

## A Background of Khatam Art

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### **Abstract**

Most of the people of the world are interested in wooden objects because of the various reasons including natural and beautiful color and design. These objects are created and rearranged in various ways in each country. Khatam wood art is one of the wooden arts that, in spite of its beauty and unique features, due to the geographical limitations of production and the complexity of the construction process, it is unknown for most of the world's people and even for researchers of the history of arts and handicrafts field so far. This art is covered by gluing the inlaid strips. Strips of Khatam are created by wrapping together the glued long and thin wooden, metal or bone rods and then cut them. In a kind of this art, which is famous with the name of "square khatam" in Iran and "tarsia a toppo" or "end-grain mosaic marquetry" in Europe, instead of charter, wooden plates are glued together and after creating incision for several times are putting on each other and cutting then are converted to the beautiful decorative tapes. Another way of art creation is also seen in Europe which is known to the "miniature parquetry" and somewhat is similar to "six khatam" in Iran. The production of these elegant constructions which is famous to the "Tessellated mosaic marquetry" in Europe refers to the after 16<sup>th</sup> century, namely four centuries after the first construction signs of the Khatam in Iran. On the other hand, about the similarity of Khatam to the inlay or marquetry art, it should be noted that there are fundamental differences between the type of material and method of construction in each of the mentioned arts with the Khatam. Therefore, according to the properties of Khatam, Khatam cannot misnamed with "inlay" or "marquetry" and it is suggested to add Khatam as a type of handicraft into the English language dictionary in order to introduce this art properly.

**Keywords:** wood art, Khatam, inlay, marquetry, miniature parquetry

### **Introduction**

Human has inseparable relationship with nature from the beginning of creation, so that nature gradually becomes the best teacher, pattern and a generous source for supplying his requirements. He gradually not only tries to manufacture the needed accessories by the nature, but also increases their beauty by polishing, carving, painting, etc. These beautifications reflected the spirit of his language, interests and history. By the caveman era, wood was used more than any other material for many reasons such as abundance in the nature, many capabilities including easily working with it. Wooden houses, types of weapons, furniture, dishes and spoons, tools, crutches, etc. all were made and decorated with wood.

Gradually and through the jobs specification, the quality of handicrafts and their decorations were also increased. This trend uninterruptedly continued throughout the history. Now polishing, carving or painting is not the only way of making and decorating wooden materials, other methods such as woodturning, marquetry, inlay and finally Khatam were also used. In this time, however, manual production is replaced by industrial production in the major part of people's life, but people's passion to have such objects remains. Meanwhile, people, especially tourists usually tend to buy things that they know how they are made like a carved statue or object, ambiguity of property or method of construction make buyer undecided. This issue is true particularly about the art of Khatam because of the complexity and variety of its manufacturing processes and limited to Iran

and unfortunately, due to the small geographic area of its production location, a few people are familiar with it and how it is made.

According to the mentioned issues, this article tries to list the properties of the art of Khatam and other wooden cover arts such as inlay and marquetry, and compare them with each other in order to find a suitable synonym for Khatam art among the abroad wooden arts and so by this way increases the knowledge of researchers in the field of Islamic art and the interest of society to this valuable art.

### **Background of Study**

So far, many researchers have written about types of the wooden handicrafts of different countries. Books such as "wood, wooden work world and wood carving" written by Sentence Bryan (2003) and comprehensive book "The international book of wood" written by Beazley, M.S (1930) have discussed about many books. But, there is not any word about the Khatam of Iran. Some books have written about the art of Muslim countries with Khatam such as Syria and Iran like the book "art and handicrafts of Syria" written by Kaltr in which in addition to alluding to the constructions of Khatam, these objects are named as Inlay and intarsia. This issue is also seen in recent studies, for example, in the Bloom's article entitled "Masterpiece Pulpit" the term Inlay is written instead of Khatam (Bloom, 2012, Islamic art site). Unfortunately, the term Khatam as an art or handicraft is not written even in the famous dictionary like Collins, Webster, Oxford and Britannica Encyclopedia.

### **Methodology**

This article is a descriptive-comparative one in which the field data collection (including photographs and reports, and interviews) and library method and searching in internet databases are used until through the comparisons of the collected data provide accurate characterization of each of the arts and its common and different aspects with other wooden coverage arts and by this way, recognize it.

#### ***Wooden coverage arts***

Wooden coverage arts refer to the arts that are often used to cover a part or all surface of the wooden objects like marquetry and Khatam art. In this section, after providing explanations about Khatam art begin to describe and explain them.

#### ***The Art of Khatam***

Khatam art is the first wooden coverage art that is mentioned in this section. Broad and narrow bracts of Khatam are used and installed by skilled Khatam maker artists on every wooden surface from the wall to the Holy book. Khatam can be classified in many ways including how it is used at work for example, for margin of work, margin Khatam which has the simpler and much narrower motif is used. For work's background, the context Khatam which has the more complex and width motif is used. Also, in another classification (the more complete description is brought in the Khatam construction method part), Khatam in terms of construction method and the shape of the cross section surface of its smallest unit can be classified into two Khatam including square Khatam that the cross section surface is the smallest unit of square and its strips are made by putting thin wooden or bone sheets on each other and triangle Khatam in which triangle is its smallest unit and its strips are made by gathering long wooden and metal prisms in the circle form then gluing and cutting them layer by layer.

The history of Khatam art is not too long in Iran and the accurate time and place of the onset of Khatam art construction is not shown in any historical document. But certainly, this art as many arts has passed evolutionary process during its own history. Some researchers know China as the

mainland of Khatam art and some other Indians and some other know Egyptians and Syrians as its origin and each of them offer documents to prove his claim. In Handbook of Islamic Industries, Demand attract readers' attention to the differences between Inlay and Khatam art and explains that: "Khatam and Inlay have been popular at all eras in the Muslim world both in the East and west" (Demand, 1986: 132). In this regard, he refers to the wooden piece which is decorated by these two arts namely Inlay and Khatam in the second century AD in Egypt. (Figure 1)



**Figure 1. A part of the board which is worked by Egyptian Inlay and Khatam in which purring white beads on the chess part of right side indicates the Inlay art and carving a page under the arch of the left side shows the Khatam art. Metropolitan Museum (source: <http://allmarquetry.com/Renaissance.html>)**

Perhaps the first sample of Khatam which was found in Iran refers to the single flowers applied in the Holy book, which belongs to the 8<sup>th</sup> century (simultaneous to the patriarch of Mongol government in Iran). In the Holy book, small Khatam is exhibited in the form of a hexagon "The name of the manufacturer of the Quran indicates that this object is made in Iran" (Demand, Ibid: 123) (Figure 2 & 3). After that time, Khatam art can be seen in Iran and countries like Syria and Egypt.



**Figure 2. The upper part of the Holy book in which hexagonal Khatam flowers are seen (Source: <http://islamic-arts.org/2014/14th-century-quran-stand/>)**



**Figure 3. Motifs of a hexagonal Khatam is approximately similar to the hexagonal of Holy book, design of author**

### *Definition of Khatam Art*

The word Khatam literally means reaching to end (Anvari, 2002: 2613). There are likely several reasons for this kind of nomination for this art like "in the Khatam art geometric drawing, especially the tiny little triangles are the construction base of this art and applying these geometric shapes on that scale are not used in other arts "(Anvari, 2003).

But unfortunately, in terms of the art definition, the exact word of Khatam, due to the anonymity of its properties, is not mentioned in any famous external sources or authoritative encyclopedia like Britannica and it is explained as a general word of inlay. In these dictionaries, this word is explained just as the Prophet's titled "Khatam Al-Nabiyyeen". Although in the Wikipedia encyclopedia, this word is explained as a kind handicraft for Iran but also in this encyclopedia for the approximation of readers mind, Khatam is introduced as a species of inlay or marquetry.

In all author's studied foreign books, Khatam is basically investigated under the general title of inlay or marquetry. If the definitions and explanations that are offered by authors of these sources are not in the apparent conflict with what we now know with the name of Khatam, certainly is not particularly useful indicator for this art. Western references which are obtained from the extensive research of scholars and researchers, take Khatam's meaning from its overall decorative and cosmetics concept and it is constructed by putting together fragments such as stone, marble, wood, ivory, shells and so on which is similar to the definitions of intarsia and tarsia.

About Khatam art in Iran and other Islamic countries, even the greatest scholars of Islamic art or Iranian art are involved in a kind of generalization so that Professor Pope, famous Iranologist in the etymology of the origins of this art says: "The art of Khatam working are existed from a very long time and even the Ancient era in Near East" (Pop, 1975: 2620). In fact, what the Pope says about the history of Khatam art refers to the inlay art with history of several thousand years rather than the Khatam art with six hundred-year history. Also, Bloom in his article about the pulpit of Qustantaniyeh mosque (Figure 4), in addition to introducing the checkered decoration type of the pulpit (which according to its characteristics such as being attached and then peeled off in the form of sheet, from the perspective of Etlagh the name of square Khatam is more accurate to this arts) about the definition of Muslims' wooden arts collection writes: "Throughout the Muslim lands, there are valuable works from artists working with wood. These artists have learned to take advantage of small parts to construct big things, including the construction of "Mashrabyya" which is generated by joining the woodturning fragments in netted form and are often placed in front of windows or inlay, small pieces of colored wood which is placed in the carved hole on the surface of a larger piece of wood or marquetry which covers a surface by picking and placing small pieces of wood together to create a plan. All these methods can be commonly found in Islamic countries in various wooden objects like boxes, chairs, etc." (Http://islamic-arts.org/january 2, 2012 / the-masterpiece-minbar)



**Figure 4. A part of Qutubia pulpit with checkered decoration in the form of isolated sheet in its lower part which indicates its construction method in the form of square inlay not marquetry. Source: (<http://islamic-arts.org/january 2, 2012 / the-masterpiece-minbar>).**

After this introduction, in order to understand Khatam better, it is necessary to refer to its definitions in the Iranian dictionaries. In certain culture dictionary the word Khatam means the termination and the end, and the word close the Khatam is defined as: "the art that is manufactured by camel and elephant ivory and wood with flowers and motifs on surface of anything (wood, etc.)" (Moein, 2007: 993) and in the great culture "khatam sazy" is the workshop and a place in which the decorative things are made with Khatam and Khatam kar is the person that works with Khatam and Khatam Kary refers to the decoration of a surface with Khatam" (Anvari, 2002, 2614). Finally, according to the definition provided by the handicraft organization, the most important public reference of handicrafts: "Khatam, the art of decorating surface of wooden objects in a manner similar to the mosaic with the small equilateral triangles or wooden, bone or metal triangle with two equal side" (Akhavan Farahani, etc., 2007, 110). Here, according to the main commonalities and features of Khatam art during its own life, a comprehensive definition can be provided to familiarize readers accurately with this art to distinguish it from other wooden arts coverage. Khatam art refers to the art of covering wooden surfaces by attaching Khatam strips (dimensions: width 1-4cm, length 30 cm, diameter 1mm) which is composed of geometric drawing. These bracts, in the triangle Khatam are made by gluing and wrapping thin and long wooden, metal, or bone prisms together based on the Khatam designs and then slice them thin (Figures 5 and 6)

Another kind of Khatam which is known as square Khatam in the past was used more in the margin of Khatam objects. This kind of Khatam is formed by gluing together the thin sheets of wood (in diameter of 1 mm and in two colors: dark and light) and then slice them layer by layer and then gluing the previous slices on each other based on the determined design and then re-cut them until the design to be appeared in the shape of decorative strips. Decorative strips approximately similar to square Khatam in Europe are known with tarsia a toppo that further details will come later (Figure 7).





**Figure 5.** The right side, material collection, manufacturing processes and the types of triangle Khatam strips, Tehran's cultural heritage organization's educational board (Source: Author)



**Figure 6 .** The left side, covering the surface of wooden box by attaching Khatam strips (Source: Author).



**Figure 7.** A part of a door of the Qajar era decorated by Khatam with strips contain white rhombic and black margin which is called square Khatam, the Museum of Decorative Arts.

### Features of Khatam Art

*Background:* Khatam is an art that is only applied in wooden background and for decorating wooden surfaces.

*Materials Used:* materials utilized for this art in terms of application can be divided in at least five distinct groups including "all kinds of wood, bone, wire, adhesive and polish material." (Rozi Talab, 2003, 103). The required woods in this art are used for making under work objects and constructing the long and narrow prisms or the smallest components of Khatam. In addition to the utilization of wooden prisms with natural color of light yellow or dark brown, sometimes for greater variety of colors, they are boiled in the great color containers in order to color them in black, green, orange and other colors which are not so far from nature's colors. Steel wires are also changed into the shape of long and narrow prisms to construct the Khatam. They are usually made of rice.

*The utilized motifs:* Khatam motif from the smallest shape to the final collection of intended Khatam indicates one or hundreds of nodes or geometric motif. "It can be claimed that the art of Khatam originated from node and Chinese node. Chinese node is a term that is used to the art and different stages of drawing and executing of each node. Each node typically consists of a polygon geometric shape that depending on the taste of the artist and its application has different simplicity and complexity. "(Ibid., 186) (Figure 8)



**Figure 8. Khatam board with node motif "Shamse Kand 12" in the name of thousand suns (Source: Author).**

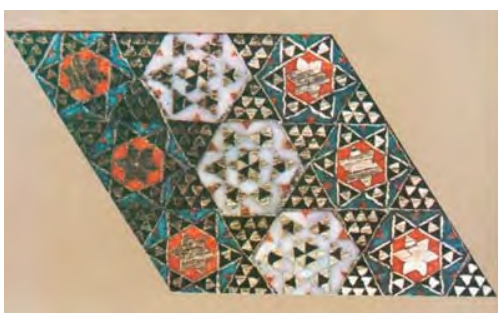
Construction method: Several stages are done for Khatam's construction that the first one refers to the Khatam's motif consideration and how to wrap Khatam based on the intended motif. After this stage, the required number of colored sticks and rolled wire are prepared then begin to twist Khatam. Wooden prisms and rolled wires are glued one by one and are attached to each other based on the motif and then yarn is wrapped around it to create Luz Khatam gradually (Figure. 11,10, 9).



**Figure 9. The way of wrapping blade, (Source: Mohammad Sattari, 1989: 16)**



**Figure 10.** A set of 3 black wooden prism and metallic wire in the middle, which totally makes a blade. (Source: (ibid: 17))



**Figure 11.** A sample of the motif of Luz Khtama,( Source : ibid: 21)

After Luz formation that is in the form of the long and narrow column with rhombic shape cross section, the column cutting stage becomes complicate about 6 to 8 pieces then these pieces are collected near each other and glued. In the next step, two thin wooden plates are attached under and over the rhombic and two pieces of wood are putted at both ends and first of last rhombic and then are pressed (Figure 12).



**Figure 12.** Five types of Luz Khatam are sliced and putted near each other before gluing and putting under the press.

This glued and pressed complex collection is called "Qameh Khatam". After preparing the Qameh and drying its glue completely then Qameh is sliced narrowly by electric or hand saw to get the Khatam's strips. (Figure 13)





**Figure 13. The traditional method of slicing Khatam's Qameh by handsaw (Source: Sattari, 1989: 24)**

The next step refers to the coverage of the wooden surface of the desired object by Khatam strips that depending on the utilized location the context or margin Khatam are used. Finally, the entire surface of work is rasped and sanded and eventually all surfaces plastered.

*Other wooden art coverage* : From the earliest times, wood decoration methods fall into five categories, painting, gilding, engraving, carving and intarsia. The ancient art of intarsia- The making of decorative and pictorial mosaics by laying precious and exotic materials into or onto a groundwork of solid (Gale, 2008:13).

*Marquetry*: Marquetry is an art that because of its main feature namely made up of separate pieces glued together, was not included only in the wooden arts but it is also used in other materials like diaphoretic stone. Depending on how these pieces are placed near each other, this art has been divided into various types so far.

### **The history of marquetry and its branches**

Wood marquetry is a mix of thin pieces of wood and other materials that are sliced by a saw specialized for marquetry in straight or curved lines and cover the surface of wood. Marquetry art is relevant to the ancient era and it seems to have started from Asia Minor. Like any other historical movements, the entrance of marquetry is not suddenly.

We can see examples of the marquetry in the art of Egypt and Spain after the fall of the Western Roman Empire and in the Islamic art works before the fifth century AH and in Khatam of the eighth and ninth centuries AH.

A type of marquetry entitled "Intarsia" was popular in 350 BC in the Roman Empire in Italy. The first applied technique was a series of difficult works including cutting small pieces and putting in a hole that was blanked to the size of the mentioned piece to create a smooth surface. All work was quite tight by gluing inside the cavity. This method was gradually forgotten after the fall of the Roman Empire. But, what is certain is that this method existed in 14<sup>th</sup> century in Italy. In the 15<sup>th</sup> century, marquetry was applied in many Italian cities, for instance, in Florence where the school of marquetry was created. Maiano was the most prominent representative of this school that would promote the marquetry art with his genius and complete the geometric inlay, illustration and perspective. This method after he and his brother was named "Dammaianesque" and still known in Italy by the same name. Ramond, 1989: 13). (Figure 14)



**Figure 14. A sample of marquetry in 16 century in Italy (Source: <http://allmarquetry.com/Renaissance.html>)**

The process became popular in France in the late 16<sup>th</sup> century and received an enormous stimulus in the two following centuries as the European economy started to expand and created a demand for luxurious domestic furniture. The work of Andre-Charles Boulle, in the late 17<sup>th</sup> and early 18<sup>th</sup> centuries achieved such beauty that furniture adorned with marquetry patterns is sometimes known as Boulle work. To produce the desired effect, the ebonite, or specialist in marquetry, either drew the pattern directly on the base wood or affixed a paper pattern onto the wood. The thin sheets were then cut out with a burin or, later, sometimes with a saw, the pattern assembled and glued onto the carcass. Boulle initiated an ingenious method for use with contrasting materials, such as ebony and ivory. Two sheets of identical thickness were glued together and the pattern cut out. When the sheets were taken apart, it was then possible to decorate two panels of the same size with identical patterns in contrasting materials. As marquetry-work tends to splinter, vulnerable places such as the outer edges of the design and Keyholes were often of an intricate shape which adds to the decorative richness of the piece of furniture. Marquetry patterns became more and more complex and though often floral, they could also include narrative subjects and the like. The range of materials used also became more varied, including not only rare tropical woods and metals such as silver, bronze, and brass but also a wide range of other materials of a semiprecious nature (Britannica, p.870).

In Ramond's book, there have been five main methods for marquetry making from the past in Europe which are described in detail as follows: Tarsia certosina, Tarsia geometrica, Tarsia a toppo, Tarsia incastro, and Separate packs or piece by piece that is the most important and most common type.

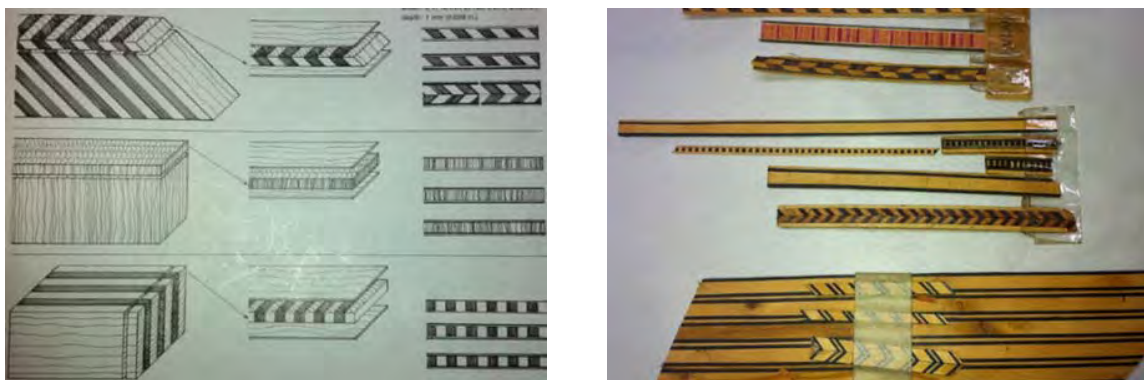
In the 16<sup>th</sup> century, geometric marquetry was particularly appropriate for emphasizing the renaissance forms. Components of veneer were cut by chisel, and sets of straight lines were made out of squares, rectangles, triangles, polygons and stars. When the repetitious cutting of the very small components of these compositions became tiresome, Italian marquetrs developed a method which accelerated the operation, while assuring the regularity of the patterns.

Italian marqueters invented a process of block marquetry called *tarsia a toppo*. This consisted in making a collage with sticks of wood arranged in stacks. These sticks had different geometric forms so that the end-grain reproduced the desired motif. This glued up block was then sliced into

thin strips and the pattern was repeated until the composition was complete. With these prefabricated elements, composition of marquetry in bands or mosaics became easier and faster.

The first date of toppe Inlay construction or marquetry category in Europe returns to the 16th century, when all of its stages were made by hand. From 19th century, the covers of this model were cut by machine and its parts will be closed in the form of a larger cluster. Marquetry category is made to construct the beautiful margin strips that are coverage's decorations with a diameter of 1 mm and a width of 3 to 12 mm and in various forms (Ramond, 1989:137) (Figure 16 and 15).

"Patrick Edwards", manufacturer of decorative strips "tarsia a toppe" in the UK, about his familiarity with this art in an article entitled "Tarsia a toppe or Inlay?" writes on his website that there is a subset of marquetry category in England. The utilization of these stripes entitled Tunbridge Ware was popular in the 19th century. A book written by "Stan" published in 1989 states a lot of details on how to make these strips. These strips are similar to tarsia a toppe in which a block or large batch is made according to a predetermined plan and then by cutting it into 1-mm intervals, decorative strips obtained and work ends. An example of the page of Stan's book about how to make some samples of these strips is presented here (Edwards, 2014, personal sites) (Figure 17).



**Figures 16 and 15. Three ways of making decorative strips, the left side Figure along with the constructed strips' Figure in the right side**  
 (Source:<http://wpatrickedwards.blogspot.co.uk/2014/08/tarsia-toppe-or-inlay.html>)

The explanation of 17 Figure's shapes that collectively are named "Tessellated mosaic marquetry" respectively is as follows:

Top left: end-grain mosaic marquetry

The second from top left: block or batch made with dimensions of 2.5 cm to 17.5 cm in 0.8mm.

The third from top left: slice cut from the block with a diameter of 0.8 mm

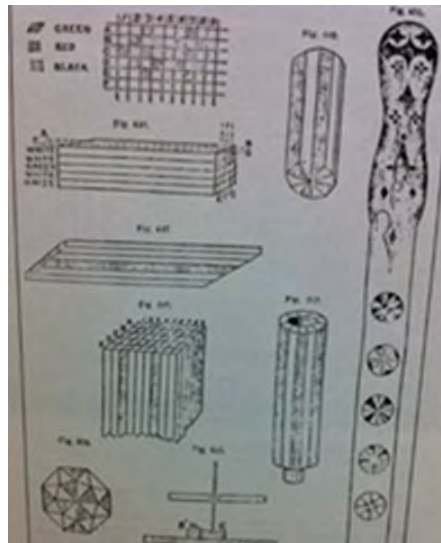
The fourth from top left: The second block closed based on the motif by using the first block's slice

Bottom left: Miniature parquetry section

Middle of the Top cylinder: Miniature parquetry

Middle of the lower cylinder: inlaid turnery

Right side: knife of latter, decorated with Miniature parquetry



**Figure 17. Adapted from Stan's book (Source: <http://wpatrickedwards.blogspot.co.uk/2014/08/tarsia-toppo-or-inlay.htm>)**

Today, to simplify, two technical terms have been chosen to define veneer decoration “frisage” and marquetry. “Frisage” consists of sheets of sliced veneer which are arranged geometrically along a rectilinear pattern. This decoration is then veneered onto a wooden carcass.” (Ramond, 1989,11 ). Geometric marquetry and parquetry are types of this art.

*The definition of marquetry:* here to avoid prolongation of this issue and due to the similarity of these definitions with other dictionaries, only two definitions are presented for Marquetry art. Oxford dictionary defines this word as “Pattern or pictures made of pieces of wood on the surface of furniture, etc, the art of making these patterns (Oxford, 2011:942) “. Collins Dictionary defines this word as “Queries a pattern of inlaid veneers of wood or metal used chiefly as ornamentation in furniture (Collins,1999:463 )”

*Features of Marquetry:* Although, according to some dictionary definitions, this art is described as similar to inlay art, this similarity is only in using and picking up different colored pieces together to create a motif on the surface of work and placing in the brought context which is the important feature of inlay, is not necessarily the characteristic of marquetry. (Figure 18)



**Figure 18. Align the cut pieces near each other on the boards' surface (Source: Husseini, 2008: 172)**



### **Inlay**

Inlay art is the decoration method that its origin refers to the insertion of a piece in the blank context. This art is called inlay if the context of work to be wood.

*History:* Inlay is an art that its history returns to thousands years ago and its signs are seen in ancient Egypt, China, India and Iran.

"Many of the fragment of wooden furniture discovered in the first Dynasty tombs at Saqqara and Abydos are carved with a bound rush or basketwork decoration...The main body is inlaid with small triangles of wood and molded faience which have badly faded in colour ( Killen 1994:22 ).

The first signs found in Iran belong to the works of Burnt City in Sistan refers to five thousand years ago which including two small shoulder in which congress pieces are embedded at the empty area (Figure. 19).

Oxford dictionary defines Inlay as "a design or pattern on a surface made by setting wood or metal into it (Oxford 2011:802)". Collins Dictionary defines this word as "To decorate (an article, esp, of furniture) by inserting pieces of wood , ivory, or metal so that the surfaces are smooth and flat (Collins,1999:388)".



**Figure 19. Wooden shoulder of Burnt City of Sistan belonging to three thousand years before Christ, Source: [http://shadin.iiiwe.com/city\\_unknown\\_amazing\\_picture](http://shadin.iiiwe.com/city_unknown_amazing_picture)**

### **The comparison of Khatam art with inlay and marquetry arts**

*Features of inlay:* Due to the common use of the above meanings that clarify its properties, it can be concluded that without any exceptions use of the interpretation of the inserting pieces in the context of work. And, the infinity of genus of surfaces and materials used inside the surfaces of inlay like wood, metal, stone, etc., dependent upon being solid and hard surface. Finally, the interpretation of a kind of decoration for this art without specifying the decorative design, size and shape of parts. Inserting separate pieces one by one inside the vacated context. (Figures 20-21)



**Figure 20. Incomplete Inlay (Source: [www.devineguitars.com](http://www.devineguitars.com))**



**Figure 21. Inserting a long wooden piece in the vacated part of the table's surface**

At this stage, according to the explanations that were provided on Khatam, inlay and marquetry arts, the differences which separate them from each other can be discerned between them. For example, in both scrimshaw and woodturning arts, wood carving is the main factor of works making and common point of both arts with each other, while their carving method, conversely, is the main point to recognize and differentiate them. This differentiation is to somewhat that woodturning art never is considered similar to the scrimshaw art.

*Work comparison :* As it is obvious from explanations of the previous sections, Khatam is the only art that its working context is limited to the wood and this method cannot be utilized on other materials like stone, glass, metal, etc.

*Material comparison:* Except glass, shell and stone that cannot be converted to tall prism to wrap the Khatam, other materials used in the inlay and marquetry arts like wood, bone, ivory and metal are common with the Khatam art.

*Utilized motif comparison:* Due to the triangle section of the smallest unit of Khatam the presence of node motif in all shapes of Khatam is inevitable. While in other arts like inlay and marquetry due to the lack of the limitation of the pieces' shape, using geometric designs are entirely optional and especially in the marquetry art, except the parcoeit branch, the utilization of natural motifs is more than the geometric designs.

*Construction method comparison:* The most important factor that distinguishes Khatam art from inlay and marquetry arts refers to its construction method. Slender wooden or metal prisms with the triangular section are the smallest part of the Khatam art. While other three arts have any smallest unit of meaning and due to the lack of motif constraints, the components of the constructed art were primarily in flat form not prism, and secondly may have every shape and size.

Khatam art is created by wrapping wooden and metal prisms to each other based on the selected motif, making Qameh and then cutting and dividing it into different sheets and finally pasting the sheets on wooden surface of object. While inlay art is made by vacating the surface of work and then placing strips and colored pieces selected from various materials like wood, metal, ivory, shell, glass, stones, etc. in that empty area and decorating in the same size. Marquetry art is made by cutting and pasting various colored wooden pieces near each other on the work surface based on the predetermined motif.

## **Conclusion**

According to the explanations and Figures presented in the context, an important part of the Khatam art manufacturing more than any art resembles to the set of arts entitled "Tessellated mosaic marquetry". This important part sometimes includes creating thin sheet slices, gluing and categorizing, and re-cutting and repeating the previous steps to create the desired motif to make strips similar to the square Khatam and sometimes involves making stars and decorative strips by

gluing and wrapping together or putting slender wooden pieces on each other with triangular, square and so on section. However, none of the products of this collection does not reach to the production stage of Luz Khatam and therefore, except the square Khatam which includes a small part of the Khatam making art collection, other mentioned types only include a small fraction of the Khatam making stages and Khatam cannot be completely considered similar to these arts.

Therefore, it can be concluded that Khatam art is quite distinct from other arts such as inlay and marquetry and in order to approach to the mind it can be considered similar to the "miniature parquetry art" for ordinary Khatam and "tarsia a toppo" for square Khatam. So, instead of any imprecise analogy, it is recommended to introduce and explain this art however briefly especially in dictionaries and encyclopedias and Khatam art and its products only to be introduced with the name of Khatam.

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