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## Recognizing the Layering Wall Decorations of Safavid Palaces in Isfahan and its Regeneration for Newer Usages

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### Abstract

**Problem Definition:** Layering is considered as a type of wall painting art in a number of architectural remains of structures related to the Safavid era particularly the palaces of Isfahan including Aliqapo, Chehelston, and Hasht Behesht. The article attempts to show the recognition of this art, implementation methods, and applications during its trial in decorative, applied, and new fields. For this intention, this art can be applied for newer purposes with the aid of implemented examples.

**Objective:** The aim of this research is to regenerate traditional Iranian art in novel fields in order to expand Iranian handicrafts.

**Research Method:** The present research is conducted qualitatively following a descriptive-analytical approach based on field studies such as photography, face-to-face interviews, and library resources.

**Results:** Layering long applied in the past along with decorations such as carving (Koshtehbori), mirror work, painting, and plastering in wall paintings is currently applied in newer fields such as interior decoration and decorative paintings. This method has been implemented to regenerate and continue the Iranian visual culture by taking into account the rank of designs and their usage in more recent fields. The authors have prototyped newer applications, such as making exquisite decorative packages and boxes and alike products.

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**Keywords:** Layering. Safavi. Isfahan. mural painting

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## Introduction

The Safavid dynasty, as the ruler of the country during the tenth century AH, instigated the growth and expansion of the arts compared to monarchs before especially those manifested in the artworks and structures of Isfahan, the capital of Iran during the Safavids famous for its great mosques and exquisite mansions. Safavid's kings admired art and architecture, and this led to the construction of architectural splendors of palaces, markets, mosques, and alike structures. The remaining architectural works of the mentioned era are due to the patronage and support of Safavid rulers towards arts and culture and following this enhancements in wall paintings and decorative arts emerged. were one of the Safavid support results from the art of growth and development of murals and decorations related with it. Such manifestations can be seen in the "Aliqapo", "Chehelston" and "Hasht Behesht" palaces as they behold various decorative designs. The mentioned palaces are decorated with countless designs and decorative patterns. In these palaces, various decorative methods such as layering, tiling, painting, plastering, and other ornamental techniques have been used. Clay layering is one of the examples of wall decorations that flourished in this period and became a decorative mural in many palaces, churches, and houses of the Safavid period. Later, due to the exertion, high cost of materials, and methods of applying, it was slowly forgotten during the Qajar era. In the second Pahlavi period, a number of attentive artists attempted to revive the technique, and till today it is limitedly practiced by a few artists in Isfahan with newer purposes. This article seeks to examine this art and its executive techniques and new applications; furthermore, it pursues to investigate this method of ornamentation in newer decorative and applied fields due to the special nature of execution. For this purpose, the question of why this art is used in newer fields is also responded to.

## Research Method

The research is qualitatively presented in a descriptive-analytical manner. The findings of this study are based on library research and field observation. In this research, field resources are used to collect pictures accompanying interviews with restorers and museum palace bureaucrats.

## Research Background

The research on this subject can be referred to a thesis by Holakouee (2008) thesis entitled: "Technology and Pathology of Clay Layering in a Number of Safavid Buildings in Isfahan", which has been done with layered work restoration view. In this dissertation, the technique of layering the decorations of Safavid period buildings, such as Aali Qapo, Chehelston, Hasht Behesht, is discussed with the view of the restoration of layered works, and by examining more laboratory methods and chemistry, He has studied the technique of making and executing layered decorations. Aghajani Esfahani (1980) has investigated these paintings in terms of

restoration methods, tools, and materials used in Safavid wall decorations and painting. Nasri and Aslani (2020) in an article entitled " On the investigation of decorative elements and architecture of the minarets of the Seljuk period in Isfahan." showed that the decorative designs of minarets examined are important in terms of aesthetic visual elements in addition to the practical aspect. "Chavoshi Najafabadi & mojabi" (2019) researched the Safavid period mural painting on the entrance of the Qaisarieh Bazaar of Isfahan in a research entitled "A Study on the Clothing of Figures in the Wall Paintings of Esfahan's Kaisariyeh Market" Despite the background study, this research will investigate the implementation method, materials, and layering compositions through field interviews of a few related artists in order to explain its newer applications apart from wall paintings as well as its other assumed applications.

### The Safavid

The emergence of the Safavid dynasty is one of the most significant social, cultural, and political happenings in Iran during the tenth century AH. This period is one of the most important historical periods of Iran, which began with the reign of Shah Ismail in 907 AH and ended until the coronation of Nader Shah Afshar in 1148 AH. The Safavid period lasted for nearly two and a half centuries. According to Hutstein and Delis (2010, 496) "A new era in Iran began with the rise of the Safavids as they created a country with a systematic and stable organization that ended about two hundred and fifty years of continuous political disintegration and foreign rule by the Mongols, Turkmens, and Timurids". One of the great events that took place during the reign of Shah Abbas was the transfer of the capital from Qazvin to Isfahan. Sivari (1995, 62) in this regard states: "Tabriz was the first Safavid capital, but due to the threat of invasion by the Ottomans in 1555 AD / 962 AH, Shah Tahmaseb moved the capital to Qazvin, threatening the Shervaians from the east and also the constant Ottoman pressure from the West triggered Shah Abbas to move the capital once more in the decade of 1590 AD/997AH". According to Tajbakhsh (1961, 28) "relations between Iran and foreign countries, especially European countries developed during the Safavid period and many merchants, craftsmen, ambassadors, and artists traveled to Iran"; in addition, the Safavid dynasty is considered as a milestone in Iranian art history and although the Safavids established a new era in Iran, they still benefited from the past legacy. Mokhtari and Ismaili (2006, 43) claim that Safavid kings, princes, and rulers have significantly operated for creating religious and non-religious buildings in the capital and other cities; moreover, Safavid art comprises of the rulers' observance and the Safavid state ideology. Consequently, the Safavid kings desired to flourish art aspects that manifested artist's individual desires and the ideology governing society "(Mokhtari & Esmaili, 2006, 43). Habibi also states that "the Safavid dynasty became one of the richest and the strongest governments of that period by social unity, domination, work and all-out presence in production". Philosophy, architecture, urbanism, and ancient art were expertly assembled in a way to create a new school namely known as the "School of Isfahan". The Safavid period is considered as one of the most prosperous periods in Iranian art subsequent the Islamic ages, which took a downturn with the collapse of the dynasty.

### Wall Paintings

Iranians are considered as the first in practicing the art of wall painting, an ancient art with an antiquity of over 15000 years. Rendering to Alavi Nejad (2008), the concept of wall paintings has not been associated with all artistic terms and is considered as one of the specialized and common terms in contemporary art; furthermore, this notion involves artworks that are inscribed or painted on walls. "A mural or wall painting can be done to decorate a wall in two ways: First, the painting is directly painted on the wall (such as Fresco), secondly, painted board or canvas is permanently installed on the wall" (Pakbaz, 2000, 92). Smith (2001) also believes that wall paintings are directly installed or implemented on the wall for all time. Sadr al-Sadat and Inanloo (1998, 67) have also defined wall painting as follows: "The painting known as Fresco or Alfresco bear a long history...(and) it has prevailed before and after the Islamic era".

### The Art of Layering

Layering is a type of mural that doubles in beauty by combining other methods, such as gilding. According to Holakouee, the porcelain layer can be considered as a bed for placing decorations, which are usually performed as the last layer of a decorative set. Layering is created by adding a special fluid several times using a brush in numerous steps on a flat surface to create a prominent pattern. This embossed pattern (which was red) was the basis for the placement of metal sheets (usually gold pieces in Iran) and caused the visual properties of these metal sheets to change for special purposes. Chinese was used in gilding and architectural decorations in pre-Safavid historical periods, but in general, it has been used more in the Safavid period. Examples include architectural decorations, Aliaqapo Palace, Chehelston, Hasht Behesht, Ashraf Hall, Imamzadeh Ismail, Vank Church, Bidkham Church, the Tomb of the Princes, and a number of other Safavid buildings in Isfahan (Holakouee, 2008). According to Khadem Khorasani, "this art is named layered for its repetition of coatings. "That is, each layer is created after the previous layer dries." (Khadem Khorasani, 2019). Aghajani Esfahani (1980, 174) has described how to do the layering as follows: in the layering, the desired designs are created with a relatively large thickness with bright red colors. In this process, to prevent cracking, the laminator shapes and patterns the design layer by layer, and after creating protrusions and depressions, it sticks it to gold; moreover, he believed some have unknowingly thought that porcelain layer is a material that has been created from ceramic or porcelain dish. Aslani (2007) in regard to the art of layering claims this technique is the implementation of the gold supply layer in parts of the design and gilding on it. Aslani (2007) continues to claim that the examination of Isfahan School Tempera murals and stratigraphic studies show that layering is always done before painting and the reason for this priority is to prevent staining in the painting layer due to the penetration of gold adhesive oil and all such a

possibility is the correction of additional parts of gold leaf or oil dripping on the work surface, due to the power of covering the colors in the tempera method.

## Layering in Isfahan Palaces

Layering in Isfahan has been widely used in decorating palaces and churches of Isfahan including the Aliaqapo, Chehelston, Hasht Behesht Palace, and also the Vank Church. The use of layering art culminated in the third and last floor of Aali Qapo Palace. Laminated and gold-plated decorations have also been used in different parts of Chehelstone Palace. This technique (laminated sequence of red color and gold leaf plate on it) has been applied in the decoration of the central hall and the northern, southern, and western porches and also the rooms and veranda roof of this palace. Hasht Behesht Palace like other palaces (Chehelston and Aliaqapo) is no exception. Taibi also says about the layering of this palace: "In most parts of the building, such as the " Tongbori", on the wooden doors, paintings and" Cupbori "have been used from layered and gilded decorations" (Moshtaghian, 2016, 78). These decorations have been applied on the wood of the eastern porch roof, the main roof, and all Hasht Behesht palace walls. Instances of layered art of the structures of the mentioned palaces of Isfahan are presented in figures 1 to 6.



**Figure 1**

The layering of Aaliqapo Palace using arabesque designs and in the form of emboss. Source: [Authors](#)



**Figure 2**

The layering of Aaliqapo Palace using arabesque designs and in the form of concavity. Source: [Authors](#)



**Figure 3**

Layering of Chehelston. Sometimes the gold layering can be seen. Source: [Authors](#)



**Figure 4**

Layering of Chehelston. Source: [Authors](#)



**Figure 5**

The layering of Hasht Behesht. using plant and bestial designs. Source: [Authors](#)



**Figure 6**

The layering of Hasht Behesht. using arabesque and geometric designs. Source: [Authors](#)

## The Application of Gold Sheet and Powder in Layering

Gold sheet and powder is formed in various carats, dimensions and thicknesses depending on their applications. It has already been used to decorate palaces and cultural, artistic and religious places. The gold sheet or powder was also used for

painting details. According to Oddy (1981,) Gilding is a valuable art that dates back to the third millennium BC; this art was invented in Mesopotamia by investigating the older samples. It was also proved by the samples of 5000 thousand years ago in northern Syria at Tel Brock. Aghajani-Isfahani and Javani" also write about gold sheet production: "Gold is one of the softest and most malleable metals and it is economically significant as it can be purchased in very delicate sheets and cover large surfaces. The gold sheet is placed between two layers of parchment (gilded skin) and was hammering so hard until it reached the desired size. In Middle Ages, gold coins were used for producing gold sheets and a criterion for calculating the degree of thinness of each coin was the number of sheets obtained from a gold coin". According to Holakouee, gilding is divided into two types (water and oily). In water gilding, with the activation of the gilding base connector by water, the gold sheet sticks to the surface and in the next step, the gold sheet surface was beaded; Thus, it was caused to reduce the gold surface roughness and add more shine to the gilded surface. In oil gilding, the gold sheet was pasted to the gilded base surface by oil. In this case, a gold sheet was attached to the semi dry oil. Surfaces decorated with oil gilding without beading. The water gilding weakness became vulnerable during removing the fabric on the gilded surface; nevertheless, oil gilding failed to have reliable stability. The only problem is the lack of beading on its surface (Holakouee, 2008, 83). Aghajani, Esfahani, and Javani describe the method of performing oil gilding as follows: They polished briefly and then embossed the designs. To do this, they used red clay (a kind of red found in nature) with special adhesive, plant and floral motifs along with other designs were prepared in a prominent way (1 to 2 mm), then by placing a layer, Arc oil was used on the embossed part (layered) at the right time and when the oil became adhesive, they applied the gold leaf on it. There are different ways to prepare gold powder. To do this, because gold is soft and malleable, the method of pounding or direct abrasion cannot be used. In the Middle Ages, the common method was to alloy gold and mercury and then separate the mercury by heat. Thus, with the release of mercury, gold dust remains (probably the use of mercury and gold is related to tile decorations). Other methods were to grind honey and gold in a mortar and then wash the honey with water. Today, the gold powder is used to make the powder. According to Khadem Khorrasani, in the Safavid period, two methods were used to gild the laminated surfaces; in the first procedure, they first prepared the gold pieces in the form of sheets and then impregnated the layered surfaces with the use of arc oil and then proceeded to glue the gold sheets; in another method, they mixed the gold powder with Arabic gum and gilded the laminated surfaces with a brush. (Khadem Khorasani, Interview, 2019). The art of gilding in Iran can be seen in the form of gilding in layering, murals, and book decoration, etc. During the Safavid period, parts of the frescoes of the palaces of Chehel Soton, Alia Qapo, and Hashtbasht have been ornamented with oil and gold leaf.

### Layering in Recent Years

Layering as practiced in the Safavid period did not continue to the Qajar era and underwent fluctuations. This method was slowly overlooked for various reasons, such as the difficulty of the execution technique and the high cost of gilding on the work surface, however, it was revived by the efforts of a number of great artists in the recent decades. The first layered work in contemporary buildings can be seen in the Abbasi Hotel in Isfahan, which was performed in the early 1350s by a number of masters, including Mehdi Ebrahimian, which is one of the magnificent works today. "In the Pahlavi period, the Shah Abbas Hotel in Isfahan was also decorated with layering and gilding with the attitude of reviving this forgotten art," says Pope. Using this Safavid art and reviving it in the guest house of Shah Abbas Hotel in Isfahan, Mehdi Ebrahimian created a work that is in many ways similar to its original. Unlike the artists of the Safavid period, Ibrahimian cleverly prevented exaggeration and exaggeration in his work" (Pope, 2535). Other artists who have helped to revitalize the stratigraphy today include Mansour Khadem Khorasani and Mansour Zirak, both of whom are experienced restorers of the Chehelston Museum Palace in Isfahan.

### Mansour Khadem-Khorasani

Khadem Khorasani is one of the first and few people to revive the stratification and create beautiful works with the art of layering (See Figure 7). He was born in February 1980 in Isfahan. Most of his work has been on murals at the Chehel Soton Museum Palace. In 2000, they succeeded in designing a new line called "Mahneshan" and so far, they have designed several boards with this design method and layered technique. He has participated in various national and international exhibitions and has won titles. In 2016, Khadem Mokhrasani was recognized as a permanent figure in the field of stratification with an emphasis on the forgotten arts in the "First International Conference on Arts and Crafts in the Culture of Islamic Iranian Civilization".

### Mansour Zirak

Mansour Zirak is also one of the artists who has played an effective role in reviving the stratification. He was born in 1964 and started his work in the Isfahan Cultural Heritage Organization in 1991. This artist's acquaintance with the art of layered art began with the restoration of the layered decorations of Ashraf Hall in 1991. He created works of laminate in a modern and traditional style (See Figure 8) and numerous exhibitions in and outside the country. His exhibitions include the Iran-Serbia Cultural Week Exhibition in Belgrade with the Charter of Peace and Friendship in 2002, the World Masterpieces Exhibition in Ashgabat, Turkmenistan, and the Honorary Diploma in Visual Arts in 2009, the Garlic Exhibition the Transformation of Islamic Arts in Munich, Germany in 2010, a special exhibition in Stockholm, Sweden in 2010, and a special exhibition in Vienna, Austria in 2010.



**Figure 7**

Hand Surah, mah neshan calligraphy, Mansor khadem Khorasan signature. Source: [Khadem khorasani, 1399](#).



**Figure 8**

Layering, Mansor zirak signature. Source: [zirak, 1399](#)

### Execution of the Art of Layering and its Expression in the Contemporary Period with New Applications

The general method of layering and gilding was explained in the previous articles. Nonetheless, more precise information is not available, such as what materials artists in the field have used in the past and to what extent. For about three decades now, the porcelain method has been used in new applications such as interior decoration and painting, considering the background of the work of two masters of Isfahan mentioned earlier.

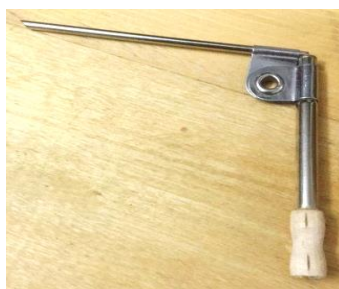
### Tools used in the Art of Layering

Figures 9 to 11 show the main layering tools and their descriptions. Different types of wood are also used for the substrate. Other materials such as glass, plaster, stone, etc. can also be used.



**Figure 9**

Porcelain brush: Used to overlay layers. Source: [Authors](#)



**Figure 10**

Footer: Used for painting and spraying paint. Source: [Authors](#)



**Figure 11**

Trolling: Used to create narrow lines. Source: [Authors](#)

### Steps of Applying the Art of Layering

To prepare the red clay, first, smooth the soil with a piece of cloth to obtain a powdery state. After smoothing the mud, it is added to the mill in a ratio of three



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to one. Soak the mud for one to two days and during this time it is completely stirred several times. To prevent the mud from drying out, some water should remain on the surface. In the next step, to start the work, as much as needed, the sedimented mud is poured into a separate container and some glue is added to it (to make it stronger and adhesive and to prevent the mud from cracking) and it is then stirred; in addition, in ancient times, serum glue was used. In the following, the different stages of the red clay are explained visually (See Figure 12 to 23).



**Figure 12**

First step: First, the desired design is transferred to the wood.

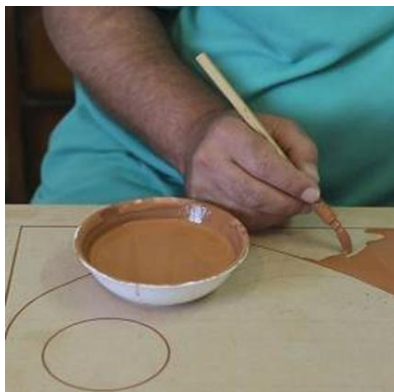
Source: [Khadem Khorasani, 2019](#)



**Figure 13**

Step 2: We mix the designs and writings with trailing (we use a trailing compass for round patterns).

Source: [Khadem Khorasani, 2019](#)



**Figure 14.**

Step 3: Laying the clay layers, in this stage, the first layer of mud begins to be laid and after drying, layering is done several times to achieve the desired protrusion (in laminating, it is called muddying, i.e. mud We do not paint on the work surface, but mud is placed). Source: [Khadem Khorasani, 2019](#)



**Figure 15.**

Laying mud layers. Source: [Khadem Khorasani, 2019](#)

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**Figure 16**

Step 4: Using a hairdryer to create texture, in step 4, a hairdryer is used to create a variety of textures. When the last layer of mud is applied, it is created with a hairdryer on the desired part of the tissue. Source: [Khadem Khorasani, 2019](#)



**Figure 17**

Creating texture on mud using a hairdryer Source: [Khadem Khorasani, 2019](#)



**Figure 18**

Step 5: Crown powder. After finishing the work and complete drying of the mud, wreath powder is applied on the work surface (here wreath powder is used instead of gold leaf). To prepare the wreath, we mix the wreath powder with glycerin to make a paste. Source: [Khadem Khorasani, 2019](#)



**Figure 19**

Adding glycerin oil to garland powder. Source: [Khadem Khorasani, 2019](#)

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**Figure 20**

Mixing glycerin oil with garland powder. Source: [Khadem Khorasani, 2019](#)



**Figure 21**

Rubbing wreath powder on the work surface. Source: [Khadem Khorasani, 2019](#)



**Figure 22**

Step 6: Painting the work, in this step the work is ready to be painted. Here, paint is transferred to the work using powder paints and photo paints.

Source: [Khadem Khorasani, 2019](#)



**Figure 23**

Finishing the painting. Source: [Khadem Khorasani, 2019](#)

### Structural, Visual and Aesthetic Analysis of Old and New Layering

An overview of layered art murals of Isfahan palaces (See Figures 1 to 6) shows that the special feature of this method compared to other methods of embossing on the wall. Although plastering also has a function, the execution method, material, and finally the output and visual quality of these two are clearly different from each other and each has a better theatrical quality in its own space and context. The special importance of the layering method in embossing the softness of the embossed parts and based on the samples made in Iran, its suitable application for various designs with thin lines and to a large extent twisted, such as arabesque, plant designs and combining them with flowers and bird motifs. This method is also suitable for linear, textured designs as well as surfaces with a small area for

execution by the layering method. But the quality of performance and its application, like anything else, depends on visual perception, role, texture, and context of the effect. Based on field observations, the authors believe that stratigraphic works have three special and visual qualitative features of stratigraphy for interior murals; Embossing, gilding embossed surfaces, and using color on flat surfaces are among the design elements. In the designs of the layered murals of Isfahan Museum Palace, various decorative methods such as flower and bird patterns, arabesque, and painting have been used. The linear application of stratification (See Figure 1) has shown the value of stratification and its visual quality with soil. Also, its color quality in a work such as (See Figure 6) has given a sense of pride of this type of painting in the interior of the ceiling. According to some examples of layered works, the authors believe that the highest visual quality of this executive method has been in embossing patterns and decorations such as (See Figure 1). Likewise, in the new applications of laminate used for decorative panels, as seen in several examples of the previous image, the designs are a combination of surface and line.

### **Usage of layering for a newer product according to research author**

In the previous section, it was said that the highest visual quality of the layered method in highlighting patterns and linear decorations is relatively winding, crowded, and with less negative space. For this reason, the authors, using the experience of contemporary professors and the existing layered works, have found the application of this method in new products in small sizes with relatively delicate decorations. With the same view in this study, with the perspective of recreating the Iranian visual culture by considering the use of the dignity of the designs or recreating them in their proper place with better quality in the context of new products, this executive method was chosen for the work. Entrepreneurship and job creation of art graduates as well as expanding the range of Iranian luxury handicrafts have been another part of this research perspective. Therefore, the authors believe that this method can be combined with new materials, and other applications in other dimensions and forms are envisaged for it.

### **The Application of the Art of Layering in Box Forms as a New Technique**

In the previous sections, the method of layering in the form of a table was explained. This section describes the implementation of the technique of laminating for boxes made by one of the authors of this study. It should be noted that in the application of laminate for decorative panels, due to their flatness, laminate is easier to perform, while for working on the box for the support surface, the presence of support is necessary for precision execution. Due to the fact that layering is considered on the sides of the box, working on different sides of the

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experience box requires its own. In such works, the working time on a box takes more time, but this is not a problem in mass production. In the process of implementing this method, there are several layers of repetition, which vary according to the size of the execution surface, the size of the pen, and the amount of protrusion. Achieving the desired prominence depends on the visual experience of the artist as well as its application. In the experience of the authors, wood thicknesses of more than five millimeters are recommended for the box to prevent it from inflating or deforming. To layer the surface, it is essential that the layer be completely dry to prevent the layer from sagging. One of the features of laminate is to correct the damage and scratch it with a razor after drying. After the gilding stage, the box is prepared for painting, which requires its own special care. When painting, the surfaces of the box should be painted separately and after drying, the other surface should be painted. For painting, it is better to cover the surfaces with paper glue. Durability, stability, and stability of laminate for everyday application boxes with the high application, depends on the quality of execution and construction of laminate. Figures 24 and 25 are samples made in the manner stated on the box. Figure 24. Jewelry box (with wood material, copper and gold wreath, green powder color with a closed-door and open). Made by: Nadia Esfandiari, Source Authors

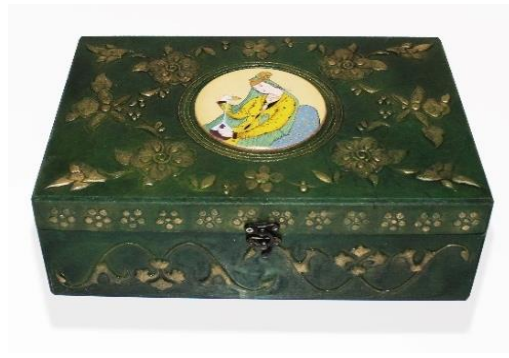


Figure 24

Jewelry box (with wood material, copper and gold wreath, green powder color with a closed-door and open). Made by: Nadia Esfandiari, Source: Authors



Figure 25

Pen case (with wood material, copper and gold wreath, blue powder color). Made by: Nadia Esfandiari, Source: Authors

### Conclusion

Layering is a type of mural that in a number of countries is accomplished with native materials of that country. According to the available documents, this method of mural painting was also used in Iran before the Safavid period, but during the Safavid period, due to its attention, it flourished significantly and was used in decorating palaces, churches, and houses belonging to wealthy people. It has been used along with other decorations such as carving, mirror work, painting, and plastering. Ancient artists used soil to process material and decorate walls with it. One of the main materials is red clay layering, which was soaked in water for two days, smoothed using a cloth, and then mixed with gypsum. Dilute cream solution and sugar were also used for better adhesion. Today, the use of clay powder and glue has replaced the solution of cream and sugar. In order to dilute the rose for execution, the required amount of water was added and after the preparation of the material, the design was transferred to the desired surface and the next layer was placed with each loading of the rose and its drying. This was repeated several times until the desired protrusion was reached. After finishing the work, the gold foil was glued to the laminate works for more effect and linguistics using a resin such as rainbow oil. Layering, which was used in the past along with other decorations such as carvings, mirrors, paintings, and plastering in murals, is now used in new fields such as interior decoration and decorative paintings. This executive method has been continued in order to recreate and continue the Iranian visual culture by considering the dignity of the designs and their application in their place in newer fields. A newer application, modeled by the authors, is the making of exquisite decorative packages and boxes and the like.

### Acknowledgments

In the end, we would like to thank worthy professors and artists, Mr. Mansour Khadem Khorasani and Mansour Zirak, who have generously provided all their experiences to the authors.

### Appendix

1. According to some statements, layering has been done in some buildings in Tabriz, Ardabil, and Mashhad, but the authors have not obtained any photos or information about it.
2. Kaman oil (varnish) is obtained from a combination of flaxseed oil and sanders (gorse gum) in equal proportions when exposed to heat, and after the consistency of the color is used by mixing with oil to increase the concentration (Aghajani Isfahani & Javani, 2007, 35).

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