and interpretation*. (9th ed.). Tehran: Markaz.
- Alborzi, P. (2007). *Fundamentals of text linguistics*. Tehran: Amir Kabir.
- Chandler, D. (2002). *Fundamentals of semantics*. (M. Parsa, Trans.). (2nd ed.). Tehran: Sura Mehr.
- De Saussure, F. (1983). *General linguistics course*. (K. Safavi, Trans.). Tehran: Hermes.
- Falahat, M. S., & Noahi, S. (2011). The nature of signs and their role in promoting the sense of location in architectural space. *Journal of Beautiful Arts* 15 (1), 17-25.
- Fiload (2013), Retrieved June, 2017, from <http://fiload.ir/product/17799/>
- Ghasrangasht, (2017). Retrieved July, 2017, from <http://ghasrangasht.com/en/TouristArea/34/Isfahan-City>
- Google Map, (2017). Retrieved June, 2017, from <https://www.google.se/maps/search/>
- Haji Qasemi, K. (1996). *Treasure Letter, Culture of Iranian Islamic architectural works: Isfahan Mosques*. Tehran: Shahid Beheshti University 2, 47 and 128.
- Haji Qasemi, K. (2004). *Treasure Letter, Culture of Iranian Islamic architectural works: Mosques*. Tehran: Shahid Beheshti University 6, 120.
- Hamgardi, (2017). Retrieved July, 2017, from <http://hamgardi.com/Gallery/place/3210>
- Hojat, I., Golestani, S., & Sadvandi, M. (2004). Entrance of domes to Iranian mosques, a narrative of space breakup and adherence. *Journal of beautiful art* 20 (3), 21-30.
- Honarnam, (2017). Retrieved July, 2017, from <http://honarna.ir/28574/28574>
- Islamoriente (2017), Retrieved July, 2017, from [http://fotografia.islamoriente.com/sites/default/files/image\\_field/Arquitectura\\_isl%C3%A1mica\\_Una\\_vista\\_interna\\_parcial\\_de\\_una\\_cupula\\_de\\_la\\_mezquita\\_Sheij\\_Lotfollah\\_Isfah%C3%A1n-Ir%C3%A1n\\_3.jpg](http://fotografia.islamoriente.com/sites/default/files/image_field/Arquitectura_isl%C3%A1mica_Una_vista_interna_parcial_de_una_cupula_de_la_mezquita_Sheij_Lotfollah_Isfah%C3%A1n-Ir%C3%A1n_3.jpg)
- Jacobson, R. (2001). *Metaphorical and figurative poles in structuralism, post-structuralism and literary works*. (K. Safavi, Trans.). Tehran: Islamic Art and Culture Research Center.
- Karnaval, (2017), Retrieved July, 2017, from <https://www.karnaval.ir/blog/sheikh-lotfollah-mosque-isfahan>
- Kenny, A. (1973). *Architecture of language and mind in Wittgenstein's philosophy*. (M. R. Esmkhani, Trans.). Tehran: Qoqnoos.
- Mayes, P. (2007). *Architectural elements from form to location*. (M. Dolatkah, Trans.) (2nd ed.). Tehran: Malaek.
- Memarian, Gh. (2008). *Iranian architecture*. Tehran: Soroush Danesh.
- Mirmiran, H. & Etesam, I. (2008). Retrieved June, 2017, from <http://eventspace.persianblog.ir/post/443/>
- Najm Abadi, M. H. (2002). *Sheikh Lotfollah Mosque and its features*. (1st ed.), Tehran: Ruz Foruzan Publications (8).
- Pierce, Ch. S. (2002). *Logic as semantics: theory of signs*. In *Semi-annual aesthetics*. (F. Sujudi, Trans.). 6, 51-63.
- Safavi, K. (2000). *A review of semantics*. Tehran: Hermes.
- Sajjadi, J. (1991). *Dictionary of mystical terms and expressions*. Tehran: Tahuri Library.
- Sasani, F. (2010). *Meaning making: towards social semantics*. Tehran: Elm.
- Shaterian, R. (2011). *Analysis of the architecture of Iranian mosques*. Tehran: Nopardazan.
- Shole, M. (2011). *City textuality metrics and their analysis methodology*. *Journal of Beautiful Arts* 48, 19-32.
- Soltanzadeh, H. (1993). *Entrances in traditional Iranian architecture*. Tehran: Deputy of Social and Cultural Affairs.
- Sujudi, F. (2008). *Practical semantics*. Tehran: Elm.
- Sujudi, F. (2011). *Cultural semantics*. Tehran: Elm.
- Taqvayi, V. (2011). *Familiarity with historical structures*. Tehran: Iran Printing and Publishing Corporation.
- Tripadvisor, (2017), Retrieved July, 2017, from [https://www.tripadvisor.com/Attraction\\_Review-g316021-d3653202ReviewsNasir\\_al\\_Mulk\\_MosqueShiraz\\_Fars\\_Province.html](https://www.tripadvisor.com/Attraction_Review-g316021-d3653202ReviewsNasir_al_Mulk_MosqueShiraz_Fars_Province.html)
- Wikimedia Commons (2011). Retrieved June, 2017. from [https://commons.wikimedia.org/wiki/File:Old\\_map\\_of\\_Shiraz.jpg](https://commons.wikimedia.org/wiki/File:Old_map_of_Shiraz.jpg)
- Zarabadi, Z. S. S. (2009). *Recognition and application of symbolism in Iranian-Islamic cities: a case study on Yazd*. Ph.D. Dissertation. Islamic Azad University, Science and Research Branch: Tehran.
- Zargar, I. 2007. *Mosque architecture guide*. Tehran: Did.