Semiology of Semantic Components in Iranian Gardens
Case Study: Eram and Narenjestan Gardens in Shiraz

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Abstract

The study of Iranian gardens and the features of its elements make it possible to identify the symbolism of nature. In fact, we can understand the hidden concepts in the gardens by examining its semantic features and signs. The obligation of an architect in Islamic architecture is transmitting the semantic message to the audience. That is why signs and its features in art and architecture are concerned important. In this research, it was tried to identify the semantic components of the signs used in the Iranian gardens of Shiraz. According to the literature review of this research, index and iconic signs are based on qualitative analysis of the elements that are present in these gardens through observations. While in order to reach symbolic signs that is influenced by socio-cultural norms, Space Syntax method has been used. The comparison of the social logic in the case gardens shows that these gardens are similar to each other in terms of social structure which is derived from customs and beliefs of that society. By comparing the elements in the gardens, it can be concluded that some of the elements are used more often than others to express the concepts as signs. Accordingly, the repetition of the signs and the emphasis on their frequent use makes it possible for the audience to have a better comprehension from the signs and concepts of the gardens as a semantic aspect of universe. This research contributes architects to revive lost identity of the built environment in the developing countries.

Key words: Iranian Garden; Paradise; Semantic World; Semiotics; Space Syntax

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1. Introduction

The study of Iranian gardens and the features of its elements make it possible to identify the symbolism of nature. In fact, we can understand the hidden concepts in the gardens by examining its semantic features and signs. Although Iranian gardens are made by human hands, but they are considered natural phenomena and they can find the artistic structure from the view point of semiotics [29]. Since Islamic Architecture is a sacred art, the fundamental condition of any sacred art is the expression of symbolism [8]; because in the view point of Islamic Architecture, symbolism is considered as a genuine character of the human [4].

The religious artist uses the language of allegory to express concepts [19]. Thus, the obligation of an architect is transmitting a message to an audience, through the use of the signs in the physical structure of the building [34]. That is why, the sign and its features in art and architecture is considered important. In this regard, art can be defined as an instrument in order to aestheticize the living environment and beauty can be defined to reach individuals to the perfection [35]. Also, from the view point of Islam, art is an instrument for creating the best relationship between human and the environment, human beings with one another, and ultimately human and God [27; 4].

In fact, the symbols and signs used by architects and artists in the gardens are the material form in which heavenly patterns are reflected through them and expressed the secrets and symbols of the hereafter [2]. Architects of Iranian gardens have shown that, in addition to creating the best relationship between humans, in the garden environment, using particular symbols and signs, makes semantic atmosphere for these environments. With the advent of Islam in Iran, huge changes in architecture and gardening arose in its inward and outward aspects.

The effects of the industrial revolution and the subsequent of modernism in Iran have been a turning point in the direction of neglecting their identity in the course of Architecture and urbanism [6]. In this way, one of the factors that have been largely neglected in the contemporary architecture and urbanism in Iran is the semantic aspect which leads to an identity crisis. In this research, through semiotics the concept of the symbols are discussed and the use of signs in the elements of the selected gardens, which are related to the Islamic period, have been investigated. It has also been attempted to answer the following questions:

- What differences can be found with respect to the signs of the elements used in the case gardens?

- What types of signs have been used in the three main elements of Iranian gardens including water, tree and pavilion?

It seems that the presence of specific signs in the Iranian gardens shows the emphasis of that concept in the gardens. Also, three main elements in the Iranian gardens such as water, tree and pavilion, in addition to responding its function application, each one has its own semantic concept. This research contributes to architects and landscape designers, to revive lost identity of the built environment in the developing countries.

2. Literature Review

The term of "Semiology" is influenced by the works of some scholars such as Charles Sanders Peirce, Ferdinand de Saussure, Levi Strauss, Jacques Lacan, Michel Foucault and Roland Barthes. Among these theories, the ones of Charles Sanders Pierce and Ferdinand de Saussure play important roles. Peirce used the expression ''Semiotics'', and Saussure invented ''Semiology'' [23]. In the meantime, garden and garden making are the subjects that are close to the people throughout history and it is one of the principle themes of Iranian society [25]. Therefore, the study of the semiology of semantic components in the Iranian gardens has been

studied by some scholars, some of which are mentioned below.

Goodarzi et al. [13], in an article entitled "Iranian Garden Symbolism in the Islamic Period" has come to the conclusion that in the minds of Iranians, paradise is like a garden with flowing waters and beautiful trees and flowers that are given to them in exchange for their good deeds. In this research, Iranian garden in its path of evolution, especially during the Safavid era, represents the signs of paradise which is mentioned in the Qur'an. With regard to the climate of the country, Iranian people have a spiritual connection with such spaces. Also, designers in the Islamic period, both in garden design and in other arts, tried to symbolize paradise. The purpose of the Muslim architect was to create a garden as a symbol of paradise, not to create a materialistic paradise. Because they were strongly believe in an eternal world [13].

Haghighatbin et al. [14], in their research entitled "Iranian Gardens Symbolism during Islamic Era and its Relationship with Religious Beliefs" investigated about the relationship of signs in Iranian gardens with religious beliefs of the constructors. They have come to the conclusion that the symbols used in the Iranian garden after advent of Islam have concepts based on the religious beliefs of the constructors. Also, Muslim artists have used certain symbols such as numbers that were emphasized in religious teachings in order to enhance the semantic sense of the place [14].

Toosi et al. [29], in their research entitled "Semiotics and Symbolic Logic of Iranian Garden Features Using Designed Features in Kashan Fin Garden" has come to the conclusion that in the Iranians thought, a place that is refreshing is a reminiscent of Paradise and Iranian garden has this capability. Therefore, the proper placement and systematic use of the garden elements has led to the correct transmission of message through it. As a result, each of the elements has become a sign of a particular meaning. Signs can be evaluated from the view point of the general public, as well as architects and designers, but ultimately it has created a meaningful environment using these elements [29].

In their research Parsaee et al. [23], has introduced an approach to better cognition of the architectural concepts based on theory and method of semiology in linguistics. After obtaining the principles of theory and also the method of semiology, redefined it in an architectural system based on an adaptive method. Results of this research offers a conceptual model which is called the semiology approach by considering the architectural system as a system of signs. The approach can be used to decode the content of meanings and forms and analyses of the architectural mechanism in order to obtain its meanings and concepts. The results of this research demonstrate the effectiveness of this approach in structure detection and identification of an architectural system. Besides, this approach has the capability to be used in processes of sustainable development and also be a basis for deconstruction of architectural texts [23].

Farahani et al. [12] in their paper investigated about the patterns of design and architecture in Iranian gardens and the meaning intertwined with their patterns and significant elements such as water and trees. Results has shown that design of Iranian gardens has been shaped based on meanings, beliefs and symbolic elements of Iranian culture and gardens were considered as symbolic phenomena that represent meanings and values through their design. Also, Iranian four gardens (chahar-bagh) is a symbol of universe and the great pool which placed in front of the pavilion representing the cosmic ocean as the source of all waters which can irrigate the whole garden [12].

2.1 Theoretical Framework

2.2 Semiotics and its Role on Semantic World

To understand any kind of communication in the world, a component named "sign" can be used in the form of verbal, visual, or phonetical [10]. Art should enter to this area in order to explore the realm of meaning [20]. Charles Sanders Peirce, one of the founders of semiotic science, believes that signs express something instead of something else [10]. In their book Moghadam & Askarizad [18], defined semiology as a modern science based on the meaning of signs and signals appearing [18]. The inner structure of a sign is a general link between the sign and the signifier. Signifier does not recognize the reference of the reality, but it is a mental concept. Generally, the sign is divided into two categories: credit and genetic [24].

Credit Sign

In the credit signs, indicative does not resemble the sign and there is a contractual relationship between appearance and meaning. Therefore, signs such as the letters, alphabet, traffic lights and the wearing of black dress to indicate mourning are considered as a credit or symbolic signs [21]. Symbolic signs can be understood through deduction and it can be considered as a subject to the conventions of socio-cultural norms of the various societies. For instance, in Islamic art, geometrical shape of circle and square are symbols for the sky and the earth, respectively [9]. This is despite the fact that studies have shown that socio-cultural factors have a great influence on the formation of architectural spaces and cultural concept of the architecture prioritizes its material meaning [3].

Genetic Sign

In the genetic signs, the relationship between appearance and meaning is not a contractual relationship. These categories of signs can be divided into two categories of iconic and indexed signs [1]. Iconic signs are based on the formal similarity between appearance and meaning. In fact, the signifier is similar to the sign [1]. The architect can use the icons because of the formal relationship between the sign and the signifier as an element that can easily be understood for the sensory power of the audience. For example, in Islamic architecture, the audience can easily discover them without comprehending the intricacies of the Arabesque motifs that resemble plants found in the nature [24]. Other types of iconic signs are icons that have a formal similarity between the sign and the signifier, but due to the lack of clarity of similarity, it is necessary to use rational inference to discover it. For instance, a building can be a piece of nature inspired by the architect and the audience for decoding should use his/her rational inference [2].

Indexed Signs

In indexed signs, the relationship between appearance and meaning is reason [1]. For example, smoke can be considered to be an indicator of the presence of fire or fever as an indicator of the sickness of humans [21], or in some cases a decorative tile can represent a paradise full of flowers [5]. In some cases, the causal relationship in the indexes is obvious to be conceived as soon as it is seen by sense. For example, the square shape for the audience represents relaxation. By using it, the architect can provide a mind peace for decoding the audience [24].

In many cases, instead of using an outward appearance, the artist complies with the character of nature and its function. It is possible to use in the design of the indexes in a way that requires rational deduction for decoding. For example, the water has been considered as the central focus of Islamic architecture spaces [24]. According to the Qur'anic verses, water is considered as a vital sign for the life. Therefore, the architect can be used from this natural element as an index for life [28]. Therefore, the theoretical framework of semiotics can be illustrated in the following chart (Figure

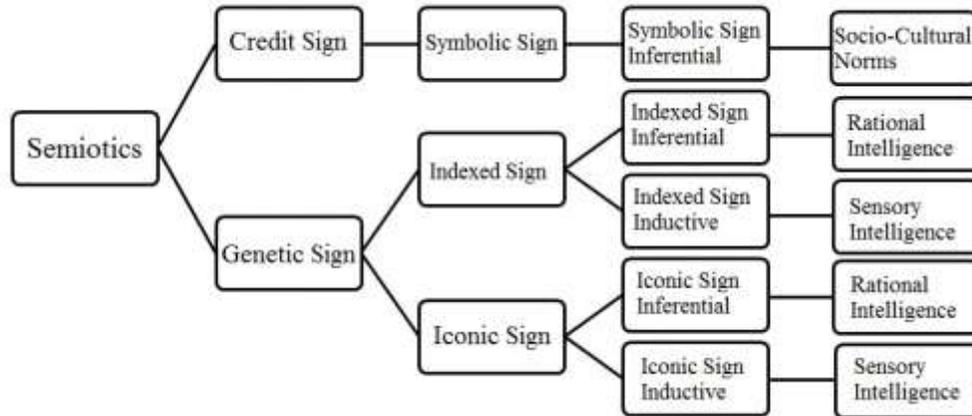1). Numerous studies have validated these principles [1; 23; 12].

Figure 1. Theoretical Framework of the Semiotics (Authors)

2.3 The Synchronic and Diachronic Aspects of the Semiology

The synchronic and diachronic aspects and also the syntagmatic and paradigmatic relations are the concepts that Saussure analyzed in the field of signs and language system. Saussure believed the synchronic and diachronic aspects as a result of an optional nature of signs. The syntagmatic and paradigmatic relations include the relations between elements of a sign system. In order to analyze the spatial organization in this model, the Space Syntax method can be used; based on the justified graph. This method is close to the syntagmatic relations in semiology. Therefore, it can be considered as an appropriate method for studying the socio-cultural relations of the space [23].

Therefore, it can be said that the syntagmatic and paradigmatic relations provide us the possibility of creating different combinations and different meanings in various situations. Moreover, these various formed structures and systems can be analyzed based on the synchronic and diachronic aspects, although, it is important to note that the syntagmatic and paradigmatic relations are placed on the synchronic aspects of a system. Hence, every sign system should be detected in a specific period of time (the synchronic aspects), not as an historical continuity (the diachronic aspects). Because recognizing the complementary and historical relations are not an efficient parameter to describe a system [1; 23].

2.4 Semiology of Iranian Gardens

Due to the dryness of the Iranian plateau, the need for the tree, made this natural phenomena sacred. Iranian garden in the pre-Islamic era was an allegory of the cosmos. But with the advent of Islam and its similarity to Quranic verses, the architects tried to apply all the features of paradise in the garden [31]. By examining the Iranian garden before and after Islam, it is concluded that signs reveal the meaning of the universe in its lower existence [19].

2.5 Semiology of Numbers in the Garden

In the semantic world of Iranian gardens, each number has its own meaning. Accordingly, number three represents the spatial organization of Iranian Garden, which includes entry, inertia and passage. Regarding the application of the number four researchers consider four gardens (Charbagh) derived from the symbol of the quadrangles. Because of the repetition of the number seven in the Holy Quran, elements in the Iranian garden have been used seven times such as seven pools in Charbagh of Isfahan [11]. The

number eight is a metaphor of eighth climate in illumination wisdom and the number forty is also a sign of greatness and perfection [14]. Familiarity with the semiology of the numbers can help us in order to figure out the semiology of the Iranian gardens and its hidden dimensions to the audience.

2.6 Semiology of Water in the Iranian Garden

In the Iranian garden, water is used as an applied element for feeding trees which is inducing aesthetic sense and concept [17]. In all Iranian gardens, water is always existed in a variety of ways and in harmony with the geometry of the earth. In general, with meandrous movements, it induces diversity and dynamism to the spectator, and makes calm down by inertia [32]. Its movement in four directions is an allegory of four heavens and is a sign of purity, healing, concentration, and knowledge [26].

2.7 Semiology of Trees in the Iranian Garden

In the Iranian gardens, different trees were planted according to different places and purposes, including beauty and usefulness. For example, among the plots, they used short and everlasting plants, but trees grew on both sides of the route. Since the usefulness was the most important part of planting, most trees were fruitful and shady. The planting of the trees has been such that bring beauty, application and concept to the garden and conceptually leads the human mind to the perfection [32].

2.8 Semiology of Pavilions in the Iranian Garden

Pavilions in the Iranian gardens are extroverted structures usually located at the intersection of axes with several viewpoints to the garden. Pavilions are the edifices where the residents or visitors live in and enjoy from the garden. There is usually a pathway guiding the user from the entrance to the pavilion. The location of the pavilion could split the garden into two to four directions. The location of the pavilions could vary in different gardens. It could be located in

the center of the garden or mostly it appeared in one third of the longitudinal axis, but it was always located at the intersection of the axes [12]. From the view point of semiology it can be reminiscent of the holy place or the divine throne which can be used to observe the heavenly blessing.
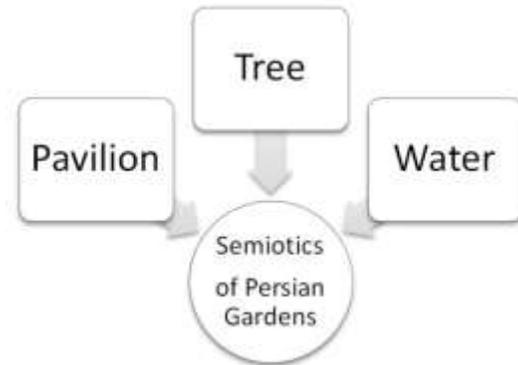

Figure 2. Semantic Components of Iranian Gardens (Authors)

3. Research Methodology

The method used in this research is a combination of quantitative and qualitative. For analyzing the data, the inductive qualitative method has been used. Data collection in this research has been done using library sources and field studies. According to the theoretical framework which extracted from the research, the index and iconic signs are based on qualitative analysis that are presented in these gardens. While in order to reach symbolic signs that is influenced by socio-cultural norms, Space Syntax method has been used through descriptive inferential method.

The term Space Syntax encompasses a set of theories and techniques for the analysis of spatial configurations. Originally, it was conceived by Bill Hillier, Julienne Hanson and their colleagues at The Bartlett University College London during the late 1970s to early 1980s as an instrument to contribute to architects in order to simulate the likely social effects of their designs [15; 16].

Space Syntax is best described as a research program that investigates the relationship between human societies and space from the view point of a general theory of the spatial structure in all its diverse forms [7; 36].

Syntactic analysis was performed using the Depthmap software developed by Alasdair Turner at University College London [30]. By analyzing a series of spatial characteristics, space syntax helps designers understanding the role of spatial configurations in shaping behavioral patterns of humans and to estimate the social effects of their designs. This analyses model enables us to study the causal relationships between the form of architectural spaces and its modalities of use and occupations [22]. In the qualitative part of the research, field observation method was used in order to accommodation the signs with the semantic components used in the case studies. On this basis, the semantic components of the elements and signs used in the Iranian gardens have been clarified so that, index and iconic signs are identified for better comprehension of the semantic concepts.

3.1 Case Studies

Eram Garden

Eram Garden located in Shiraz is among the most beautiful gardens of Iran. It is such a unique and gorgeous garden that is inscribed on UNESCO World Heritage Site. In the holy book of Quran, Eram is described as the paradise prepared for the blessed ones. It has a great atmosphere surrounded by tall cypress trees, fragrant flowers, and aromatic sour orange trees. Moreover, the sound of birds singing in the green space of the garden brings peace and quiet to the tourists, and it is quite pleasurable to have a stroll across the garden. In spring, Eram garden catches eyes with its colorful blooms and blossoms, and it is a great tourist destination that attracts those who travel to Iran (Figure 3) [33].

Figure 3. Eram Garden Located in Shiraz, Iran [33]

Narenjestan Garden

Narenjestan Garden in Shiraz is one of the most beautiful and praised gardens one will love to visit. This garden was built during Qajar period in late 19th century. Since the garden has an abundance of sour orange trees, people call it Narenjestan or the Orange garden as well. Narenjestan garden embraces an eye-catching monument in the heart of the garden facing a stone pool and some fountains surrounded by date palms and sour orange trees that all together bring about a pleasant atmosphere. Nowadays, Narenjestan garden is open to the public and it is one of the main attractions of Shiraz that hosts many tourists who travel to Iran (Figure 4) [33].

Figure 4. Narenjestan Garden Located in Shiraz, Iran [33]

3.2 Results and Discussion

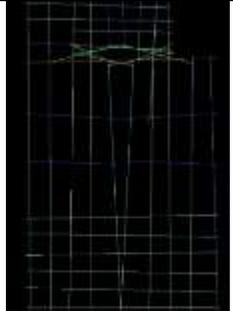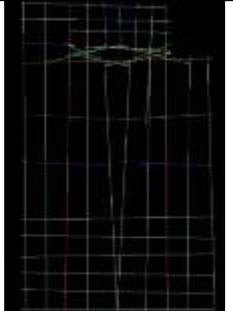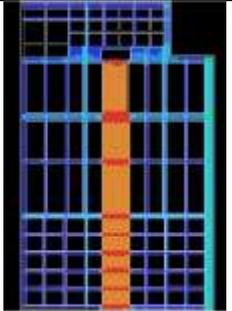### 3.3 Symbolic Signs Affected by Social Norms in the Gardens

Analysis of the social logic of Eram Garden by the Space Syntax method which calculated by Depthmap software in the axial test indicate that the area around the pavilion has the highest integration (5.96) among the other axis in the garden. Also, this axis with connectivity level of (20) has the best access in the garden. Also, the findings from the Narenjestan Garden analysis indicate that the area around the pool of the pavilion has the highest level of integration (9.67) among the spaces in this garden. Also this space with connectivity level of (17) has the best access in the garden spaces.

Regarding the behavior pattern of visitors in the Eram garden, it should be noted that the main axis of entrance to the pavilion has the highest visual connectivity level (12) in the axis of the garden; so that this amount of visual connectivity increases at the points where the intersection of the axis forms with each other. However, in the Narenjestan Garden, the maximum visual connectivity capacity is located in the pavilion and its adjacent area, which forms the most behavioral patterns in this section. After that, the most emphasis was on the axis of entry to the pavilion.

Comparison of the results obtained from visual analysis in Eram and Narenjestan gardens suggests that in Eram garden the designer emphasis on the path to the pavilion as the most important axis. This factor by creating height level differences leads visitors with a visual error, to show the pavilion building closer to what is actually present which invites the audience to the right path to reach the utopia. While in the garden of Narenjestan the most visual emphasis is on the pavilion vicinity and by placing a large pool of water near the pavilion building, there is an additional emphasis on its vitality (Table 1).

Table 1: Analysis of Eram and Narenjestan Garden Plans by Space Syntax Method (Authors)

Plan	Integration	Connectivity	VGA
Eram Garden			
Narenjestan Garden			
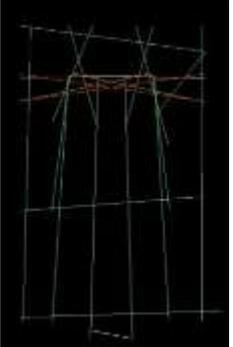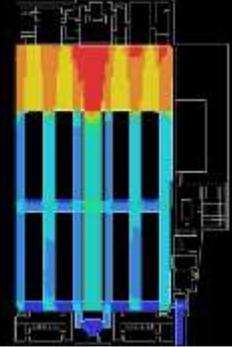
The findings from the analysis of the plans of these two gardens are presented in table 1 and the following chart. In following chart, the range of integration, connectivity, control and mean depth have been compared with each other. The comparison of the social logic in the Eram and Narenjestan gardens indicates that these gardens are similar to each other from the view point of social structure. It reveals that social logic of these gardens have earned from socio-cultural norms of the society that follow specified principles which is derived from customs and beliefs of that society (Figure 5).

Customs which derived from the religious beliefs of the Muslim Architect, shaped by materialization of worldly paradise in the heart of deserts and distinguished by walls, which was the semiology of introspection. Axial analyzes has shown that, spatial configuration of the Iranian gardens is on the base of geometrical shapes, specifically square shapes which demonstrate the semiology of the earth and worldly paradise in the universe.
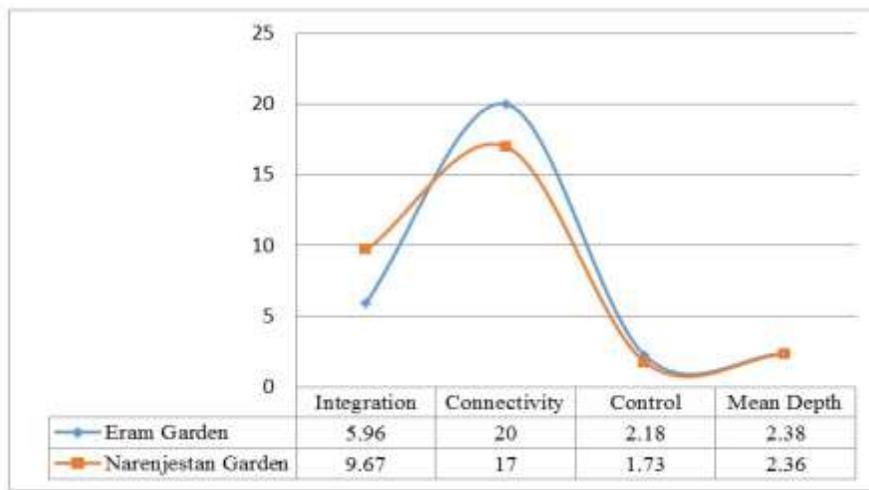

	Integration	Connectivity	Control	Mean Depth
Eram Garden	5.96	20	2.18	2.38
Narenjestan Garden	9.67	17	1.73	2.36

Figure 5. Structural comparison of the Gardens in terms of social patterns (Authors)

3.4 Investigating the Signs in Eram and Narenjestan Garden of Shiraz

Since human at first glance observes paradise and sees the garden as a metaphor of paradise, it can be concluded that the garden has the concept of paradise in terms of semiotics and is considered as an iconic sign. Accordingly, from the view point of semiotics, for the sake of understanding, some of the elements of Eram and Narenjestan Gardens in Shiraz and its semantic signs are discussed based on the literature review of this research.

Table 2: Semiotics of Elements in Iranian Gardens

Semiotics in the Garden	Semantic
Tree	Immortality, Vitality and Perfection
Pool	Unity, Centrality and Healing
Fountain	Springs, Brightness, Purity and Dynamism
Arc	Height, Grace and Glory, Sky
Square	Earth, Worldly Heaven, Cosmos
Water	Sustainability, Greenery and Growth, Clarity
Stairs	Repetition, Harmony and the way to the Truth
Pavilion	The Holy Place of the World, the Divine Throne
Wall	Introspection
Blue Color of the Pool	Meditation

3.4 Difference between Signs in Eram and Narenjestan Gardens

Semiology of the Pool and Creeks

The creek in the gardens of Narenjestan and Eram is located on the main and central axis of the gardens. By placing it in the central axis, stability, sustainability and purity of water are shown in the universe. The pool and the creek, in addition to the general similarities, have minor differences in the case gardens. For instance, the Narenjestan's creek is designed as a small pond with curved shapes in a linear direction (Figure 6). But in the Eram garden, it is only in the form of two parallel lines that communicate with each other with the help of the stairs from a surface to another (Figure 7). In general, water flowing represents immortality and vitality. But the use of three elements of water, pool and creek together can guide the human mind faster to receive messages. Therefore, the creek which consider for the Narenjestan Garden can be a sign for more emphasis on expressing the concept of brightness, purity and dynamism with grace and glory.

3.5 Semiology of the Arc in the Pavilion of the Garden

The arc is a symbol of height, grace, glory and sky in architecture. It can be considered as a manifestation of the sky and ascension to the holy place. The arches used in these gardens are always visible in the doors, entrance, pavilion's porch, and its windows, and even in its vault decoration. But with a little focus, it can be seen that more emphasis has been placed on the use of arches in the pediment of Eram garden. In a way that the number of arches in the pediment of the Eram garden is more than the arches used in the pediment of the Narenjestan garden (Figure 8). But in the façade of the pavilion of Narenjestan garden, one can also point out is that more arches are used in the windows, walls and even in its decorations (Figure 9). Regarding the view point of the visual connectivity in the pavilion of the Eram garden, due to the use of frequent arches, the transmission of the semantic components has been quicker in expressing the concept of height, grace and glory in the form of the signs.

Figure 6. Narenjestan Garden (Authors)

Figure 7. Eram Garden (Authors)

Figure 8. Pavilion of the Eram (Authors)

Figure 9. Pavilion of the Narenjestan (Authors)

3.6 Semiology of the Pavilion

At the intersection of the axis and the linear pattern of the creeks, there is a pavilion. Pavilion located with a level difference created by stairs and platforms on a surface above the ground and other elements of the garden. This feature indicate that the most sacred are at the highest level and in the best visual connectivity from the view point of the audience (Table 1). As a higher

level, it is an expression of manifestation, worthiness and immortality. The difference that can be noticed in the case examples is that the Narenjestan pavilion is not on the platform, unlike Eram pavilion. This could indicate that the pavilion of Eram has been clearly and at its first glance transmitted the concept of holy place and divine throne to the audience (Figure 10 & 11).

Figure 10. Location of Eram Pavilion (Authors)

Figure 11. Location of Narenjestan Pavilion (Authors)

3.7 Semiology of Trees

In the Iranian gardens, most trees are planted for their usefulness. For this reason, fruit trees or shady have been used more than others. Since the tree is a reminiscent of the worship of the God and reaching perfection, in the Eram garden, samples of various types of cypresses, such as cedar, shrub and others, are used to emphasize and repeat the semantic message which have been planted. Also fruit trees like persimmons, oranges, walnuts and pomegranate have been

used to remind paradise with fruit trees (Figure 12). But in Narenjestan garden, there is less tree species and, as its name implies, most sour orange trees are included (Figure 13). So the audience will receive different messages by watching different species of trees and it can represent the immortality of the divine blessings in the earth.

Figure 12. Eram Garden Trees (Authors)

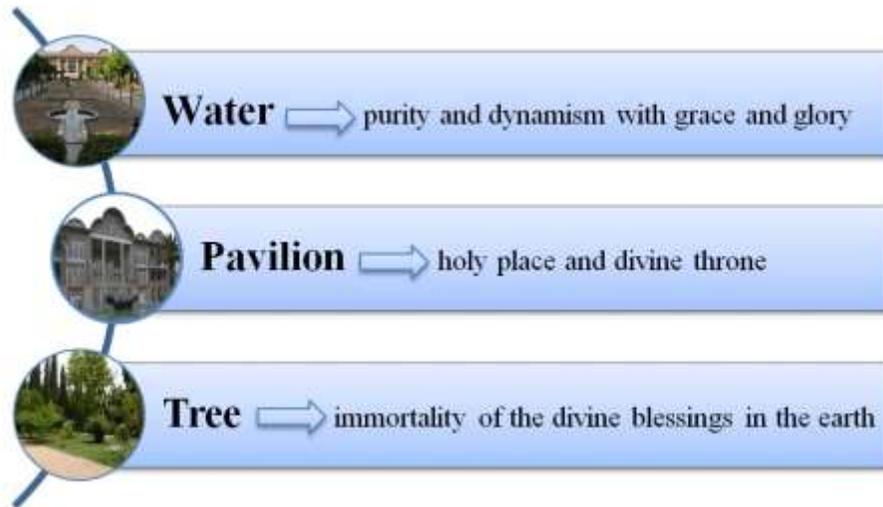Figure 13. Narenjestan Garden Trees (Authors)

Figure 14. Semantic Components of the Iranian Gardens (Authors)

4. Conclusion

The present study was conducted to identify the semantic components of the signs in Eram and Narenjestan Gardens of Shiraz. The religious artist uses the language of allegory to express concepts. Thus, the obligation of an architect is transmitting a message to an audience, through the use of the signs in the physical structure of the buildings. Since Islamic architecture is a sacred art, the fundamental condition of any sacred art is the expression of symbolism. In this way, the concept of semiology in art and architecture is concerned important.

Results of this research has shown that customs which derived from the religious beliefs of the Muslim Architect, shaped by materialization of worldly paradise in the heart of deserts and distinguished by walls, which was the semiology of introspection. Axial analyzes has shown that, spatial configuration of the Iranian gardens is on the base of geometrical shapes, specifically square shapes which demonstrate the semiology of the earth and worldly paradise in the universe.

In general, water flowing represents immortality and vitality. But the use of three elements of water, pool and creek together can guide the human mind as quick as possible to receive the semantic messages. Therefore, the creek which

used in the Narenjestan garden can be a sign for more emphasis on expressing the concept of brightness, purity and dynamism with grace and glory. The difference that can be noticed in case examples is that the Narenjestan pavilion is not on the platform, unlike the Eram pavilion. This could indicate that the pavilion of Eram has been clearly and at its first glance transmitted the concept of holy place and divine throne to the audience. Also watching different species of trees in the case gardens can represent the immortality of the divine blessings in the earth.

In order to compare the findings of this research with other researchers, it can be stated that in other studies, it was only confirmed that Muslim architects used the symbolic signs in order to transmit the image of paradise and divine messages in the minds of the audience [13, 29]. In some cases, the use of numbers in the semiotics of Iranian gardens has been measured [14]. The principles of the formation of the Iranian gardens are based on meanings, beliefs and symbolic elements in their spatial configuration design. In sum, these studies have generalized the semiotics of Iranian gardens [12]. This is despite the fact that in the present research, while confirming the previous findings, three major elements of Iranian gardens, including water, trees and pavilions have been investigated.

Semiotics of Iranian garden, which consists of three main elements of water, tree and pavilion, indicate that water as an indexed and iconic sign derived from rational intelligence. While tree is derived from the sensory intelligence that helps human beings to better understand the semantic meanings of Iranian garden components. This is despite the fact that the pavilion, which is a physical structure, is derived from rational intelligence and socio-cultural norms of the society. Therefore, by comparing the elements in the garden, it can be concluded that some of the elements are used more often than others to express concepts as signs. Accordingly, the repetition of the signs and the emphasis on their frequent use makes it possible for the audience to have a better understanding from the signs and to understand the meanings and concepts as quick as possible. Finally, the garden will comprehend at the least time as a sign of the semantic universe and paradise.

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