

Original Research Article

Shadi Taherkhani¹

Received: 17 September 2021

Revised: 27 January 2022

Accepted: 7 March 2022

DOI: 10.22055/PYK.2022.17361

URL: paykareh.scu.ac.ir/article_17361.html

How to cite this article: Taherkhani, Sh. (2021). The Influence of the Iranian-Turanian Ingenuity of the Painter in Illustrating the Social Place of Women in Courtship Paintings of the Vargheh and Golshah Manuscript. *Paykareh*, 10 (25), pp.44-61.

The Persian translation of this article is published in the same issue with the following title

«تأثیر اصالت ایرانی-تورانی نگارگر در نمایش جایگاه اجتماعی زن نگاره‌های خواستگاری نسخه مصور ورقه و گلشاه»

The Influence of the Iranian-Turanian Ingenuity of the Painter in Illustrating the Social Place of Women in Courtship Paintings of the Vargheh and Golshah Manuscript

Abstract

Problem Definition: Research regarding the topic of "women" often exposes new aspects of the social culture of diverse epochs. The position of women in Iranian cultural geography bore many fluctuations from ancient times to the present day; hence, a means to study this position is to scrutinize historical illustrated manuscripts. In this study, two courtship themes from the illustrated version of "Vargheh and Golshah" are observed. This version, as the oldest illustrated version of Persian numerals, belongs to the late sixth and early seventh centuries AH. and is illustrated by "Mo'men Mohammad Khoei". This study seeks to answer the following two questions: What effect did the Iranian-Turanian originality of the painter and his cultural background have on his personal interpretation of the literary text, and how did this analysis affect the visual representation of the story? .

Objective: The aim of this study is to understand the effect of the originality and socio-cultural context of the artist in the method of representation of a literary text with non-Iranian roots.

Research Method: The research approach of this study is qualitative. Data is based on library information and scientific databases; moreover, the methodology is descriptive and analytical and Michael Riffaterre's intertextual semiotic theory is applied in data analysis.

Results: According to the results of this study, it can be stated that the cultural context of the literary text, which comprises of a material and earthly assessment of "love" according to the Turanians and the productivity of men in any kind of decision-making in his personal reading is resolved by the painter and presents an Iranian view in which the woman devises an "active and dynamic" nature in love, decisions and social scenes.

Keywords

Woman, Vargheh and Golshah, intertextuality, interpretation, illustration, painter, socio-cultural context

1. Corresponding author, Department of Graphic, Faculty of Arts, Shahid Chamran University of Ahvaz, Ahvaz, Iran.

shaditaherkhani.art@gmail.com

Introduction

Identifying the signs of the visual concepts of post-Islamic Iranian art, in many cases, directs us to achieve a perception of how social behaviors of various classes, including women, occur. Women have always played an influential role in Iranian and Iranian-Islamic culture. Therefore, it is essential to recognize the context of their presence in social, cultural and artistic fields throughout history in the field of academic research more than before. One of the most authoritative and accessible sources for examining the roots and types of socio-cultural assessments of women are illustrated versions, which have remained from the past and transmit many beliefs of the time due to its transportability in the course of wars and military campaigns. Research on illustrated paintings in recent decades has revealed that a feature beyond the original literary text, such as the contemporary cultural, social, political, mythological, and psychological contexts of the painter's time, has influenced the formation of the artwork and in what manner women are depicted. Studies carried out in this topic are mentioned further on. The present research with the aim of distinguishing the impact of the artist's originality and socio-cultural context in the type of representation of a literary text with non-Iranian roots, has been formed through an intertextual interpretation of visual and verbal sign systems carried out in two stages. In this process, in order to accomplish this insight, two illustrations with the theme of courtship taken from the illustrated manuscript of Vargheh and Golshah are studied. The poetry under study according to its poet "Ayouki" is based on an Arabic story composed in fourth and fifth centuries AH, moreover, in the late sixth and early seventh centuries AH, according to specialists, the poetic manuscript was illustrated by the Seljuk painter Mo'men Mohammad Khoei in the city of Khoi or Tabriz. In the compulsion of the present study, it should be stated that despite the extensive inquiries in the field of Iranian-Islamic illustrated manuscripts, the illustrated versions of Vargheh and Golshah, notwithstanding many cultural and symbolic features, and regardless of being the oldest illustrated version in the history of Iranian painting and the fact that its illustrator registered his name "Momen Mohammad Khoei", it has received less attention among researchers in the field of visual arts. The present article seeks to answer two main questions: What consequence did the Iranian-Turanian origin of the painter and his cultural context have on his personal interpretation of the literary text, and how did this evaluation affect the visual representation of the story? In addition to the main questions, this research also seeks to answer the following sub-questions: What cultural context does the primary reading (linear or exploratory) of the visual and literary text express? And what are the signs that lead us to a secondary postpositional reading and what interpretation of such mentioned signs clarify the assessment of the artist for the addressees?

Research Method

The approach of the present research is qualitative and data is constructed on library information and scientific databases. The method of presentation is descriptive and analytical and in terms of data analysis, Michael Rifater's intertextual semiotic theory has been applied. The number of samples deliberated upon are two illustrations with the theme of courtship, out of a overall seventy-one paintings of the illustrated manuscript of Vargheh and Golshah.

Research Background

The poetic manuscript of Vargheh and Golshah is one of the primary comprehensive Persian fiction poems that has subsisted from the fourth and early fifth centuries AH. Until the time of "Ansari", several stories have been published, all of which have disappeared over time and only the "Vargheh and Golshah" manuscript has remained (Safa, 1964, p. 4). The first person to proclaim the presence of such an illustrated version of this poetry in the treasury of the Topkapi Palace Museum in Istanbul was "Iqbal Ashtiani" who, together with the Persian language professor of Istanbul University, "Atash", introduced this poetic artwork and its delicacies. Atash (1955) published a complete description of this illustrated version under the title "A Lost Masnavi from the Ghaznavid period - Vargheh and Golshah Ayouki". In most books of the history of Iranian painting, including "Iranian painting: from Long Ago to Today" by "Pakbaz" and "Iranian painting" by "Kanbi", this version is considered as the oldest illustrated version of the Seljuk school, which can undoubtedly be deliberated as Iranian and its reference and history is mentioned in the late sixth and early seventh century AH. (Pakbaz, 2013, p. 55) "Safa" (1964), in the book "Vargheh and Golshah", introduced the poet as "Ayouki", a contemporary of Sultan Mahmud Ghaznavi (fourth and fifth century AH) and has confidence regarding the chief basis of the story, rendering to the poet's direct mention to Arabic information and books, is taken from the love story of "Arwa ibn Hizam al-Azri" and his cousin "Afra bint Aqal", which is analogous to the story of Lily and Majnoon. (Safa, 1964, p. 9) "Karimzadeh Tabrizi Khoei" (1991), in the third volume of the book "Biography and Works of Ancient Iranian Painters" remarks that "the illustrated version of Vargheh and Golshah, the oldest illustrated manuscript in the sixth and seventh centuries AH. and the oldest existing illustrated form that has been created around the beginning of the seventh century AH." He goes on to add that the painter and possibly the scribe of this exquisite and romantic epic, which was illustrated around 622 AH, in the forty-ninth of the seventy-two drawings of this manuscript, evidently inscribed his name "Al-Momen Muhammad Al-Naqash" in beautiful calligraphy and script making it clear to us that he was also skilled in calligraphy. Mentioning the special name "Khoi" in the signature has a direct reference to the city of Khoi in Azerbaijan and almost certainly indicates the place of illustration and the birthplace of the painter (Karimzadeh Tabrizi, 1991, pp. 1236-1237). "Tajvidi" (1974) considers the paintings of this illustrated version as among the best samples of visual art of the Seljuk period and states: "According to our current information about paintings of the Seljuks, the book Vargheh and Golshah is the most reliable and prominent example of this art" (Tajvidi, 1974, p. 86). Regarding the review of the literature related to Vargheh and Golshah, we can refer to the research of "Ishpiroglu" and "Ayubavoglu" (1961). Their research is published in the book "Turkey: Ancient Miniatures" divulges that the illustrations of the story of Vargheh and Golshah, grounded on the evidence of their simultaneous works, belong to the thirteenth century. They also clarify and examine the similarities between the plants in the paintings of this version with the vegetation applied in the illustrated versions of the Antiochus of Discordia; moreover, the animals mentioned in the mentioned copy are also similar with the animals of Kelileh and Demneh, by affirming that the figures of the paintings represent allegorical Seljuk categories (Eypsoglu & Ipsoglu 1961, pp. 18-19). Gholam Hosseinzadeh, Obaid, Roshanfekar and Radfar (2011) in a study entitled "Comparative Study of the Romantic Themes of the Story of Vargheh and Golshah Ayouki with the principle of Arabic Narration" examine the common literary roots of the two narrations of Arwa and Afra and Vargheh and Golshah and seek to make a comparison and state that in Ayouki's Persian

story, the epic status and Arabic originality beholds more of a lyrical¹ aspect compared to other features. Another feature that is dissimilar is characterization is more prominent in Ayouki's story; this is also seen in the personality of the lover, warrior and beloved. In the Arabic story, the character fails to bestow heroic characteristics; moreover, the economic factor in the two stories is bold nevertheless different. In the Arabic tradition, the lover is an orphan from the beginning and poverty and misery has prevented him from marrying, while in the Ayyuki version, the lover is not an orphan. "Niknami, Yousefipour Kermani and Ghafouri" (2019) in "Analysis of the Story of Vargheh and Golshah based on the Critique of Archetype" refer that the midst of the story, lyrical poems are recited by the characters of the story. There lyrical poem are delicate, passionate and beautiful sonnets that are considered as old Persian sonnets and similar to the style of sonnets, rhymes are observed at the end of verses and this novelty was new technique in Persian literature. The number of these lyric poems in Vargheh and Golshah, corrected by Safa, reaches ten lyric poems composed similar to the structure of the actual poem. "Dadkhah, Hajizadeh, Afkhami and Shahbazi Shiran" (2020) in their research entitled "Archeology and History: the Image of Women in the Paintings of the Tabriz School and Safavid Texts by Studying the Image of Women in the Paintings of Shah Tahmaseb, Khamseh Nezami and Haft Orang Jami" express that a direct relationship between the presence of women in the illustration and subject of the painting and the literary text cannot be achieved and perchance the presence of women in these paintings can be considered as evidence of the narrative. Rashidi and Taheri (2019) in their article: "The Study of the Effect of Social and Cultural Developments in the Safavid and Qajar periods on Women's Portraiture and Iconography" state that women were depicted unrealistically in the paintings prior to the Qajar era and mostly bestowed an epic and ambitious status and their visual values similar to other elements of the painting, but then again. during the late Safavid and Qajar periods, due to connections with the West, a transformation in the painter's attitude towards painting whilst considering realism in depicting women can be observed. Scrutinizing the extent of such intrusions and alternations can shed light on the character of Iranian illustrators from the past to the present particularly in creating meaning beyond the visual structure. The dissimilarity of this research with other studies bearing the same topic is that this investigation carefully studies two illustrations with the theme of "courtship" from the illustrated version of Vargheh and Golshah and seeks to scrutinize the effect of the influence of the Iranian-Turanian originality of the painter and his cultural, social context and archetypal beliefs in depicting the social status of women.

Theoretical Framework

Semiotics as the "knowledge of the study of sign systems" (Sojudi, 2014, p. 48) not only involves the study of what are known as "signs" in everyday conversation, but also it is the study of whatsoever that implies additional connotation. In other words, semiotics in various forms is related to the production of meaning and representation. (Chandler, 1999, p. 20) The term intertextual refers to a relationship that exists between two or more texts. This relationship is effective in how to understand "within the text."² (Meqdadi, 2014, p. 143) It can be said that the text does not speak alone, and that a constant conversation is taking place between a text and texts outside of it. These texts may be literary or non-literary, contemporary or belong to earlier periods. Bakhtin's prominence on the element of conversation, in all the speeches and the wide range of various conversations found in

several texts, comprising literary works, aroused many interests in the dispute of intertextuality. (Allen, 2001, p. 30) Among the reformers of semiotic intertextual theory, Michael Riffaterre and his intertextual reading have received much attention. Michael Riffaterre's work covers structuralism, post-structuralism, semiotics, and psychoanalytic theories in the field of literature. Topics such as intertextual reading and intertextual semiotics were either first stated by him or he played a fundamental role in their formation. According to Riffaterre, there is a dynamic dialectic between the text and the reader, and in practice, the understanding of poetry is created as a result of this connection and intertextual presuppositions present in the text and the mind of the audience (Riffaterre, 1978, pp. 1-3). According to Riffaterre, "inter-text is a set of texts that can relate to what is before our eyes; a collection of texts that a person finds in his memoirs when reading a certain text. As a result, "intertextuality is an infinite body" (Namvar Motlagh, 2015, p. 221). According to this view, intertextuality is an individual and personal phenomenon that discovers a diverse meaning with the passage of time, cultural developments and social background of the reader and his questions in each period. In the field of intertextuality and textual citation, Riffaterre discusses two types of citations in text reading, "hypertext citation and intertextual citation". (Namvar Motlagh, 2015, pp. 212-213) He knows the main difference between the two in terms of their type of signification. He considers two types of explicit and implicit signification to be effective in reading the text. In explicit signification, the reader removes ambiguity by identifying objective references, however, in implicit signification, he refers to the text or other texts and discovers the mysteries of the lower level (Namvar Motlagh, 2015, pp. 214-217). Riffaterre has confidence in that in order to understand the meaning of the text, a two-step reading is essential. The first is "exploratory reading" or "received reading", which is the first stage of decoding and its course corresponds to the linear motion of the text, i.e. from the beginning of the text to the last line, and the second stage is "reactionary reading" (Riffaterre, 1983, p. 8). In the book "Introduction to Intertextuality", "Namvar Motlagh" examines two visual works with the method of intertextual reading of signs and thus, an example of the application of this method in the study of visual arts has been provided to the researcher. Considering that reading intertextuality evaluates the effect of intertextuality in reading and receiving the work, in the present study, relying on this approach, a two-stage reading is considered. During these two levels of intertextual reading, three types of interpretation are used: "Primary Interpreter" (the first meaning that is received in the mind of each recipient at the first encounter with visual elements and words); "Dynamic Interpreter" (special meaning that comes to the minds of special people at the moment of receipt) and "Final Interpreter" (distinct meaning that recipients can settle on). (Namvar Motlagh, 2015, p. 240) First, for the initial interpretation, the "exploratory reading" of the literary and visual text is allocated. Our initial connotation leads us to dynamic interpretation and the encounter of the meaning of symbols and signs, and finally come across the final interpreter and assembly of meaning by "post-action reading". (See Figure 1)

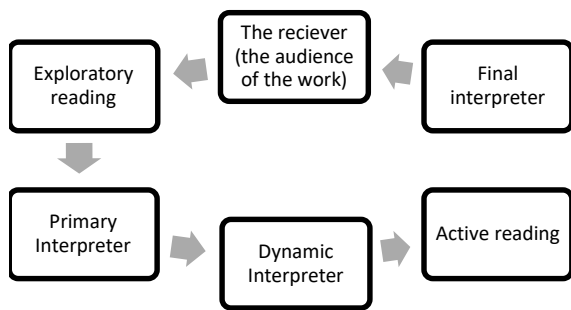






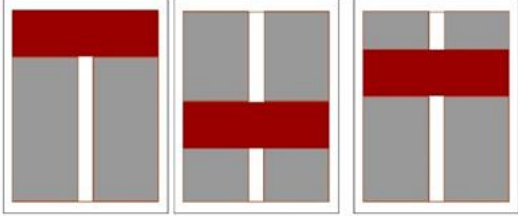
Figure 1. Theoretical Graph. Source: Author.

Discussion and Analysis

The images available from most of the illustrated pages of Vargheh and Golshah are not comprehensive; therefore, referring to the studies and extracting the image structure from the available full pages (See Table 1), the researcher believes that it is likely that the two drawings studied are engraved "inscriptions" (Karimzadeh Tabrizi Khoei, 1991, p. 1236) and written and visual texts, in the setting of the page, are arranged next to each other in a combination of Chalipa patterns.

Table 1. An analysis of the location of the image on the page. Image source: <http://warfare.ga>, Table source: Author.

<p>A page from the illustrated manuscript</p>		
<p>Description</p>	<p>The assignment of visual text in the upper half of the page box, at the intersection with the columns of text, is confined to the horizontal rectangle.</p>	<p>The settlement of the visual script in the middle of the page frame, creating a cross intersection with columns of text and breaking the box from the top middle of the image.</p>
<p>A page from the illustrated manuscript</p>		

Description	The placement of the visual script at the top of the page frame, creating an intersection of the inscription and breaking the image box in the lower middle (between the columns) and on the left.	The location of the visual text in the middle of the page frame, creating a cross intersection with columns of text and break the box from the top middle of the image.
Analysis and general composition of the image and text		

In the exploratory reading stage, according to the visual background obtained from Table 1, in the text of the two diagrams in question, we are faced with two visual and literary systems, each of which is read separately.



Figure 2. The courtship between Vargheh and Golshah; Image source: <http://warfare.ga>.

Exploratory Reading of the Visual Text

The visual images of the two illustrations have a figurative or organic structure. The classification of its visual elements is presented in Table 2. (See Figure 2)

Table 2. Examining the visual elements of two images. Source: Author

Visual Element	First Illustration	Second Illustration	escription
Human Figure	Man and woman	Man and woman	In this version, and in most Seljuk illustrations, including pottery, distinguishing gender is problematic. However, in these two paintings, due to the presence of a turban on the young man's head in the first image and the white beard in the second image, the gender can be distinguished.
Animal Figures	Three birds in the upper section of the border	N/A	The manner of the depiction of the birds, their location and gathering in the center of the Chalipa of the text

PAYKAREH

Journal of Art Faculty, Shahid Chamran University of Ahvaz

The Influence of the Iranian-Turanian Ingenuity of the Painter in Illustrating the Social Place of Women in Courtship Paintings of the Vargheh and Golshah Manuscript

Volume 1o. Issue 25. 44-61

51

Visual Element	First Illustration	Second Illustration	escription
			and image can indicate somewhat beyond its prescribed features.
Herbal Figures	A tree with raised fertile branches and leaves leaning upwards, two flowers (unknown), on the bases, the motif of cypress on hung fabric with Bot-e Jeghe patterns.	Sufficient branches of ivy and plant motifs (quasi-arabesque), the role of the lotus on the mattress of the old man. fruit dish	The appearance of a fruitful tree, the role of a cypress on a throne and a shrub on a cloth hanging on the first illustration and the mass of fruit, the role of a horn and a lotus in the second illustration can have a symbolic nature.
Nature of Context	Natural, man-made artifact (throne on the right of the image).	Slightly supernatural (twisting and wavy patterns of the tent background), man-made artifact (interior view of the tent).	In dividing the essence of the context, four options are considered, natural or supernatural, natural or man-made.
General Composition	Exterior view, diffuse composition, with horizontal direction (image frame and diffusion of elements in the frame), with vertical-direction from bottom to top (presence of tree with upward branches and birds), the view of the audience considering the birds and tree branches is guided outside the frame.	Interior view, diffuse composition, with horizontal orientation (image frame and diffusion of elements in the frame), view of the audience rotating between the interior elements.	In first illustration, the horizontal direction of the frame (diffusion of elements and figures) and the vertical outward direction resulting from the movement of birds and tree branches are in conflict. In second illustration, the arrangement of the elements, the association of the two human figures, and the horizontal composition create more harmony.
Color	Colorless background; colors arranged according to visual supremacy; red, blue, yellow or gold, pink and green	Painted background; colors arranged according to visual supremacy; blue, yellow, yellow, pink, red and green	

In the first illustration, the painter depicts the outer space and companionship, and in the second illustration, the inner space and camaraderie is portrayed. The well-adjusted division of natural and artificial elements can be observed in both paintings. In both paintings, figures are seated, as the latter emphasizes companionship and peace. The right figure in the first illustration is seated on two knees (respectful sitting position) and the figure to the left is sitting cross-legged. In the second illustration, both figures are sitting cross-legged. The fabrics of the costumes are simple but presented in a pleated manner, reminding the viewer of Manichaean painting and Turfan illustrations. On throne on the right of the first illustration and the apparel of the old man; and in the second illustration, the motif of a Chalipa and a lotus can be documented. A "descriptive set" of visual elements obtained from the exploratory reading of the first and second illustrations include the human body of a man and a woman, tree, cypress tree, shrub, broken Chalipa motif, lotus motif, birds, horn

PAYKAREH

Journal of Art Faculty, Shahid Chamran University of Ahvaz

The Influence of the Iranian-Turanian Ingenuity of the Painter in Illustrating the Social Place of Women in Courtship Paintings of the Vargheh and Golshah Manuscript

Volume 10. Issue 25. 44-61

52

motif, twisted plants and a fruit bowl. In the initial stage of interpreting the visual text, it can be said that in both paintings, a peaceful dialogue is taking place. In the first illustration, a young man is respectfully sitting in front of a woman with a request. In the second illustration, a woman is talking to an elderly and authoritative man.

Exploratory Reading of Literary Text

Vargheh and Golshah are cousins of the Bani Shiba tribes who fell in love with each other during childhood. The elders of the tribe, consider it advisable for the lovers to marry after reaching the age of twelve, but then again, on the day of the wedding, Rabi 'ibn Adnan (one of Golshah's lovers) and his troops, kidnap Golshah in her wedding ceremony. Vargheh seeks revenge and along with his father and troops rush to fight Rabi and save Golshah. Meanwhile, Vargheh's father, Golshah's uncle, is killed by Rabi. Rabi seizes Vargheh and intends to kill him. Golshah single-handedly battles with Rabi to save her beloved's life; she succeeds in killing Rabi with a spear and they joyfully return to their tribe. After Rabi 's death, the two older sons seek revenge and go to the battlefield one after the other for the sake of their father's murder. When the older brother sees Golshah's face, he instantly falls in love and offers peace; however, Golshah fights him well and destroys him. The younger brother, Ghalib bin Rabi ' also goes to battle to fight for the blood of his brother and father and he too falls in love with Golshah. Golshah does not show sympathy and they fight until Ghalib captures her. Vargheh ambushes "Ghalib" and saves Golshah. Nevertheless, he has lost his wealth and power and with the coming of rich suitors for Golshah, Vargheh, who is a restless lover, does his best to gain his lover. In order to add to his wealth and prosperity, he travels to Yemen. Unfortunately, on his return he discovers his beloved is gone since Golshah was forced by his father to marry Amir of Sham. With the utmost frustration and loneliness, Vargheh divulges that his desired girl belongs to someone else and eventually due to the intensity of grief and sorrow, he dies. After hearing the news of the death of Vargheh, Golshah goes to his grave and after much moaning and wailing, she too passes away. (for more reading, refer to the verses of the book Vargheh and Golshah).

Narration prevailing the two paintings under study: Vargheh goes to Golshah's mother for the hand of her daughter and states to have mercy on his miserable state and begs Golshah not to marry anyone else. He reminds his promise between his father and uncle (Golshah's father) before the murder of his father and asks Golshah's mother to convey his message to his uncle. Golshah's mother, who is heartbroken, goes to her husband tells him everything Vargheh had told her that these two lovers are connected to each other and their souls are not detached and that wherever one finds one lover, the other lover's thoughts and opinions are prevalent. (Safa, 1964, p. 51) Hilal (Golshah's father) tells his wife not to talk in vain as there is not a better son-in-law than Vargheh for him, nevertheless, he is very poor; Golshah, on the other hand, has very affluent suitors. The initial reading of the literary text represents an epic and romantic atmosphere. Golshah is a brave woman who protects her love. In this literary text, more than her heroic spirit, she is best best-known as gaining the heart of men and her radiant black hair, which makes everyone fall in love with her. Golshah's parents admire Vargheh but since their daughter has wealthy suitors, he must to gain fortune and prosperity in order to marry her. The initial interpretation of the literary text expresses the unsuccessful love that is not achieved despite all the efforts of both lovers in the path of matrimony. A descriptive set of words extracted from the exploratory reading of the literary text, recounting Golshah's love, bravery and beauty (as the focus of research) are presented in [Figure 3](#).

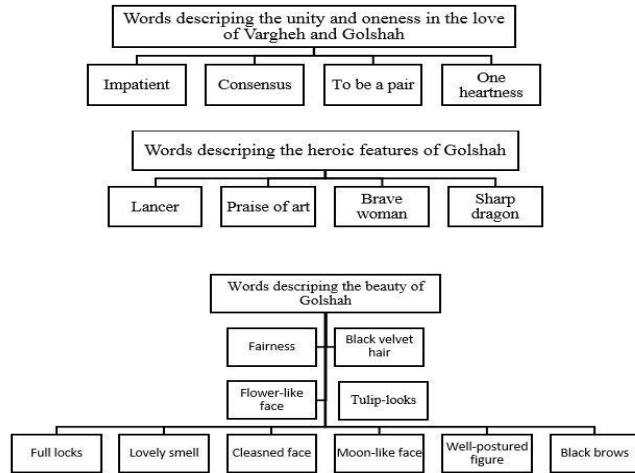


Figure 3. Descriptive set of words obtained from exploratory reading. Source: Author.

Sign Interpretation (Dynamic Interpreter)

In linear reading of visual text, a descriptive set of elements were identified, a number of which require symbolic reading and decoding. This set of symbols includes tree, cypress tree, shrub, broken Chalipa, lotus, birds, horn and twisted plants. In the following, each one is discussed in detail and its visual model is presented independently in Table 3.

Tree: The tree represents the cycle of life in nature, i.e. birth, death and rebirth, and this has led to the distinct attention of human beings from time immemorial towards the tree. "Marzban" (1998) writes that "the tree in ancient civilizations worldwide, the tree was considered as a symbol of fertility, growth or a mediator of goodness and blessing. The motif of the tree in the decorative and symbolic arts of Mesopotamia has been widely used since 3500 BC particularly in ancient Iran. In prehistoric mythology, the sacred tree beholds a similar meaning and is equivalent to the tree of life ". (Marzban, 1992, p. 309) The mythological position of the tree among Iranians can be deduced from the story of the creation of the first human parents, Mashi and Mashianeh. "The first human partners originate from the semen of Kiomers spilled on the ground. Primary, they grew in a continuous plant form, impossible to detect its gender. Together they formed a tree that produced ten human races. Lastly, they developed into human beings and Oormazd educated them with their responsibilities". (Hinels, 1989, p. 93) In the first illustration, the presence of the tree resembles the tree of life, which designates fertility and vitality.

Cedar: The cypress tree has a distinct place in most human cultures. "Hall" (2008) considers cypress as a symbol of immortality and life after death and states: "since it protected the body from corruption and destruction after death, it was placed next to cemeteries in Greece, Rome, the Middle East, India, China and Europe". (Hall, 2008, p. 293) Regarding the Iranian belief, "attributing the element of freedom to the cypress is a relic of its connection with Venus, considered as a symbol of freedom and liberty in myths and legends". (Yahaghi, 1990, p. 345) The cypress tree in Iranian culture indicates unity and accord, unlike all trees that change color in different seasons, the cypress tree cedar is an evergreen tree that stands strong during storms and gales and this symbolizes freedom and liberty. (Khodai, Karimi & Yarahmadi, 2011, p. 113) In the first illustration, the motif

of the cypress tree is seen on the upper section of Vargheh's throne and resembles immortality, freedom and equality.

Shrub: A number of scholars connect the motif of the shrub with the cypress tree and believe that the shrub is the cypress stalk that is bent due to the wind and this notion has persisted in Iranian assumption and art. It is considered that the shrub is a symbol of a tree that resembles endurance and resistance and by linking the cypress tree to the Zoroastrian thought such as planting Kashmar and Abargo cypress trees, the longevity of the shrub motif is referred to the Zoroastrians. (Khodaei, Karimi & YarAhmadi, 2011, p. 112) The motif of the shrub in the first illustration indicates stability and denotes to the cypress tree.

Broken Chalipa: This motif was first engraved on pottery in the land of Khuzestan, Iran around five thousand years BC and is a representative of the ancient roots of the symbolic culture of this land. In ancient Persian stories and literature, the broken Chalipa is a symbol of Farevahar. (Bakhtortash, 2001, pp. 139-141) Historical documents designate that in the religion of Mehr or Mithraism, superior attention has been paid to the sun and the god of Mehr or Mitra; moreover, the god of Mehr, bestows a comprehensive correlation with the sun. (Carnoy, 2004, pp. 38-39) In Sanskrit, the crucifix also means happiness and represents the sun and the gods. (Hall, 2008, p. 5) In the first illustration, the presence of a broken Chalipa on the throne of Vargheh indicates the all-encompassing grace (Farah³) and inherent glory.

Lotus: The lotus motif is another significant theme in Iranian art, literary and religious texts. "The lotus flower is an aquatic plant that germinate in mud in the depths of stagnant water and swamps and then grows as a stealthily stem with its flower blooming in the direction of sunlight". (Hasanvand & Shamim, 2014, p. 24) In Persian mythology, the lotus is also the symbol of Anahita (god of flowing waters) and Mitra (god of light). According to mythological beliefs, "Mehr was considered the lord of the sun, and the lotus is closely related to the ritual of the Mehr. A number of scholars believe that in the scene of the birth of Mehr, what is similar to a pine fruit in which Mehr is extracted from, is the bud of a lotus flower". (Yahaghi, 1990, p. 42) In the second illustration, the role of the lotus is depicted on Golshah's father's seating place and symbolizes an indication of the origin of existence.

Bird: Hall (2008, p. 39) believes that "bird is a symbol of the expansion of the soul". Suhrawardi (1994, p. 264) in his treatises likens the bird to the soul of a person who, in "a mystic and God-seeking man, longs for flight and liberation from the cage of the body". In many cultures, the bird symbolizes the soul and plays a transitional role between the earth and sky. There are many ancient beliefs that after death, the soul leaves the body in the form of a bird, therefore, the bird is a symbol of the soul. (Nikandish, Askari & Chitasian, 2018, p. 40) Nonetheless, due to the Turkish originality of the painter, the possible place of illustration is either Konya or Azerbaijan region of Iran. (Karimzadeh Tabrizi Khoei, 1991, p. 1237) Furthermore, this version was depicted during the Seljuk Turks and before the painter converted to Islam he followed the Shamanism religion and in several paintings, including the painting of Vargheh's father being killed in the battle of Rabi, a man in the Shaman costume⁴ observes the event. Most probably, the presence of the bird and other animals that are absent in the literary text, are the totem of people of the tribe. In primitive religions, the tribal totem is a symbol that supports the tribe. A totem is "an animal (cow, eagle, fox, etc.), a tree (any kind of plant) and rarely objects from which people know their origin". (Ruholamini, 1989, p. 163) A totem is "an animal (cow, eagle, fox, etc.), a tree (any kind of plantation) and rarely objects from which people know their origin and source of existence". (Ruholamini, 2010, p. 163) The totem is a harmless or terrifying animal and in

some cases other natural manifestations such as vegetation or rain. The totem is, in the first place, the ancestor of the group and in the second place, the guardian and benevolent spirit of the individual or group that protects the individual against harm. (Tajadod Dilmeh, 2016, p. 21) Sigmund Freud introduces three types of totems 1. tribal totems that are passed down from generation to generation. 2. a totem specific to a gender; male or female, shared by members of the same-sex tribe. 3. An individual totem belonging to a specific person. (Freud, 2011, p. 102) The image of the three birds in the first illustration considering that they are not mentioned in the literary text, can indicate the totem of an individual who is the guardian and exalter of the person.

Ram Horn: In most cultures and civilizations, the ram is a symbol that refers to the male generative power. The ram is one of the major animal forms in which the gods of fertility were worshiped in the Middle East, Greece and ancient Egypt. (Hall, 2008, p. 79) The ram's horn is one of the main totems used in the handicrafts of the Turks of Ghaz and Turkmen. Jatin Kitsi explains that the experience and knowledge that the tribe have of an animal is embodiment and the soul of the chosen animal or bird is selected to be in the form of a more refined sign or symbol, such as an animal's head or body parts including the horn and there is a possibility of further refinement. (Kitsi, 2006, p. 146) "James Hall" also states that the horn is a symbol of power, strength and excellence among different tribes (especially the horns of bulls, cows and rams), consequently, it is the symbol of the gods of many civilizations from Mesopotamia to Transoxiana. (Hall, 2008, p. 57) This pattern is one of the ancient motifs of the celestial Turks⁵ and is rooted in their ancient culture. Nouri & Mehrpooya (2018) write in connection with this longevity that the ram and the and its horn have a distinctive place among Turkish and Turkmen tribes, and this reputation is still apparent in the motifs of the Turkmen carpet (See Figure 4). The mentioned motif, which is used as an inscription on the frame of the tent of Golshah's father in the second illustration, indicates dignity, power and excellence.

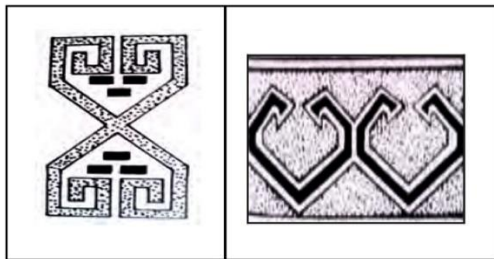


Figure 4. The motif of the ram horn applied in Turkmen rugs.
Source: Nouri & Mehrpooya, 2018, p. 76.

Twisted plant: In ancient Iran, plants were of exceptional prominence and according to the motifs found on stones, seals and pottery, it can be stated that such elements bestowed a sacred and mythical place. The mythological importance and sanctity of plants and trees among Iranians appears to be embedded in the story of the creation of the first human parents "Mashi and Mashianeh" mentioned earlier. The twisted plant (later known as arabesque) is depicted in the second illustration, which for Turanians and Iranians refers to the preliminary being and existential presence.

PAYKAREH



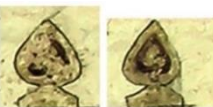





Journal of Art Faculty, Shahid Chamran University of Ahvaz

The Influence of the Iranian-Turanian Ingenuity of the Painter in Illustrating the Social Place of Women in Courtship Paintings of the Vargheh and Golshah Manuscript

Volume 10. Issue 25. 44-61

56

Table 3. The classification of symbols and signs and their manifestation in both illustrations. Source: Author.

Symbol/Sign	Manifestation in Illustration	Symbolic meaning	Description
Tree		Indicates fertility and vitality	First illustration
Three birds		Indicates the totem of the guardian and transcendent of the individual	First illustration
Cypress tree		Indicates metamorphosis, immortality and monotony	First illustration
Shrub		Indicates stability and refers to the cypress tree	First illustration
Chalipa/broken Chalipa		Indicates comprehensiveness and completeness	The Chalipa indicates perfection and the broken Chalipa indicates pervasive compassion regarding its movement in form.
Lotus		Indicates grace and inherent glory.	Second illustration
Twisted plant		Indicate the first and existential origin	Second illustration
Ram horn		Indicates dignity, power and excellence	Second illustration

Reactive Interpretation

In this stage, by probing five questions and answering them, the signs will be interpreted and the implications of the data obtained from the sign reading stage will be discovered.

1. In the first illustration, despite the presence of two characters (Vargheh and Golshah's mother), why are there three birds (individual totems) in an image with two figures? What totem is the third bird indicating to?

2. What is the cause of the conflict in the compositional structure of the first illustration with the Chalipa motif (intersection of literary text in the four corners and visual text) and vertical (visual form of a tree with upward branches and the location of birds) inclined towards the outside of the main image space with the main concept of the illustration that expresses companionship and introversion? Who is absent from this scene?

3. Are the fertile tree in the first illustration and the fruit bowl in the second illustration merely a decorative element? If not, what do they imply?

PAYKAREH

Journal of Art Faculty, Shahid Chamran University of Ahvaz

The Influence of the Iranian-Turanian Ingenuity of the Painter in Illustrating the Social Place of Women in Courtship Paintings of the Vargheh and Golshah Manuscript

Volume 10. Issue 25. 44-61

57

4. In both illustrations, why is the motif of the chair or Vargheh's throne which is a Chalipa pattern different from the motif of the throne or the position of the father in the second illustration which has the pattern of a lotus?

5. The ram horn motif on the tent of Golshah's father indicates the excellence of whom?

In answering the first two questions, it should be stated that according to the exploratory reading of the literary text, it is clear that Vargheh and Golshah are close in opinion that their souls are inseparable and wherever there is one, the other is present. In this regard, the painter has delicately depicted this unity in the most beautiful way with the presence of Golshah's totem next to the Vargheh's totem. Regarding the presence of three bird totems in the center of the conversation, while two people are present in the scene, appears to indicate the main absentee of this dialogue, Golshah. Contrary to the literary text, which does not mention the requested role, the painter attempts to express Golshah's nonphysical presence in her courtship ceremony, which originates from the ancient Semitic culture. In pre-Islamic Arab culture (Semitic culture) and even for centuries after the conversion to Islam, it was customary for only men (father, brother or uncle) to attend the courtship ceremony. The girl was proposed to by her guardian, father, brother or uncle, and the girl's consent or dissatisfaction had no role in the result. (Montazeri Moghadam, 2005, pp. 130-134) In the third question, the painter's ability to recreate allegories is questioned. Considering the symbolic delicacy that the artist has used to depict all the pictures in the book, especially the two paintings in question, it seems that the role of the tree and the fruit bowl are not merely to decorate the painting, but due to their place in the painting - behind Golshah's mother – it refers to the symbolic presence of Golshah and the prosperity of her company for the lives of her parents.

In this regard, in the first illustration, the mother in the presence of Vargheh, is the birthmother and the source of Golshah's life similar to a tree that bears fruit. Golshah in the eyes of her mother for her father, is the fruit of his heart. On the other hand, by depicting the fruit behind the mother in the second illustration, the painter refers to the symbolic presence of Golshah, who is a blessing for the parents and is absent in the literary text. The fourth question deals with the two motifs of lotus and Chalipa that are inextricably linked. As mentioned earlier, the Chalipa is the symbol of the Mehr and the goddess of the sun and Mehr is born of a lotus flower. In the literary text of the story, many times, the kin relation between her and the family of Hilal is spoken of⁹. Golshah's father is the giver of goodwill and the final verdict is with him; On the other hand, Vargheh is a person with whom he shares the same roots with and bestows grace. To answer the final question, according to the motif of lotus on his father's throne, the father is the reservoir of prosperity and glory. Hence, if so he agrees that Golshah marries Vargheh, Vargheh will reach glory and if not he is in deep sorrow. Thus, the immense grace in this story is Golshah's father. The concepts of existence-procreation, procreation-partition, metamorphosis-immortality in the overall of two paintings denote to the cycle of immortality that is continuously present in the text of the story.

The Final Interpreter

Momen Mohammad Khoi, an artist of the seventh century AH, is known as an inhabitant of the city of Khoi who "in addition to painting and writing, bestows enhanced abilities in drawing Islamic illustrations on hard metals". (Karimzadeh, 1991, p.1236) This artist, who signed his name as "Abdul Mo'men Mohammad Al-Naqash Al-Khatat Khoi" in the illustrated version of Vargheh and Golshah, was a cultivator of Iranian, Turkish and Islamic

culture. The city of Khoi is currently known by the same name in West Azerbaijan province of Iran. In the paintings of Vargheh and Golshah, the influence of the ritual culture of Turkish Shamanism of the painter is highly evident including the presence of animal totems in the form of birds, rabbits, felines, a fusion of dogs, monkeys, and unknown animals; moreover, he mentions the presence of a man in a Shaman costume and hat in a number of his paintings, including the painting of Vargheh's father. Shamanism is one of the early beliefs of the Turks that most sources, including the "Al Fehrest", have mentioned the prevalence of this religion among the people of Transoxiana in the pre-Islamic period. (Ibn Nadim, 2002, p. 616) This primitive belief was propagated by Shamans without a prophet or a book. According to historians, Shamanism was practiced among the Turks for a long time even after their conversion to Islam. "Ibn Fadlan" refers to the presence of the Shamanist Turks in the fourth and fifth centuries AH around the Aral Sea and Transoxiana. (Ibn Fadlan, 1966, p. 69) In addition to Shamanism, other religions such as Christianity, Judaism, and Manichaeism were prevalent among the Turks. However, since Shamanism was an ancient religion of the Turks with many followers, it bears a significant position. (Mokhber Dezfuli, 2005, p. 50) The Oghuz, the ancestors of the Seljuks, converted to Islam around the tenth century AD (4th century AH), nevertheless, many Shamanic rituals are still prevalent among them. (Mohammadpanah, 2008, pp. 28-30) In the culture of the Oghuz Turks, women are equal to men and this theme has been mentioned many times in the stories of women's heroism and warfare in the ancient Turkish book, " Dede Qoqort " ¹¹, which dates back to the tenth century AH Ahmad Pasha's library – currently preserved in the Dresden Library in Germany (Farzaneh, 1979, pp. 4-5) Farzaneh writes in the book " Dede Qoqort " : "Women in the stories of this book have the same status as men and unlike most Eastern myths that portray women as figurines of men's lust in condemnable situations; in the book "Dede Qoqort", women are represented with all the virtues of courage and dignity.... the woman has always been a benefactor of men and one of the common methods in choosing a wife has been the empowerment of both genders in horseback riding, wrestling, shooting, swordsmanship and warfare". (Farzaneh, 1979, p. 14) In illustrating this version, Momen Mohammad Khoei has attempted to add his ancient Turkish ritual beliefs as well as his Iranian cultural perceptions to the literary text and decrease the Arabic socio-cultural beliefs embedded within the story. One of the opinions that the artist efforts to temper and digest in his Iranian-Turkish culture is the "gender perspective" towards women. During the course of the literary text, Golshah takes up arms in vital and dangerous moments and courageously defends her love. Comparable performed have been perceived by Iranians many times in the Shahnameh; instances such as the active role of Rudabeh for her love for Zal, Manijeh with Bijan, Soodabeh and many other characters. But then again, the influence of the Arabic (Semitic) origin of the story on Persian poetry of Ayuqi becomes clear when, despite the poet's efforts in creating an epic, what has devoted most of the story to itself apart from the heroic scenes of Golshah, are her moon-like beautiful face, lustrous locks and ravishing eyes which makes every person desire her and this issue overshadows her fighting spirit.

Conclusion

Ayoughi (4-5 centuries AH.), the composer of the poem of Vargheh and Golshah, in his Iranian interpretation of the Arabic story of Arwa and Afra, has added to some extent Golshah's heroism to the literary text; nevertheless, it is the painter who has absorbed the cultural context of the literary text including the material and terrestrial view of the category

of "love", the productivity of men in any kind of decision-making in his personal interpretation of the poem and presents a Iranian-Turanian view in which the woman, is the "active character" in love, decisions and social scenes. Throughout the paintings in this version, including the two illustrations under evaluation, the painter depicts the spiritual presence of "Golshah" wherever a subject related to her occurs, by illustrating her protective totem. This notion is related to the Iranian and Turanian (Turkish) cultural context of the painter. In the culture of ancient Iran, women have been frequently represented as goddesses (such as Anahita and Chista) and the female Emshaspandan (Sepand Armaiti, Herotat and Amratat) and have been continuously vibrant in the scenes and decision-makings of Iranian-Islamic literary culture, including Ferdowsi's Shahnameh (the love of Rudabeh and Zal, Bijan and Manijeh, etc.). It seems that the Iranian artist, despite adapting to the imported cultures in diverse historical passages, has repetitively preserved his personal culture and has managed to transcribe other cultural discourses from the perspective of his own socio-cultural standpoint. The phenomenon is also evident in the current art space of today's world. The unique artwork of an Iranian artist, when created through the viewpoint of Iranian culture and identity, abruptly stands out from its other corresponding artworks and discovers a distinctive nature. This so-called "Iranianization" generated by Iranian artists from the past to the present is the main cause for the continuity of original Iranian art.

Appendix

1. Romantic
2. Within a text is a text that accommodates or reflects the presence of other texts.
3. The concept of "Farah" has its roots in ancient Iran and Persian mythology and means "divine blessing" or "glory". (Pirnazar, 2003, p. 111)
4. The shamans were holy people who were able to communicate with God and mastered the techniques of magic.
5. The Seljuks are the ancestors of the Gokturks (Guk means sky in Turkish), and are descendants of the Oghuz Khan myth of the Turks (for further reading, see the book *The Turks in the History* by Behnam Mohammadpanah (2008)).
6. Verses about the brotherhood bond of both brothers, Hilal and Hammam and the similarity of Vargheh and Hilal is spoken of (Safa, 1964, pp. 5 & 51)
7. The Tales of the Dede Qoqort are folk tales of the bravery and warfare of the men and women of the Oghuz Turkic tribes, who, following high pastures, crossed the lands of Central Asia and settled on the other side of the Caspian Sea. Only one copy of this book has been registered in the library of Dresden, Germany. (Farzaneh, 1979, pp. 3-5)

References

- Allen, G. (2001). *Intertext* (P. Yazdanjoo, Trans). Tehran: Markaz.
- Atash, A. (1954). A lost Masnavi from the Ghaznavid period-Vargheh and Golshah Ayouki. *Journal of the Faculty of Literature, University of Tehran*, (4), pp. 1-13.
- Bakhtortash, N. (2001). *Mysterious sign: the wheel of the sun or the wheel of the seal*. Tehran: Forouhar.
- Canby, Sh. (2012). *Iranian painting*(M. Hosseini, Trans). Tehran: University of Arts.
- Carnoy, A.J. (2004). *Iranian mythology*(A. Tabatabai, Trans). Tehran: Scientific and Cultural Press.
- Chandler, D. (1999). *Fundamentals of Semiotics*(M. Parsa, Trans). Tehran: Surah Mehr.
- Dadkhah, M, Hajizade, K, Afkhami, B, & Shahbazi Shiran, H. (2020). The Images of Women in the Paintings of the Tabriz School and Safavid Texts. *Women in Culture and Art*, 12 (2), pp. 267-287.
- Farzaneh, M A. (1979). *Dede Qoqort*. Tehran: Farzaneh Publications.
- Freud, S. (2011). *Totem and Taboo*. Tehran: Ordibehesht.

PAYKAREH

Journal of Art Faculty, Shahid Chamran University of Ahvaz

The Influence of the Iranian-Turanian Ingenuity of the Painter in Illustrating the Social Place of Women in Courtship Paintings of the Vargheh and Golshah Manuscript

Volume 1o. Issue 25. 44-61

60

- Gholam Hosseinzadeh, Gh H, Obaid Saleh Obaid, Y, Roshanfekar, K, & Radfar, A. (2011). A comparative study of the romantic themes of the story of Vargheh and Golshah Ayouki with the original Arabic narration. *Quarterly Journal of Comparative Language and Literature Research*, 2(1), pp. 43-69.
- Hall, J. (2008). *Dictionary of Symbols in East and West Art*(R. Behzadi, Trans). Tehran: Scientific and cultural publications.
- Hasanvand, M K, & Shamim, S. (2014). A study of the motif of the lotus flower in the art of Egypt, Iran and India. *Jelve Honar*, 6 (11), pp. 22-40.
- Hineis, J. (1989). *Understanding Iranian mythology. By Jaleh Amoozgar and Ahmad Tafazli*. Tehran: Cheshmeh.
- Hineis, J. (2007). *Culture of myths and fables in Persian literature*. Tehran: Contemporary Culture.
- Ibn Fadlan, Ahmad. (1964). *Travelogue*(A. Tabatabai, Trans). Tehran: Iranian Culture Foundation.
- Ibn Nadim, Muhammad ibn Ishaq. (2002). *Al-Fihrist*(R. Tajdad, Trans). Tehran: Asatir.
- İpşiroğlu, MS, & Eyuboglu, S. (1961). *Turkey: Ancient miniatures*. New York Graphic.
- Karimzadeh Tabrizi Khoei, M A. (1991). *Biography and works of ancient Iranian painters (and some famous Indian and Ottoman painters)* (Vol. 3). London: Mostofi Publications.
- Khodaie, M Z, Karimi, S, & Yar Ahmadi, M. (2011). Take a look at the evolution and symbolism of the idol. *Iranian Journal of Cultural Research*, (14), pp. 109-132.
- Kitsi, J. (2006). Mythology and semiotics in connection with oriental carpets (translated by Minoo Bahrami). *Ketab-e- Mah Honar*, (95-96), pp. 142-147.
- Marzban, P. (1992). *Illustrated Culture of Visual Arts*. Tehran: Soroush.
- Meqdadi, B. (2014). *Encyclopedia of Literary Criticism from Plato to the Present*. Tehran: Cheshmeh Publishing.
- Mohammad Panah, B. (2008). *Turks in history*. Tehran: Sabzan Publishing.
- Mokhber Dezfuli, F. (2005). Turks from Shamanism to Islam. *Islamic history and civilization*, 1(1), pp. 49-61.
- Montazeri Moghadam, H. (2005). Types of marriage in the pre-Islamic era. *Journal of Islamic History in the Mirror of Research*, (8), pp. 127-159.
- Namvar Motlaq, B. (2015). *An Introduction to Intertextuality: Theories and Applications*. Tehran: Sokhan.
- Nikandish, B, Askari, Sh, & ChitAsian, A H. (2018). Symbolism of the role of the bird in the carpets of Iran and India. *paykareh*, 7(14), pp. 37-50.
- Niknami, P, Yousefipour Kermani, P, & Ghafouri Mehdiabad, F. (2019), Analysis of the story of Vargheh and Golshah based on the critique of archeology. *Quarterly Journal of Lyrical Language and Literature*, 9(33), pp. 109-127.
- Nouri, A, & Mehrpooya, H. (2018). Investigating the role of rams in Turkmen carpets from a historical and ritual perspective. *Jelve Honar*, 10(3), pp. 69-78.
- Pakbaz, R. (2013). *Iranian painting: from long ago to today*. Tehran: Zarrin and Simin.
- Rashidi, M, Taheri, A. (2019). A Study on the Influence of Social and Cultural Developments of the Safavid and Qajar Eras on the Body and Visage Paintings of Women. *Women in Culture and Art*, 11 (2). Pp. 271-286.
- Riffaterre, M. (1978). *Semiotics of Poetry*(1st ed). Bloomington: Indiana University Press.
- Riffaterre, M. (1983). *Text Production*(1st ed). New York: Columbia University Press.
- Ruholamini, M. (1989). *Fundamentals of Anthropology*(3rd ed). Tehran: Attar.
- Saadi, Sheikh Mosleh al-Din. (1941). *Saadi's generalities*(M A. Foroughi, corrected). Tehran: Brokchim Publications.
- Safa, Z. (1964). *Vargheh and Golshah Ayouki*. Tehran: University of Tehran Press.
- Sojudi, F. (2014). *Applied semiotics*. Tehran: Alam Publishing.
- Suhrawardi, Shahabuddin Yahya. (1994). *Collection of works by Sheikh Ishraq. Correction, introduction and introduction by Seyed Hossein Nasr*(Vol. 3). Tehran: Institute of Humanities and Cultural Studies.

PAYKAREH

Journal of Art Faculty, Shahid Chamran University of Ahvaz

The Influence of the Iranian-Turanian Ingenuity of the Painter in Illustrating the Social Place of Women in Courtship Paintings of the Vargheh and Golshah Manuscript

Volume 1o. Issue 25. 44-61

61

- Tajadod Dilmeh, A. (2016). *Totemism and the representation of religion and its motifs in the culture and art of the Turkmen people*(Master Thesis in Art Research). Faculty of Art and Architecture, Sistan and Baluchestan University, Sistan and Baluchestan, Iran.

- Tajvidi, A. (1973). *Iranian painting from the earliest times to the Safavid era*. Tehran: University of Tehran.

- Yahaghi, M.J. (1990). *Culture of myths and fictional allusions*. Tehran: Soroush Publishing.



© 2021 Shahid Chamran University of Ahvaz, Ahvaz, Iran. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY-NC 4.0 license) (<http://creativecommons.org/licenses/by/4.0/>).