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Study of Structure and Viewing Angles of Persian Garden in Persian Garden Paintings and Garden carpets in Safavid Period

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Abstract

Iranian garden is one of the frequent and popular subject matters in Iranian paintings and carpets. The various types of Iranian art in Islamic period widely focused on displaying gardens. The present study aimed at examining Iranian garden and the process of building gardens in Safavid period in two visual fields of painting and scarpets. Therefore, this researchtries to study the composition and viewing angles of on garden carpets and Iranian paintings of the Safavid period and their mutual relationship. soSo that it could reach a comprehensive structure of designing gardens and spectator's visual imagination in this two visual fields.

The study was in a type of descriptive analytic approach and data analysis was carried out inductively. The study was a qualitative research with a comparative approach. The main part of this study is based on library obtained data. The purpose was to investigate the main structure of garden in carpets and Iranian paintings of the Safavid period, to find out existing similarities and differences between these two visual fields. The main research question here is that what kind of the structural linkage is there between the form of garden in paintings and carpets of Safavid period?

The hypothesis is that the two artistic forms of garden carpets and paintings have mutual effects and intertextual linkage. Therefore, and based on carried out investigations in Safavid period, we selected 20 carpets and 46 paintings, and finally we randomly selected 5 samples out of each group for analysis then we tried to confirm the hypothesis having structuralistic and intertextual orientation. The results showed that the composition of Persian gardens in the Safavid paintings and garden carpets was derived from the Chahar Bagh pattern with the emphasis on the centrality of dock, water distribution network, symmetry, naturalism, harmony of elements of the garden and the separation of spaces. existingExisting viewing angels varied according to the spectator's position.

Keywords

Persian garden, Garden carpet, Garden in paintings, The Art of Safavid period.

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Introduction

The pattern of Chahar Bagh was considered as one of the most common patterns in the formation of gardens in Iranian and Islamic culture by garden makersand painters of the Safavid era. carriedCarried out studies revealed that former to the period, the composition and viewing angles of Persian Garden in two filelds of painting and garden carpet have not been comprehensively taken into the consideration. Regarding the existing common patterns in Persian gardens, it is necessary to look more closely at the main structure of the garden, the patterns and viewing angles used in these two visual fields. Therefore, in this study, it seem necessary to take more comprehensive look at the two areas so that to provide a more structured overview of the original structure and the viewing angles of these two visual arts remaining from the Safavid period painters. Garden in carpet and painting is one of the oldest cultural structural element of Iranians throughoutin history. conceptConcept of garden and its portrayal is closely interrelated in painting and carpt art. In Iran, we have the remenants of old gardens from Ilkhani, the Timurid, and especially the Safavid period and even from the Achaemenid and Sassanid periods of pre-Islamic era (Zarei, 2011: 43). In the design of garden carpets and paintings, in addition to, the general design of Iranian gardens, we have ditchs, plots and the position of the central pond are the main themes of artistic work. and wWe have two main axis ,axis, mostly are water streams that divide the carpet into four sections (Mahmodinajad, 2009: 38). In this descriptive-analytic study, the composition and viewing angles of Iranian garden in 5 selected paintings and 5 selected carpets from the Safavid period has been studied. Here, the question is that :is that: what are the differences and similarities between the structural aspects of garden in carpet andpaintings Safavid era?

The purpose of the present study was to investigate the main structure of the garden in carpets and paintings of the Safavid period to address the

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differences and similarities of the two visual fields in terms of gardening. The hypothesis was that the two artistic forms of garden in carpet and painting have interactive effect on each other. Therefore, we randomly selected 5 samples from 20 carpets and 46 paintings for our study. By analyzing them with a structural and intertextual approach, we tried to approve our hypothesis. The obtained results studying the literature about paintings and the garden carpets express the existence of the common issues between these two areas of visual and intertextual and their impact on each other. The composition of the Persian garden in the paintings and carpets of Safavid erawas based on Chahar Bagh pattern that was the most common pattern in the formation of Iranian garden with its emphasis on centrality, water supply networks, symmetry, naturalism, coordination between elements in the garden and the separation of spaces. The viewing angles in these two visual areas varied according to the position of spectator. In garden rugs due to geometricity and its application, the viewing angle from above is dominated over the whole part of the carpet. But this viwing angle from front emphasizes on the elements in images and shows the visual conditions slightly different from the carpets.

Background research

As previously stated, the significance and position of the garden in the arts of painting and carpets in the Safavid period can notcannot be overlooked . For this reason, numerous studies have been carried out on Iranian gardens, garden paintings and garden carpets. These studies are about gardens and patterns that are used in various visual apllied areas.

Abolgasami (1992), in the book titeled "Principles of Persian Garden Design" pointed about the the role of garden, its formation and the main structure of Iranian gardens. Welber (1907), in the book titled "Persian Gardens and Garden Pavilions " explored Iranian gardens of Timurid and Safavid periods. Teimouri and HeydarNattaj (2014), in the article " "Nazargah", the main element of a Persian garden in the illustration of the gardens in Persian paintings"

investigated the relationship between arts of painting and Iranian garden from the perspective of Iranian landscape architecture and also the identification of the main effects of the Iranian gardens shown in the garden paintings. Mahmoudinejad (2007), in an article titled "Garden Carpet": from design "a carpet from the throne" to plan" a throne on the carpet"discussed about symbolical and allegorical concept of paradise and paradise gardens and also garden carpets considering the architecture and design of Iranian gardens. .The main form of carpet of Safavid period include their elangation along the carpet and the the main divisions and main axes of Iranian garden along with trees and flowers. Malaki (2006), in the article titled "Iranian Garden in Iranian Painting" discusse about the main structure of the Iranian garden in Persian painting and studied the main components of Persian gardening . asAs it worth mentioning that the articles by Dr. Alami, M. & Dr. Ansari, M in the field of Safavid Persian garden are also used in the present research.

Theoretical Foundations of Research (Structuralism- intertextuality)

1- "Structuralism, as a step beyond humanism and phenomenology, examines the internal relations that make language and all symbolic and discursive systems" (Makaryk, 2011:173). The core of structuralist thinking is that each element must be identified and examined in the intrinsic proportion with other elements and the whole structure. As Levi-Strauss stated, the method of structuralism is nothing more than trying to find an irreversible element (Ahmadi, 2015: 185). Genet wrote that structuralism is not just one way, rather, it is what Ernest Cassirer dubbed the "universal tendency of thought". He considered the first condition "to understand the internal and structural relations of the text and wrote that all external factors should be discarded as sub-steps and considered the figure as main point. According to the Genet the theory of "analysis of the effects of the tone", inevitably a set of themes appears that is an irregular form of structure

(Ibid: 311). "Rhythms, rules and operations are the three essential elements to organize and maintain the structure" (Piaget, 1970:27).

2- Julia Kristeva has called intertextuality a conscious application of a text in another context, either completely or as parts (Ahmadi, 2015:320). The artworks are the most important body of studies in the field of intertextuality. And the theoreticians and intertextual critics have always paid particular attention to artwork, including visual arts, painting, architecture, etc. (Namormotlagh, 2011:319). The origins of the literary and cultural theory of visual arts are often found in the birth of modern linguistics: A string that can be said to come from the works of Ferdinand de Saussure (Allen, 2010: 21). After Saussure, the linguistic sign turned to have an unequivocal, non-firm, and fundamental relationship. Understanding this point leads us to a vast network of relationships, similarities and differences that shape the synchronous system of the language. Such perceptions from linguistic and literary signs make us rethink about the nature of literary works. Literary work was not anymore the result of an author's original thought, No longer it had referential functionality, did not carry meaning itself, But rather as a space in which the infinite number of relationships and relationships are interconnected. Literary work, as a field of words and sentences in the context of numerous semantic possibilities, Now is only understandable in a comparative way, and the reader moves from the structure to its relations with other works and other linguistic structures (Ibid: 25, 26). basedBased on what has been discussedsthe present study tries to comparatively investigate about Persian garden and its depictionin two areas of painting and garden carpet. The study has several characteristics; lyfirstly, it has practical samples and lysecondly, the study workfield is Iranian culture and third, this cultural figure originates from Iranian art (Namormotlagh, 2011: 317).

Method

The type of research was descriptive-analytical

one and data analysis was inductive and qualitative. The main part of data were extracted from library sources in which the geometric features of Iranian garden in garden carpet and paintings of Safavid era were studied.

The main structure in Iranian garden design

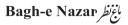
The art of garden-building in various parts of the world, owes much to the native culture and is inspired and influenced by climatic conditions and desired applications. In terms of the structure and composition ,and composition, the garden can be classified in three groups: of the division division: Geometric Garden; divisions and the general forms is within the framework and the rules of mathematical criteria and the function of geometric system. Landscape Garden; is combination of free and eve-catching styles. And combination garden: that is a combination of two types of geometric and landscape (Abolgasmi, 1992: 6-7). The plan of Iranian gardens, especially during the Safavid period, is based on the pattern of Chahar Baghs (Wilber, 1907: 47). Recently, some writers and scholars doubted about the Patterns of Chahar Bagh.; No written, graphic or architectural evidence accurately confirms this belief that Persian garden is divided into four parts with central basin and four branches separated from it and often called Chahar Bagh. Mahvash Alami referred to the Safavid gardens in her articles .The Safavid gardens could include a variety of places; including a haunting garden with a hut, an enclosed garden, a street with a row of trees, a watercourse with dock in the middle, a public hall for the ceremony, a collection of pavilions and public buildings and buildings shaping the city garden. The traverse and the flow of water are located in the right quadrangle and in most gardens, it formed the chess grid. But these are not necessarily a four-part patterns of Chahar Bagh (Alami, 2008: 64). Table 1 shows the Iranian gardens' plans in each of the three domains of square and rectangular geometric divisions.

The original structure of the garden in miniature

Garden phenomenon is an integral part of the life of the Iranian people of all social classes and has affected all disciplines of art. Gardens are an image of an enclosed area with tall walls separated from other parts such as plain, mountain (Malaki, 2006: 60). Persian garden is a phenomenonresulting from three elements plant, buildings and water effects in particular geometric systems (Alami, 2008: 64). The main spaces of garden, include the existing composition in the Garden paintings, the pavilion is usually located at the middle and the dock with geometric shapes is in front of it. The river flows from the top of the stone toward the pavilion and the central pond. Water springs from the two breakaway which form the shape of two arms. The composition and orientation of water, water stream, the location of flowers and trees in the gardens are in accordance to the flowing water in the shap[e of two broken arm out of the dock. For example, in Figures

Table 1. Patterns of Garden Plans in Persian Paintings and Carpets. Source: authors.

Garden plan in Iranian painting	Garden plan in carpet	Iranian garden plan
"Askandr and Seven Wise Farzaneh", the 10th Century A.H. Khamseh Nazami. Source: Uluç, 2006:406	"Carpet Chahar Bagh of Kurdistan", Northwest, 18th Century, Islamic Art of Brooklyn. Source: Parham, 1992:134	Source: https://scontent.cdninstagram.com



1 and 2, the main structure of the Iranian garden and the location of the plants along the water streams is depicted. One of the main features of the Persian Garden is the creation of a position for viewing and a deep and extensive perspective. This landscape can be divided into two main views of the main axis



Fig.1. Father's advice about love, Haft Orange Jamie, Qazvin, 974-973 AH, Washington, DC. Source: Corkyan, 1998: 1



Fig.2.The talk of the physician, Aghamirak, The 9th century A.H. Source: Karimov, 2005: 48

of the garden and the landscape around the garden (Tamori & Haidarnataj, 2014: 18).

Main structure of the garden in the garden carpets

despite the fact that Sassanid painters, draw the images of the spring scenery on the great curtains in the palaces and despite that the woved ruges in later periods had images of flowers But Safavid Shah Abbas period, the production of carpets with images of flowers was typical . These carpets were called "Garden", "Chahar Bagh" or "Golestan" because they depicted normal division of the garden in four parts (Wilber, 1907:32). The definition of the Chahar Bagh is completely different from the traditional definition we know about garden carpets. While some accept this pattern and division system using four parts in detail, they extended it to other forms than squares. In addition, the idea of making Chahar Bagh

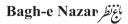
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is not necessarily exclusive to a square divided into four gardens. However, in most cases, the orchard has a rectangular shape and is slightly square-shaped, with main watercourse in the middle has divided the garden into two halves and the other watercourses divide it into a number of gardens in the form of multiples of four (Porter, 2005: 23). Fig 3 shows the main structure of the Persian garden garden, the water supply network, geometry and order in Safavid period garden carpets. The Persian garden, while unifying in its general lines, has a unique geometry and spatial diversity. Gardens spatial diversity through the definition of independent spaces by limiting limiting, adjusting the viewing distance, benefiting from simple geometric shapes and planting systems and water system brings harmony and order to Persian garden. (Memarinews, 2016: 6). Structure and Parameters in Iranian Garden Plan The axis is single in the composition of a Persian garden which are recognizable in samples of Iranian garden plans, miniature and garden carpet. This axis has the following characteristics: crusade-structure, similarity in function, centerality, symmetry, proportions and diversity in combination with constant components. (Soltanzadeh, Ashraf ganjoee, 2013:82). In Table 2, a visual representation of these three domains and the common features are expressed.

Findings

In the intertextual reading, at first ,art systems must be examined in general terms and at the next stage, their works and their internal-textual relations must be examined to determine the reality of artwork. conscequence to the investigation of the artworks of Safavid era in the form of miniature and carpet, there exist a comprehensive discourse in this artistic arena and all these artistic traditions are along each other. Among studied cases in this research are paintings and garden carpets that are discussed in this study.

A. Composition and angle of view in Iranian painting: , Due to the fact that Iranian painting and visual art was always in the service of literature and followed the literary diction, structuralist analysis can be



Garden Carpets	Iranian paintings	Persian Garden	Common features
			The division of the garden is often divided into four parts (each section is divided into a smaller garden)
			Using straight lines in the design and the main axis of the garden (cross)
			Use a main stream (water creek)
			Close relationship with nature

Table 2. Common Characteristics of Persian Gardens and Carpets and Iranian paintings. Source: authors.

Fig.3. Northwest Gardens Carpet, 11th Century A.H, Metropolitan Museum of Art, New York.1977: 1128. Pope, Source: Pope, 1977: 1128.

better utilized in this regard. In this research, the elements, rules, and internal relations of garden building and painting of the Safavid era, is based on the method of the structuralism byLevi Strauss and is acoording to the structures of contradictions and sequences and repetitions (Ahmadi, 2015:190). Our readings of visual arts take place with full knowledge of this fact that the signs, motifs, and structure used in any particular text find their reference not in the subjects around the world, but in the artistic system in which the text is derived from (Allen, 2010: 26). In this study, the composition and viewing angles of the 5 selected images of the statistical society are examined by having intertextual and structural orientation. The system of water flow in creeks, the booth and pond in the center of Iranian painting,

margins and gardens compromise the main structure of garden in Iranian painting. The pavilion is located in the center of the picture and water dock is located in front of it. The main and secondary route are created along the guided and regulated pavilion and dock. The main route prevades overall structure. Fences sorround the three sides, and the other side of the plain is surrounded by , the mountains and traverse. Geometric system the main guided axis, familiarity with the principles of mathematics and landscape are seen in the composition of the images. The original viewing angle of five selected images are from the front and normal.. Trees and pavilions are equal and continuous. The combination and composition of the building and the trees in the images acquire visual balance. These images have a two dimensional space with depth; both are united and discontinous (Pakbaz, 1999: 93). The viewing angle of the garden is visible from the front and trees, flowers and shrubs are seen static and vertical. B. Composition and angle of view in the carpet:

As Levi Strauss has introduced the forms of linguistic structures, we can follow the same base in visual arts.

According to Andrea Ellis a simple figure is the basic structure of men's thought who is expressed in language (literary, pictorial, symbolic,...) (Ahmadi, 2015:148). The basic features of the construction of the garden and painting of the Safavid period are order, accuracy and mathematical proportions. In structural research of the image and semiology of the elemnts and the attempt to find a visual expression of system and the visual elements in this research based on the centrality of crusade structure and the geometric structure of a Persian garden is based on square and rectangular(Ibid: 325). In this research, the composition and viewing angle of 5 selected garden carpets are examined with an intertextual and structural orientation. The water system in the creek, location of the dock in the center of the carpet, margins and gardens, are the main structure of the carpet. The water creek, which is the main axis in creating balance and symmetry

in the carpet, divides the carpet into two parts longitude .In some carpets there is a dock at the middle, and with some others, several docks connect continously along with the main axis. The original structure of the garden carpets adheres to a very detailed, mathematical and near-natural geometric system. Use of vertical and horizontal lines, detailed divisions in Gardens (plot), the use of images of trees and flowers along the water jets and central docks with geometric designs are extracted from the original designs of Iranian gardens. Centralism and cross splits in the carpet shows the accuracy and delicacy of the art of gardening and decorating the garden in Iranian garden (Mahmoudinejad, Partners, 2007: 121). Viewing angle in 5 selected carpets has been pervaded from the above, but the motifs are seen from the front. The forms are completely geometric and the structure of the plot is based on accurate proportions on the margins, text, bergamot and water streams and rhythm, balance, symmetry and balance can be discerned in main structure of the carpet. The emphasis on spatial centrality of pool and unity in the design of carpets is completely upright according to the basic structure of the Iranian garden.

Composition and viewing angles

The findings of the study are presented in the form of a table that refers to the study of selected samples in the field of garden carpets and paintingspaintings (Table 3).

Comparative study of paintings and garden carpets

In this section, it is necessary to to examine the textual relationship between paintings and carpets of Safavid period. In this textual comparative study, we have respectively tried to examine the similarities and differences between two texts,. At the beginning, we discuss about the common things between these two visual artfields: 1-Water streams are formed on the basis of intersecting axes. 2-Use of the most common Iranian garden pattern (Chahar Bagh), is obvious in the main structure of Iranian paintings

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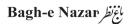
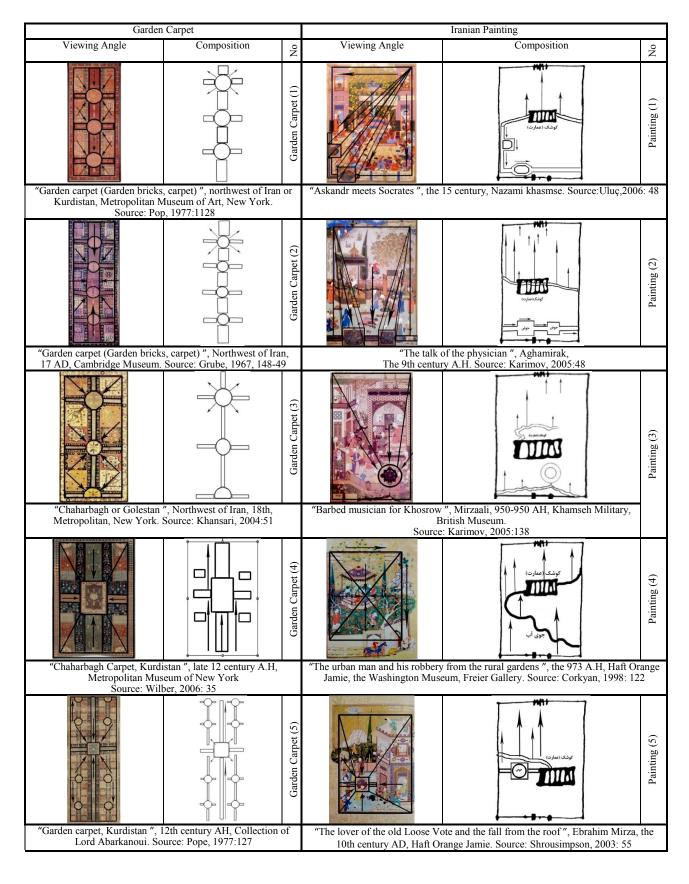


Table 3. Visual analysis of composition and angle of view in garden carpet and garden painting. Source: authors.



and garden carpets. 3-The coordination between the elements in the designing the paintings and carpets of the Safavid period has resulted in the coherence, unity and proximity of these two visual fields in art of garden making. 4-Balance and symmetry among the themes. 5- Naturalism. 6-The use of animals in both studied art in the Safavid era .There are also important differences: 1-The viewing angle of the Iranian paintings is from the front, but this viewing angle can be seen from above on all levels of the carpet and its elements. 2-There is more plant diversity in the paintings, but in the carpets, due to the application and use of the geometric design, less plant diversity has been used. 3 -The pavilion has been used beside the main dock andat the center of the painting, but in the carpets there is only one central point all over the carpet. As obvious, the existing evidence are so clear that confirms the meaningful relationship between two visual arts of miniature and garden carpets. They certainly have intertextual relationship with each other because there they have so many common issues with each other. Their proximity to the art of making gardens in the Safavid period is another reason to understand their relationship relationship. Chahar Bagh and also

the existing themes in the Iranian garden are clearly seen in these two art forms. Therefore, in terms of reading, the Iranian paintings and garden carpets of the Safavid period are related.

Discussion

In previous studies, the geometric shape of the garden has been more investigated parallel to religious approaches, mythology and how the gardens were shaped in the past and indeed, the main structure of the garden in Iranian painting and garden carpet at the specific time remained neglected. In this research, having the structralistic and intertextual approach toward paintings and carpets seems to be very novel idea that has not been studied so far. In most cases, the variable of Iranian garden has been considered by only semiotics and in afew cases, the viewing angle has been examined merely from the viewpoint of narratives and the characteristics of visual art. Based on the structural and intertextual approach, the dimensions that are considered in this study, Include: composition of the original Iranian garden plan, geometric structure, dock centeralism, water flow crusade divisions, sequence, repeatition, rhythm, and the viewing angle in bothpainting and carpet.

Conclusion

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The textual structure of these two artistic forms is taken from Iranian garden that belonged to the Safavid period which was analyzed by having structralistic and intertextual approach on two art forms of Iranian painting and garden carpet. The results can be used to answer the question raised by this investigation. There are many similarities between motifs, compositions, and the arrangement of elements in these two art forms. The composition of the main spaces has been formed by a geometricsystem based on crusade axis. Using the typical pattern of Chahar Bagh, having emphasis on the main axis (water creek), spatial diversity and the centrality of the dock through visualization can be seen in these two artistic fields. The view of a painter of Safavid era toward Persian garden shows, his perfect control over the environment and elements of garden. In Iranian carpet and miniature, the structure and patterns are similar, the rhythm, utilizing the pattern of the Chahar Bagh, as well as the creation of open and extended spaces along with a variety of geometric docks are all depicted. due to the placement of the carpet on the ground, the viewing angle from above the carpet creates a spatial view. In the miniatures, the viewing angle of the text and the fence is seen from the front and like a drawing board. In both areas, Iranian garden it has been tried to use accurate geometric proportions and infuse a sense of linkage to the nature. One can definitely say that the connection between the text of the images and the garden carpets is clearly strong. The presence

common issues betweenthese two image formats together with their common structural proportion with the Iranian garden, refers to their familiarity and use of same structures. The main used format in these art forms has been taken out from the patterns of a Persian garden in Safavid period and their mutual impact on each other.

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