

Architectural miniature: a training in architectural representation by inspiring from Persian miniature.

In the history of architecture, the concept of representation has been related to space, time, and body conception of an era. although the definition of space and architecture has changed, it seems that the architectural representation adheres to central perspective and orthographic drawing as a noticeable heritage of the renaissance era. although these techniques have brought the gift of measurability, they are not enough to represent the dynamic coexistent of body and space; The characteristic that can be found in prior representation techniques and classic paintings. the potential of reverse perspective, which widely has been used in classic miniature arts can be considered as an extraordinary way of representing. By inspiring this technique in architectural representation, a more interactive and multi-layer interpretation can be achieved. consequently, the viewers should open up each layer and comprehend the different meanings of the picture.

In the following study, firstly, it is attempted to have a brief study around architectural representation in classic Persian miniature and the potential of graphical projection in immersing the audiences into space. Subsequently, with regards to the study part, this project tries to illustrate to reach an architectural/urban presentation; an illustration from the historical zone of Kashan¹.

Keywords: Architectural miniature, Persian miniature, architectural representation, graphical projection

¹ Kashan is a historical city located in center of Iran

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Introduction

The most important function of the miniature is illustration. It gave a visual image to the literary plot, making it more enjoyable, and easier to understand. Miniature developed into a marriage of artistic and poetic languages and obtained deep and sincere accordance with poetry. (Kianush, 1998) The great wealth of inspiring literature gave rise to the emergence of many important miniature schools, each with its own unique style, creating a great diversity of paintings. It was through these schools that miniature painting achieved its splendid development both in Iran and Central Asia. Three of the most influential schools were in Shiraz, Tabriz, and Herat.

It is difficult to trace the origins of the art of Persian miniature. It is estimated that miniature history in Iran is at least several thousand years old. Some evidence suggests the existence of miniature during Achaemenid, Parthian, and Sassanian. But as it reached its peak mainly during the Mongol and Timurid periods (13th - 16th Century). Mongolian rulers of Iran instilled the cult of Chinese painting and brought with them a great number of Chinese artisans. Paper itself, reached Persia from China in 753 AD. Hence, the Chinese influence is very strong. Interestingly since this era particularly in Timurid, architectural and urban spaces have been dramatically used in painting. (Ghasemzaheh, 2014). However architectural spaces were used in the Timurid and Safavid eras are much more prevailed and common. In this case, there are some works in Herat school in which architectural and urban spaces were paid more attention. Or even in some of these paintings, all miniature surfaces are allocated to architectural spaces and is not seen any natural landscape (Soltanzadeh, 2008) Figure 1

The implemented method in drawing architectural spaces in miniature depended on the initial painting purpose, painting workshop(school), and painter skills. The result illustrated buildings in miniature can be interpreted as the way of understanding of architectural spaces in that era; But the majority of them using a system of perspective and space orientation that nowadays by the dominance of central or three-point perspective, can be considered peculiar. The unique style of the space organization (in our case, architectural representation) had provided some benefit and potential to the picture that even nowadays they can easily and interestingly tell the narration, interact with audiences and finally immerse them into the different part of the picture. It can be said, these shaped structures are interchanged between two artwork of architecture complex and the painting. (Ghasemzaheh, 2014) this representation some time go further and

became a valuable historical documents; analyzing and comparing the building and cities representations in each era with painting indicates that some architectural portraits are representative of real buildings and miniature was used as ancient documents to readout the buildings and urban spaces in the Safavid period. (Ghasemzaheh, 2014). All of the cited points indicate the strong and unique relationship between architectural spaces and their representations in miniature.

This connection is a vital point that can lead to shape diverse Studies. This paper will try to emphasize the potential of reverse perspective that widely has been used in a Persian miniature. By considering this point, this study will continue to the exploration of the architecture spaces represented in miniature, the painting style, and the way that architectural spaces were recreated. Then will try to extract the elements and representation style of architecture in Persian miniature that can be used. eventually, with the help of the cited explorations, a piece of artwork was illustrated. An extended urban miniature in which a historical part of Kashan is portrayed.

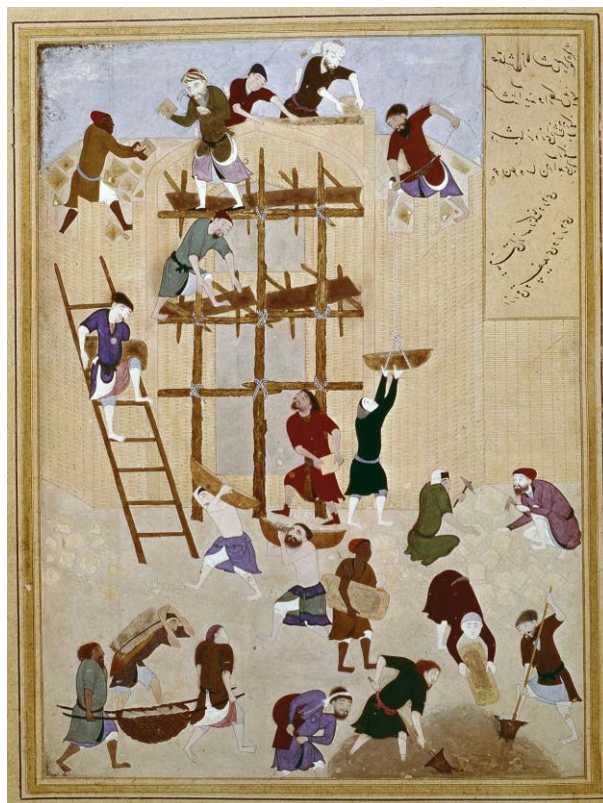


Figure 1 "The Building of the Famous Castle of Khawarnaq," miniature by Behzād, c. 1494, from the *Khamseh of Neẓāmī*; in the British Library (OR. MS. 6810 fol 154v)

Architectural spaces in persian miniature

Prior to the Mongol invasion, mostly urban and architectural spaces were drawn in general form and simply two-dimensional with only some elements in depth. (Ghasemzaheh, 2014) But after this milestone, especially in the Timurid period, more attention was paid to urban and architectural spaces and the use of perspective and other painting's geometries became vital. The impact of schools on the style of the miniature is not deniable. It can be said in each of the mentioned schools, some methods and traditions were dominant and impacted. For example, in the school of shiraz architectural spaces were mostly flat (elevation) and mostly paintings focusing on human and animal, and landscape objects. Meanwhile, in Herat school, the architectural and urban spaces were a crucial part of the miniature. (Ghasemzaheh, 2014). The architectural representation in miniature can be explored in diverse aspects. Here there are two main zones that will be discussed separately.

Perspective

The perspective that has been used in Persian miniature can be mainly categorized as parallel projection including flat elevations and orthographic. In some miniatures, even reverse perspective and one-point perspective have been used (but not in a comprehensive way). There are some miniatures especially in shiraz school when a porch or room was merely shown, often the façade surface of the space was drawn flat (elevation) and sidewalls were drawn to indicate the depth of space. (figure 2) although this type can be considered the liest complex picture (in terms of space organization), it can depict the depth of field and space hierarchy and connection. This hierarchy of different layers is vastly common and most can be seen as a vertical layer. In this term, eyes will move from bottom to top of the picture following the narration and story. (figure 3)

In the majority of cases, the combination of different graphical projections can be noticed even in one picture. One of the brilliant examples of this style is Yusuf and Zulaikha² miniature by

² The story of "Yusuf and Zuleykha" is one of the famous stories of Persian literature and the name of one of the poems of Haft Orang Jami.

Kamaluddin Behzad. (figure 4) In this picture combination of different graphical projections can be seen. This miniature is a representation of a scene taking place in a 3-stories building.



Figure 2 (left), *The Meeting of the Theologians* AbdAllah Musawwir



Figure 3 (right), *Complex palace scene*, 1539–1543, Mir Sayyid Ali

Initially, at the first glance, it seems the whole building was illustrated as exterior flat (elevation). But by a closer look, it can be noticed that there are some interior parts attached and represented orthographically. In this miniature specifically, there are two zones that draw attention, the room that the main story was taking place, and the staircase. (that is unique even among other Persian miniatures) As mentioned before the prime purpose of miniatures is to narrate, therefore the location that these two main characters encountered is the main focus. a section of Zulaikha can be seen on the balcony; The balcony is attached to the main room and was depicted orthographically but in a complete opposite direction of the whole main building. It seems that the balcony and the whole building were illustrated separately in different views and then merged with each other. Beside the main room, the staircase as the only path connecting outside

and inside is shown to help the narration. The stairs and the two doors (upside and downside doors) were depicted without the attached walls to avoid chaos and make the scene simpler. (a style that nowadays is used in order to address the specification of the staircase). Still, there are numerous points around this fantastic miniature to analyze but the last point worth mentioning is the combination of words, descriptions (a poem here) with the building in a way that this poem becomes an inseparable part of the building representation.

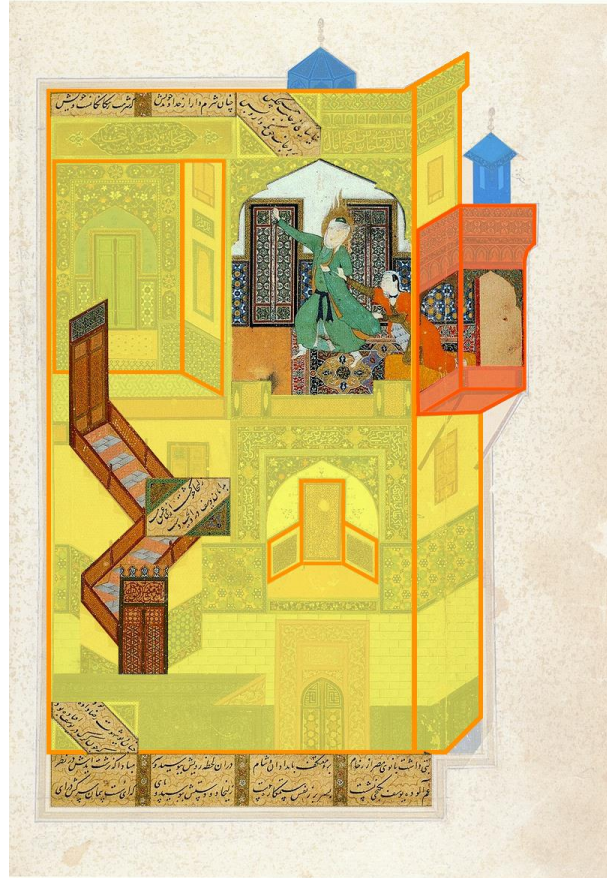


Figure 4 (left), Yusuf and Zulaikha (Yusuf pursued by Potiphar's wife), miniature by Behzād, 1488. Source: <https://en.wikipedia.org/>

Figure 5 (right), Yusuf and Zulaikha composition Diagram. Source: Autor

In some miniatures, In the last quarter of the 11th century, although the magnified influence of Europeanized artists through one-point perspective can be noticed, still the different parts of the paintings follow different vanishing points.(figure 6) It may seem that some perspective lines were drawn carelessly but it can be a result from design traditions in which perspective (in the contemporary term) was not vital. Imagination, creativity and professional backgrounds of each artist are quiet pivotal in how these architectural spaces were drawn.

The last point in this chapter is the perspective of materials. Miniatures are full of colors and patterns and how the artist used these patterns in a combination with volumes is a noticeable point. It can be said that in the majority of cases, the artists haven't bothered to change the geometry of the pattern to match the perspective of the scene or even the directions surfaces in which the pattern is pictured. Even in the late Safavi era, in which miniature artists influenced by the western paintings got acquainted with one perspective, still, the patterns and materials have been used flat or the highest level, with minimum distortion. Despite the existence of a one-point perspective in some of the works, the different parts of the paintings follow different vanishing points. This means that “perspective space” is not unanimous and homogenous in this work. (Abdollah, 2018) (figure 7,8)



Figure 6 (left), Perspective analysis in “Presenting Iraj’s head to his brothers Salm and Tour” by Mohammad Zaman, 1086 AH.Source: Azhand, 2006: 86.

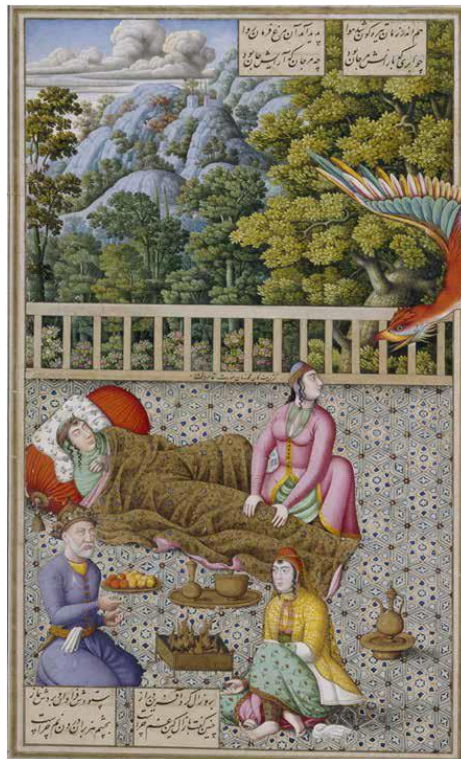


Figure 7 (middle), A part of “Bahram Goore and misery” Persian miniature, by Mohammad Zaman, 1087 A.H.Source:Azhand,2006:107



Figure 8 (right), A zooming of the used pattern.Source:Azhand,2006:107

Other principles

Some researchers have mentioned some principles for Persian paintings that can apply in the case of Persian miniatures. Ashland mentioned these principles in the book “Seven principles of decoration in Persian art”(2014) These principles have been evaluated by Keshmiiri and Rahbania (2018) to three principles: modeling, micro-painting, and volumetric design. (Janipur, 2020) Modeling in this case means the reason for the pattern’s repetitions in the paintings. This leads to the representation of astonishment and surprise. This principle with Micro-Painting can leads to understand the overall meaning of the painting. Finally, volumetric design, based on the attitude that the painter considers the perception of the volume of things as dependent on the viewer’s familiarity with the volumes around him, not seeing their true volume. In another word, Accurate representation of volume is not a fundamental principle.

Evaluating the characteristics of persian miniatures space, and analyzing their foundation indicate that painters have used three methods in dealing with painting and creating spaces, including functional peinciple, symbolic principles and decorative principles to express their pictorial concepts. In the table bellow the most iconic practical cases are mentioned for each of these three evaluation principles:

Table 1 Methods of dealing with Persian Miniatures, Source: (Janipur, 2020)

Functional Principles	<ul style="list-style-type: none"> • Possibility to see more (visually) through multi-dimentional spaces • Use of paralle surfaces for the sequence vision and movement in the image(intrACTIVE scence) • The simultancity of spaces, combination of inner and outher spaces • Non-observance of perspective • Creating the fourth dimention (time)
Symbolic principles	<ul style="list-style-type: none"> • Using unrealistic, pure and bright colors • Lack of physical effects of light (shadowless), only used for symbolic manifastation of devine • Creating a trancental and illusory spaces • Using garden (as paradise) and other essential natural elements such as water, wind, soil • Geometric and arabesqye symbols

Decorative principles	<ul style="list-style-type: none"> • In addition to aesthetical aspect, decoration have intrinsic and unifying meaning and make the work readable • Use of inscriptions for guiding the eye and change direction (visual mobility) • Geometric and plant decoration as a stunning factor of decoration • The presence of tiles, arabesque and geometric patterns, calligraphy, etc implies the spritual spaces in painting
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The abovementioned points are the main tool of expression that help the artist illustrate his/her fictional concepts and are great sources that can determine how miniature works are unique and help us contemplate them as a style.

Architectural miniature

Based on the analytic points discussed in the previous chapter, Some crucial characteristics can be driven. These specifications priorly have been discussed and mentioned in some studies including Goodarzi and Keshavarz (2007), Nowruzi Talab (2008) and Bahari (1997). These characteristics are trying to summarize the spirit governing the miniatures and the manifestation in creating spaces in painting.

1. **Different angle of view:** AS discussed before, By using a different angle of view and changing his angle in an instant, the artist has better expressed the current spirit and reality at that moment by showing more essential details. (Janipur, 2020) for a better term, this change in angle provides an opportunity for the artist to give more data and information about a scene, a building, or even an expanded urban place. this principle can be extended to the perspective governing the painting. the miniature artist does not limit himself to a single organized projection system. The aim is to give more visual information about an event as much as it can without disturbing and overwhelming the audiences, to eventually immerse audiences into the picture.
2. **Lack of realism:** this point prevails in the world of ideas. Based on this idea Iranian painters never sought a true presentation of nature. Other features of this world are related to its

thoughtfulness, introversion, contemporaneity, scattering of light throughout the work, and spiral composition. (Janipur, 2020) As mentioned in symbolic principles of miniatures painting there are some aspects that make these paintings far from realism. One of the most noticeable parts is shadowlessness of the paintings. Although it is driven from Persian symbolism that sun and light are divine and shadow is devilish, but in visual point of view this specification makes these paintings less complicated and compensate the complexity of diversity of points of view.

3. **Pure colors and patterns:** by using pictorial elements and symbolic colors, expressing typical traits of shadows and light, and avoiding iconography, the painter changes the physical concept of time and leaves the form in terms of its normal history and time. (Janipur, 2020) In this way, meaning finds a way to be expressed at all times, and art is created, which is limited to a specific time. Although practically most of the painter's color pallet comes from the natural elements and the color pallet is the result of natural color limits, but still diversity of pure colors is phenomenal in a Persian miniature. As it is cited before these characteristics are driven by the painter's ideology and the fact that he didn't owe one hundred persons royal to the realistic nature of what he depicted. Also as mentioned in the Perspective section of this study, the pattern and material have been used in spite of the picture geometry (perspective).
4. **Emphasizing on the edecorative elements:** relying on the element of calligraphy for separating surfaces and following the traditions of painting in the form of expression, using the art of calligraphy to explain the image (narration), combining nature and humans in equilibrium with the same value, combining human and the environment by applying the euclidean geometry, and creating decorative forms in architecture in a balanced way are among the general features of Persian painting (Nowruzi, 2008) in Islamic period this characteristic become an inseparable part of the painting in a way that no surface can be found without decoration. This decoration as it is cited can be in form of writing and description, like a graphic artist who tries to make an appealing composition of letters and visual pictures and sees words and sentences as a virtual component of the whole artwork. Moreover, it also concludes any other in-painting patterns and detail that helps the aesthetical characteristic of the artwork to amend.

Discussion

Painting can be considered as a way for understanding and reviving the principles in architecture (in this case Persian architecture). Specifically, Iranian miniature is deep-rooted in Iranian civilization and culture (Ebrahimi Naghani, 2008, p.46). but there is another way to interfere with this miniature meaning through the glass of architectural representation. It can be said that since the Renaissance, architectural representation has been on the dominance of central perspective and orthographic drawing that although provided measurement and accuracy, they have lost the potential of representing the optic realities (Ozan, 2015) The potential of movement between different graphical projection (in even just one picture) that can be seen in the Persian miniatures painting, has been provided opportunities for artist to make invisible, "visible". This phenomenon consequently leads to a dynamic relationship between the viewer and the drawing that central perspective and orthographic are not able to achieve. in other words, a passive interaction in which the viewer's eyes moving from one point to another, from down to the top point in search of the spaces.

Also, on the other hand, the aesthetical aspects of Persian miniature that can be classified as functional, symbolic, and decorative principles, can be considered as an inspiring point for architectural representation. These aesthetical aspects may seem unnecessary and unlogical separately but they are shaped in great harmony with each other that eventually, we can see a homogenous artwork, from using pure colors, absence of shadow, and decorative. all of the components of the miniature representing an appealing visual artwork that emerges the audience to interact and discover the picture. The miniature is made for being observed from a close distance and careful observation. this leads to immersion and admiration.

Kashan miniature(description of the artwork)

The extracted principles related to the miniature can be re-read and represented in a new artwork. needless to say, its been always an eye on the architectural(urban) aspects of this style both in case of analysis and representation. Regarding this case, a specific urban texture (with its unique architectural components) has been selected to be the main topic of this artwork. a miniature of the historical region of Kashan.

Kashan is a historical city in the northern part of Isfahan province, Iran lies in a desert at the eastern foot of the Central Iranian Range. Kashan is an ancient city; 2 miles (3 km) southwest is the site of prehistoric Tepe Sialk, which has yielded remains of settlements dating to the 6th millennium BCE. After world-known Iranian historical cities such as Isfahan and Shiraz, Kashan is a common destination for foreign tourists due to numerous historical places. these attractions are mainly concentrated in the central region of the city that is known as the historical zone. From Old grand Bazar, mosques, and historical houses, this region is a valuable representative of traditional Iranian architecture. this region can be considered the common memory of whoever visits Kashan or even the residents of this city.

The combination of the organic traditional urban texture in this region and the unique standing of the individual architectural masterpieces provides a great opportunity for this training; An urban miniature that depicts both traditional elements (the historical buildings of this region) and contemporary events (streets and cars). moreover, on the one hand, it tries to root in the reality of this region and adhere to the actual shapes of the buildings and the map. on the other hand, also it oriented toward the imaginative atmosphere to narrate its own story and perception.

For the first steps of this long journey, six unique components of this region have been selected. the aim was to focus on the illustration of these components separately and



Figure 9, The selected area for the miniature. Historical zone of Kashan, Source: Googlemap

then merge them in the big map miniature map. These presented main components are: Agha bozorg Mosque, Ameriha House, Borujerdiha House, Tabatabaiha house, Jalali Castle and kamalolmolk Squire.

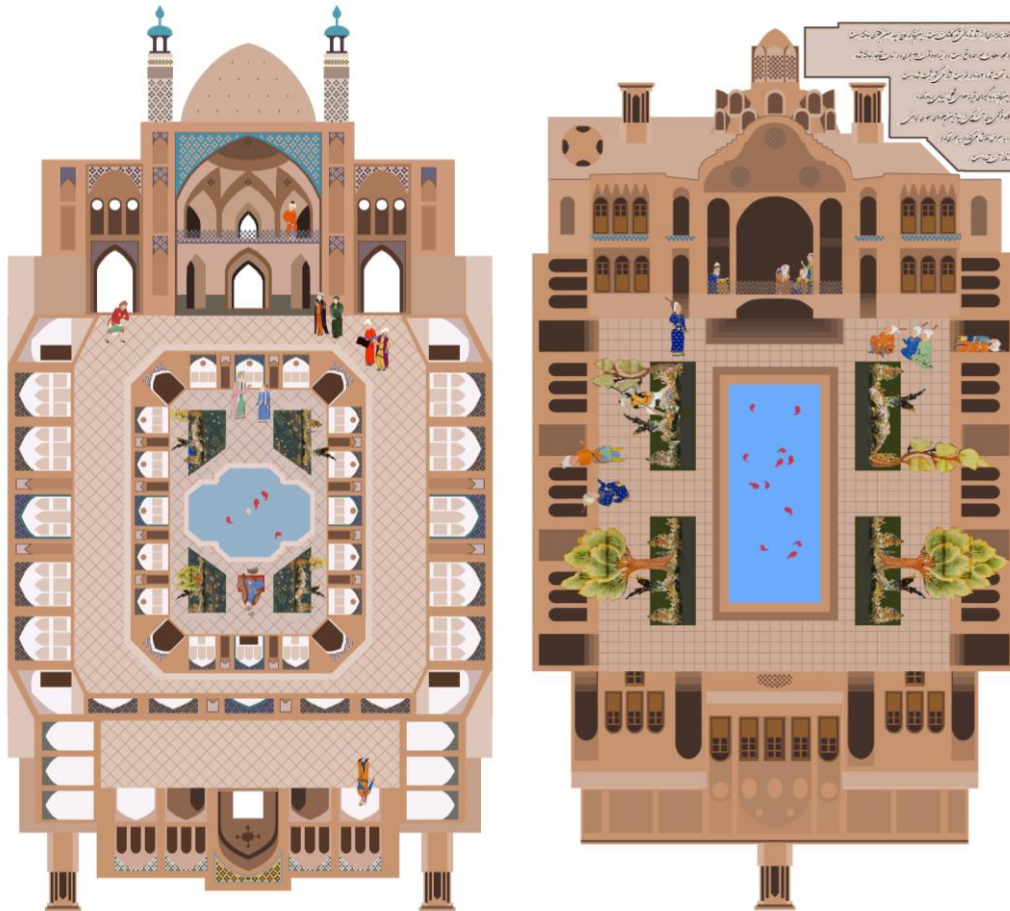


Figure 10, left: Agha Bozorg Mosque, Source: Autor

Figure 11, Right: Borujerdiha House, Source: Autor

as it is mentioned, this miniature is a combination of tradition and modern both in the case of sub-components and technique. in connection to technique, it has been tried to bring flatness, cleanness and purity of digital illustration into textuality of traditional paintings, and also reduction of the level of details and textures can be followed by the same principle.

in the case of components, alongside traditional elements that already existed in the context of this illustration (including historical buildings), vegetation and personages have been selected directly from the old Persian miniature to aggravate the miniature sense and add detail into the picture. on the contrary, there are some totally contemporary elements that although they are

distinguishable, are depicted in harmony with the other elements. Besides the cars, streets, pavements, and some of the buildings in this illustration can be considered modern rather than traditional.



Figure 12, The personages and vegetations, Source: Autor

Moreover, one of the vital aesthetical and conceptual characteristics of the traditional miniature is contiguous of picture and text; a principle which has been followed in this illustration too. Texts, which traditionally are a piece of poem, mainly depict the topic and describe the incidents that the picture is depicted for. Here although the written texts are not pieces of poem or explanation of the event, they are a kind of description of the main six cited buildings in Farsi.

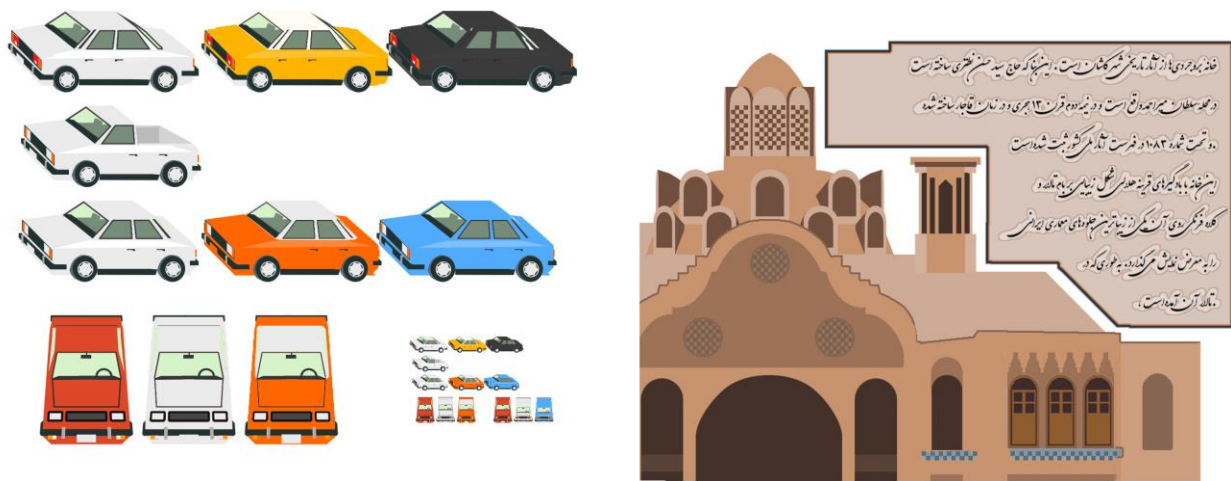


Figure 13, the use of Cars and written text in the miniature, Source: Autor

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