

The Role of the Locks in the Visual Quality of Tile Decorations in the Jami Mosque of Yazd

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Abstract: The Jami Mosque of Yazd is most brilliant building in this city which is, beyond a shadow of a doubt, considered as one of the exquisite masterpieces of architecture of Iran's mosques. In this mosque, many changes have been made throughout history, based on different times. This mosque has diverse and unique decorations and this has distinguished it from the other mosques in Iran. Many studies have been conducted about Jami Mosque of Yazd and its importance and most of these studies have been regarding the oldest architectural elements available, date of issue, recognition of changes in different periods of the mosque, decorations of inscriptions and lines; but in the field of locking of the designs and elements, juxtaposition of elements, their visual quality in the symbolic and philosophical concept for psychological impact on the worshiper and enhancement of the sense of unity (with the object of worship or God), no studies have been conducted so far. In addition to this, combination of these designs and their entanglement with one other, bring about unique locks that are important in terms of aesthetics and this has not been revealed to the public view.

The research methodology, is library and field studies. After presentation in the place and close observation of the architectural arrays of the Jami Mosque and also production of an image with the digital camera and magnification, for the close study of the locks used and also the techniques for making the locks, the proportion between the letters and the words, designing, combination of the design and construction materials used, as the visual effective factor, are studied and analyzed both in conceptual and also visual terms in the form of images, and the result of these studies has been analyzed in the paper. Part of the results of this study, study of the locks, is investigation of the goal of using the lock in the visual quality of decorations and their classification based on different techniques. These total achievements can become the motif of contemporary artists and be effective in the trend of activities of future researchers.

Keywords: lock, role of the lock, Jami Mosque of Yazd, tile decorations, visual quality.

1. Introduction

Decoration has always been one of the tenets of Iranian architecture and is of special importance in its valuation. Iran's art in the Islamic era is inseparable from decorative designs but in different eras, the decorations were either undermined or underlined and widely used. Among all these decorations and geometric designs, especially in tiling, there is a principle named "the lock" and "the tying of these geometric designs" which have been not been highlighted and given adequate attention. For instance, in the Jami

Mosque of Yazd, the architectural style, the historical record, history of inscriptions, type of writings and other decorations can be seen in the writings and articles but the lock as the visual element in decorations can't be encountered in the writings. This can be due to the inattention of researchers to symbolic and visual concepts; or due to the fact that this visual element is small and is considered part of the ties or is placed inside other decorations such as inscriptions. For this reason, it has not been taken into account and researchers have not considered it as a discrete element [1].

Jami Mosque of Yazd is one of the distinguished examples of deployment of "the lock" in tile decorations. Diversity, continuity, evolution of the designs surviving from the previous eras and the alignment of these designs with our religious beliefs, have been used and the locking of these elements on the surface of the walls is one of the features that help us not only pay attention to decorative elements, but also to the visual richness, elegance, symbolic concepts and theoretical foundations as well and know them better. As stated by René Guénon: "Secrets retain their special values and survive through decoration".

Jami Mosque of Yazd is like an eyvan (porch) inside the desert and has been built in a span of 100 years and three eras. The main bases of the mosque are attributed to the Sasanians and the current building of the mosque, in terms of the architectural style, has been attributed to the two eras known as Azari. The building of the house dome has been known to belong to the Ilkhanid period and the mosque lofty door belongs to Shahrokh's time and the teymnourid era. This building is famous in terms of the dome lodging, lofty façade and also beautiful and unique tiling.

This mosque is important from a few perspectives: firstly, it is the oldest architectural example which, during the ninth century, has been imitated in the religious architecture of Yazd province; this plan is constituted of a domed maqsureh and a rectangular and stretched-out shabestan. Another important feature of the building is the immense application of overall shelters (room and tavizareh) in shabestans which is accompanied with Mosaic tiles. Another notable point in construction of the Jami Mosque of Yazd is the construction of indirect light by the reflection of light through the white chalk of the dome and the walls. Also, the decorations inside and outside the dome, the external-internal façade of the main ayvan and its beautiful mehrab that are considered as the important parts of the mosque, are highly valuable and interesting [2 & 3]. Figure 1.

2. Literature Review

The art of tiling has a long history and its power reaches the second millennium B.C. The transformation of the tiles started with small colored external elements in brick facades and ended in the complete coverage of the building in

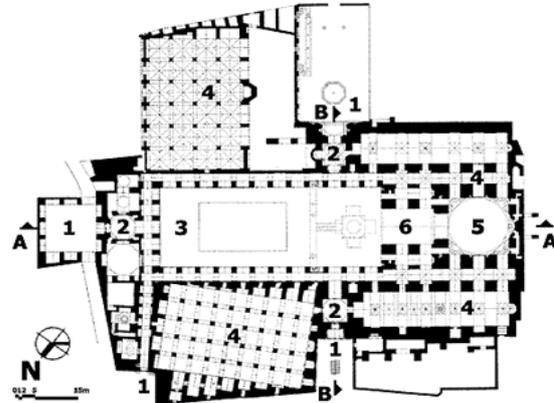


Figure1. The plan of Jami Mosque of Yazd
1-entrance; 2-hashti; 3-sahn; 4-shabestan; 5-gonbadkhaneh; 6-ayvan

historical works. This technique was adopted at first in the seventh century in Anatolia and emerged one century later in Iran and central Asia. This type of tiles is locked near each other for creation of a complex design and forms a beautiful geometric shape. The method of working has been thus that the glazed ceramics were cut based on a main plan and then the cut pieces were locked beside each other and closed a geometric form. In fact, the movements of the lines and the regulations of fields of a work and locking of the pieces in a moaqali checked house, in the various form and shapes, based on the special combinations and principles of geometric designs, were considered to be drawn from mathematical formula in this art. In the Ilkhanid period, for the first time this technique was used; like what can be seen in the tomb of imamzadeh jafar Isfahan (726 AH); but its immense application became common in the middle period of the ninth century [4 & 5].

2.1 Definition of the Word "Lock" and its Study

The word "lock" literally means: a tool to close and prevent free access to that, what they close that with, the mobile dam, the place for riveting or connection of two or more things, hugging, locking

by means of closed and strong lock, continuity and involvement or involving of elements and parts, are a measure for fastening and here by the lock, we mean the closing and involvement of parts, letters, words, geometric forms, etc. in the tiling decorations.

Locks are part of the scripts and infrastructure of the node. By juxtaposition of various letters and forms and geometric designs, locks create the node and by their extraordinary diversity, each of them reminds a form that has managed to bring about a new and very interesting combination. This combination has been locked and fastened beautifully and can't be separated. The locks must have structure, combination and accordance.

2.1.1 Structure of the Locks

structure refers to the reasonable and logical relationship of all visual elements, including the form, letters, color and decorated designs and also the power for combination and accordance between vertical and horizontal movements all over the lock, in such a way that all the writings, in complete accordance with each other, suggest a beautiful aura. As a result, its beauty is dependent on their coherent and strong structure. Both alone and also in the collective combination, locks show the ultimate coordination and companionship with writings and architectural space and arches and curves and were designed in such a way that from every side, the viewer would come upon these writings.

2.1.2 Combination of the locks

combination refers to the moderate and agreeing association of the letter, word, sentence, line and two lines together and higher number and better status of their general status in such a way that it pleases the common sense. The visual elements in different geometric and non-geometric areas and forms, like the square, the circle, etc., show different reactions. Thus, in combination, this important issue and the relationship between forms and visual elements must be taken into consideration. There are two types of combination:

general combination and specific combination. General combination: a few singular or combined or singular and combined letters make a linear combination. The linear combination: 1-The elements of the singular letter must be combined such that it becomes moderation of principles like the letter "q", etc. that are composite. 2-A few singular letters are made combined and therefore a word is made, in the way that the legislator has posed.

2.1.3 Accordination

the structure of the identifying form of every work is known based on a series of visual elements that are related; the same way that this order and relation is present in nature and creation. So, the coordination of measurement of tools regarding one another are called proportion or ratio and in the locks also, proportion has been beautifully used [6].

2.2 Geometric Designs and Locks

Geometric designs in the fifth century have reached the summit of glory. Although geometric designs, like a basis in combinations of forms, are not the concessions of the Islamic art, these forms have spread throughout the Islamic art and have a logical regulation. These figures are based on circles which show perfection and as it is equally divided, it leads to the creation of the regular polygon and gradually becomes like regular stars. From a philosophical view, this method (in an environmental circle) is also in line with tawhid (uniqueness of God) which is the unity of the origins and ending point of meeting of all dispersion and multiplicity [7]. In architecture, complete obedience of geometric principles and locking of the spaces is the basis of accordance and order that are the features of the Islamic art. The geometric plans based on geometry covered all the levels and typically by a geometric framework, filled special seasons with attached leaves and flowery designs [8].

The most important feature of the lock is compliance with the principle of symmetry,

reflection, repetition, geometric order and the necessity of the transformation of a motif to smaller forms, repetition or divisions of it are motivated to show the depth and movement in the two-dimensional world. The rhythm, positive and negative space, equilibrium, etc. are among factors that bring about beauty and harmony of scripts and locks. All these designs benefit from a series of artistic principles and principles and formal mathematics. For instance: individual words are locked near each other repeatedly and, by a specific rhythm, create a plan or model on the surface of the internal wall which creates harmony and beauty. In arabesque forms both the lock enters the elements of the line and becomes involved with geometric forms in a field and geometric designs in background have a kind of suggestion of texture and rhythm [9].

2.3 Decorative Line and Lock

In Arabic, calligraphy was called orthogonal geometry. In fact, letters and words, by compliance with proportion and form, were juxtaposed and interlocked in such a way that they were beautifully used as decorations. In fact, the special form of the Arabic writing has made it possible for the artist to draw it by means of very diverse forms and by very beautiful combinations [7].

Writings have different types and the kufi line is the most famous and maybe the oldest writing in the world of Islam for writing Qur'an or decorated scripts and other indexes in the Islamic art. In the fifth century, the kufi writing lost its main function which was transmission of thought and communication, and obtained a decorative aspect. The most important design that was combined by writings and gave it a decorative value was arabesque figures which change the letters as the flower and stem and leave and interlocked [10 & 11].

The building writing which is angled kufi is obtained from depiction of geometric figures of square, rhombic, square-rectangle, parallel and intersecting lines which are closed in each other and make very beautiful locks. In fact, the artist

makes a harmony and connection between diverse lines and sometimes for creation of accordance repeats the line and for suggestion of variety sometimes depicts a line parallel with the other line and sometimes unlike the direction of the movement of that line and interlocks them in an adept way. In a design or design, less often only one type of line is used. Depending on the type of accordance of their works, the artists might use two or more lines or combine a few lines (composite) like the various themes that are used in a harmonious musical part.

Decorated lines, as an element that has religious and cultural values, has always drawn the attention of Muslim artists and for this reason, geometric locks and decorative lines play two important roles: their first role they play is their function of communication and meaning and concept and by locking the letters and elements near each other and cohering them, this concept and meaning is beautifully determined; and the other role they play is their function as a decorative symbol in which by artistic creativity they interlock the forms and recount meanings and concepts that reflect social, religious, cultural conditions of their account. As a result, the walls of mosques, etc, are the best place that retains these words and designs [9].

2.4 Geometric Mysticism and Lock

In the Islamic art, the word "tawhid" (uniqueness of God) must be taken into account. The first effect of this interpretation is transcendent thinking and profound attention to the levels of manifestations that distinguish it from other religious arts. The Muslim goes beyond multiplicity and pluralism to reach unity and the same feature of the Islamic thinking has prevented the formation of sacred visual arts. Geometric and arabesque and Angelica designs and the least use of human designs and unity of these designs and their being locked in a point is focus based on this. Geometric designs that eminently display unity in plurality and plurality in unity, along with arabesque designs that have herbal manifest design, are so distanced from nature that they show stability in change and invent a specific spiritual space that returns to the world

of tawhid. These geometric designs and plans are so interlocked that they show a single image. In Islamic architecture, the opposition between the internal and external space and maintenance of levels is greatly noticed and this is also seen in decorations; like the negative and positive space as by the locking of these two, a single image is created [12].

3. Methodology

Although Iran's art in the Islamic era is inseparable from decorative designs but regarding the locks, geometric designs are not mentioned. Therefore, the study is aimed at investigating whether the hidden themes in the locks are related to the symbolic meanings of geometric designs or the locks can be classified into different types. In order to obtain results from this study, using of the method of "library and field" studies was considered. The data collection has been conducted through the limited number of library resources available and the rest of the data has been obtained by the guidance of traditional architectural professors of the cultural heritage organization of Yazd. Based on the interview with the members of the cultural heritage and presentation in the place and observation of architectural arrays of the Jami mosque in a close study and also preparation of an image by the digital camera and magnification, for close study of the locks used and also the techniques of making locks and the fitting together of the tiles, formation of proportion between letters and words, method of designing, combination of design and construction materials used as the effective visual factor, were studied and analyzed both in conceptual and also visual terms within the framework of images.

In this study, all the tiles and locks of the Jami mosque were photographed and the locks were classified into different types from various perspectives. In the study of locks and its types in the Jami mosque, Yazd has been the example of the most distinguished examples from the view of the author and from each one a visual example and with the analysis conducted in the paper was mentioned.

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4. Results and discussion

Types of Locks and its Classification in Jami Mosque of Yazd

Locks have different types and forms. For example simple, repetitive (constituted with the hierarchy of one lock and with the repetition of the other lock), composite (a combination made of smaller locks) locks and other different types which we classify from different perspectives and the best example of which we study in the example of Jami Mosque of Yazd.

4.1 The Locks in Terms of the Type of Writing

Based on the type of writing, the locks can be classified into the following:

- 1) Simple writing lock with arabesque designs: writings that are simply written and are locked in a field of arabesque designs.
- 2) Kufi writing lock with the geometric shape: the Kufi and angled writing in which letters and words are interlocked in the form of geometric forms of square, circle, etc.
- 3) Kufi writing lock with arabesque designs: kufi writing that is locked regularly in a field of arabesque designs.
- 4) Combined lock: it is a combination of the methods above; for instance, it is both the kufi writing with a geometric shape and is also placed in a field of arabesque designs.

4.2 The locks in terms of the type of designs based on the designs used, the locks are divided into four groups:

- 1) Geometric designs: it is established on the rhythm of geometric forms such as the triangle, square, circle and element of writing; like some old motifs such as the crux of four branches and three branches singularly or along with other geometric designs. Geometric designs have two general groups: A) the locks that are made by the repetition of a simple geometric form vertically and horizontally or diameter of the rectangular frame.

B) locks that are made by the interjoining of simple lines or movement of the lines along the axis.

2) Herbal designs: A) repetition of types of small petals-arabesques along the vertical and horizontal axis and diametric lines of the rectangular frame. B) Small arabesque circle on the arch with the movement is introvert.

3) Words of prayer: words that describe the ability of God Almighty and are made by the combination of two or few words in a linear and geometric manner; such as, al-mulk allah, al-hamd allah, allah ahad, yah amid, ya sami, etc. The writing used in these designs is mostly simple building kufi (moaqali) and the quantitative number of the kufi is simple decorative. The reason for using of this writing can be known to be the relationship of this writing with the religious principles of Muslims and ease and flexibility of this writing for design and beautiful locking of the letters. A) Repetition of a few similar words in a linear manner-repetition of a few similar words in an engineering manner. B) repetition of a few different words in the linear manner-repetition of a few different words in an engineering manner

4) Sacred names and words: these names have a considerable variety and multiplicity. Names such as allah, Muhammad, ali and the attributes of God such as al-hasan, al-malek, al-samad, ahad, etc. that are as follows: -single word- conjugate symmetrical word- repetition along an axis-combination of a few types

4.3 The locks in terms of the type of combination

in terms of the combination type, the locks are divided into the three groups of letter-word-level and we have studied these locks as a case study with an analysis of pictures in Jami Mosque of Yazd.

Letter

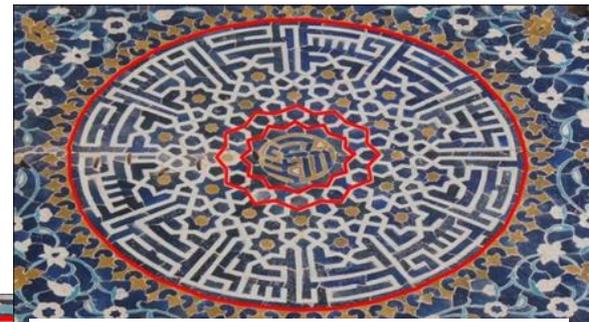


Image 3. Decorative noql of eastern gate with the text of o sultan o subhan

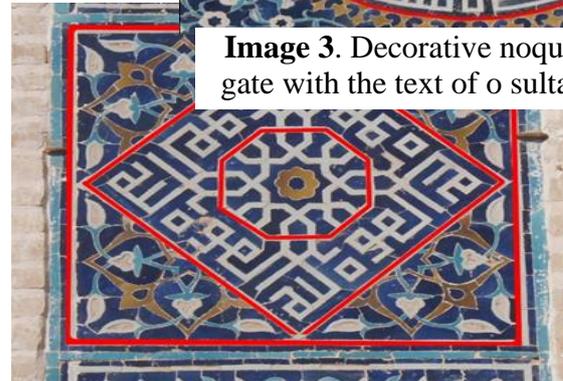


Image 2. katibah al-qovah allah at the gate

the letter is examined from two perspectives. 1- In terms of its form and formation, 2- In terms of the number of letters that are repeated and interlocked

1-In terms of the form

A) square geometric lock (geometric lock): In this lock, the words are interlocked with repetition in a square-shaped type and in the center form a regular geometric shape and are locked with another geometric form which is called the square geometric lock.

Example: in this figure, the word "al-qovah allah" has repeated and has become square-shaped which, in the center, has reached the geometric figure of shamsah and has been interlocked with the octagon, which shows the square geometric lock (image2).

B) circular and polygonal lock (remembrance of the lock): in this lock, by repetition, the words are interlocked in a circular form and form a regular geometric form in the center which is interlocked

with another geometric form, which is called remembrance of the circular lock.

Example: this figure o decorative noql of eastern gate with the text "either sultan or subhan" which has been repeated in circular form and is co-linked toward the center with small starts and has formed a star-like form in the center which has been co-linked by a bigger star, reminds the circular lock (image 3).

C) Linear lock (training): In this lock, the words are regularly interlocked which are posed as a line and in parallel with each other, which is called the training lock, to use the terminology. **Example:** in the following image, you can see the repetition of



Image 4. The word "al-malak allah" around the dome stem

the word "al-malak allah" which is posed regularly and in one direction and in the upper part, it has co-linked a line in the form of broken letters and has formed a star. This lock is called qatar-bandi (training) (image 4).

2- In terms of the number of letters

A) mono-letter lock (repetition-remembrance of the lock): in this lock, one letter is interlocked as repetition which forms a regular geometric form and interconnects the letters with another polygon and these locks are called the single-letter repetition lock or remembrance of the single-letter lock.

Example: In this script that has been presented on both sides of the ayvan of Jami Mosque of Yazd, we can see the repetition of the word "al-malak allah" in the squared geometric form in which the letter "I" is interconnected and a shamseh is formed in the center which has interconnected the same shamseh but the larger one in the midst of the locked letters and another octagon in the middle of the two shamsehs and this shows the emphasis

on the middle which shows the lock of single-letter repetition (image 5).



Image 5. the al-malak allah script on both sides of the ayvan

B) Two-letter lock (repetition-remembrance of the lock): In this lock, two letters are interlocked as repetition which form a regular geometric form and interconnect the letters with another polygon. These locks are called the two-lettered repetition or remembrance of the two-letter lock.

Example: In the following figure, the word "al-qovah allah" is repeated and the letter "A" and "L" are interlocked beautifully and regularly and have formed a shamseh that has interconnected and interlocked these letters in the center with another octagon. The lock shows the two-letter repetition lock (image 6).

C) The multi-letter lock (repetition-remembrance of the lock): in this lock, some letters are



Image 6. katibah al-quvah allah at the gate

interconnected as repetition which form a regular geometric form and interconnect the letters with another polygon. These locks are called the multi-letter repetition lock or remembrance of the multi-letter lock.

Example: the following form is the decorative noql of the eastern gate with the text of o sultan o subhan which has been circularly repeated and the letters "A", "T", "L" in it are interlinked like small stars and create the form of a star in the center which has been interlinked by a larger star which reminds the multi-letter lock (image 7).

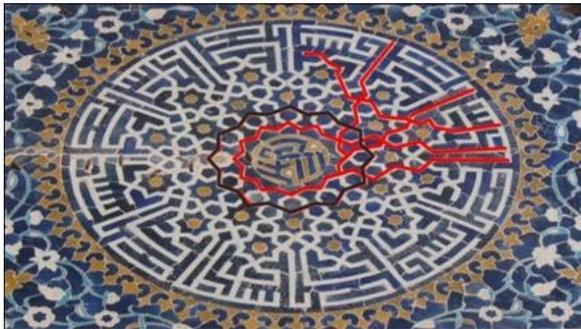


Image 7. decorated noql of the eastern gate with the text of o sultan o subhan

Word

the word is examined from two perspectives. 1-In terms of shape and its formation, 2-In terms of the number of words repeated or interlocked.

1-In terms of the form:

A) background word lock: In this lock, by repetition in the very background in the geometric form, the lock is interlocked in the geometric form and forms the regular geometric form which is called the background word lock.

Example: in this image, we see the word "Ali" which is to such an extent interlocked in the background which is inseparable from it and with a certain circulation and geometry, formed some octagons (image 8).



Image 8

B) The lock of the word into geometric forms: in this lock, the word is interlocked inside and outside and it beautifully creates geometric square, rectangular, circular, polygonal, six-petal flower and star forms.

Example: In the following figure, we see the repetition of the word "Muhammad" that has constituted two four-petal stars (eight-petal star) by circular rotation and interlocking of the word from outside and two square (shames) interconnected from inside. Inside this shamseh, another lock, by repetition of the three words of "Muhammad" and interlocking of the letter "m" has created the geometric form of the circle in the center which is filled with (image 9).

2- In terms of the number of the words:

A) Single-word lock (the word lock within): In this lock, one mono-word is locked within as square and rectangular geometric forms, which is called the mono-word lock.

Example: In the following figure, we can see the word "Muhammad" which is beautifully locked within and has created a squared geometric form. Such locks have been used between brick-arts in



Image 9

Jami Mosque of Yazd and the upper side of the chalk is covered which in addition to the lock of the word, it is also considered as the lock between the parts and the following figure has changed the few words of allah, ali, Muhammad, etc. between the parts in the geometric form of square and rectangle (image 10).



Image 10

B) Multi-word lock (repetition-remembrance of lock): In this lock, some words are repeated and are somehow interlocked and have formed regular and beautiful geometric forms which are called the lock for repetition of some words or remembrance of the multi-word lock.

Example: In this famous and beautiful shamseh, we can see the six words of "ali" which by their circular rotation were beautifully interlocked and formed a six-petal flower by the letter "AE" and in the midst of that, we see the six words of "Muhammad" that are repeated between the word ali and are interlocked and adeptly the letter "m" in the center has formed a six-petal star. In fact, a lock is the repetition of some words that has used the combination of two different words as well (image 11).

Level

includes three groups.



Image 11. Shamseh on the two sides of the mehrab forehead

A) The lock of the construction materials on the surface: In this type, we see the lock of different construction materials in the level which are

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interlocked with a regular geometry such as bricks and tiles or bricks and plaster, etc.

Example: In this image, the word "allah" made of tile in the brick level, has been repeated with a certain geometry, and we see how the two different types of tiles and bricks are interlocked with a certain words and geometry in the whole level (Image 12).

B) Lock of the surface with geometry and word: This type of lock must be investigated on the surface and it has formed one or a few words on the whole surface that has locked within the whole surface.



Image 13

Example: In this image, the words "allah" and "Muhammad rasoul allah" and "al-hamdoellah" can be seen which are locked beside each other in a certain geometry and have locked the whole surface within by repetition. This lock is called the surface with geometry and word (Image 13).

C) The lock of the surface with negative space: This lock, by creation of a positive and negative space, locks the surface within.

Example: In the following figure, we see the brick wall that by creation of a negative space, in the

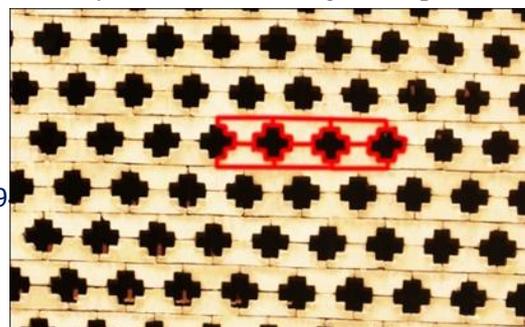


Image 14

form of the cross, has been locked on the surface beside the positive atmosphere in the level, by creation of a negative space (Image 14).

5. Conclusion

The interest in decoration and perfection-seeking nature of Iranians causes the Iranian craftsman to adorn his own hand-made product with types of designs, as long as possible and so that they are put together in such a way that they are inseparable from each other and the space and that place. Even the smallest visual element is not overlooked by him. In such a way that in Jami Mosque of Yazd, by strong and permanent construction materials in decorations, Jami Mosque of Yazd has created permanent locks by specific geometries and it is not possible to separate these locks, so much so that variety of designs and its accordance with place, apart from adding light of the environment, well prepares the spectator's eye for encounter with the colorful space of mehrab and lofty dome of the mosque.

In the locks applied in Jami Mosque of Yazd, the variety of designs is so much that rarely can repetitive designs be seen there. In fact, the craftsman has seen geometric and herbal designs within the framework of religious rituals and beliefs of the day and his aim is not only to satisfy the visual pleasure of the spectator; rather, his action is mingled with his belief and this insight has well managed to help the artist in creation of these designs, to such an extent that today also design, type of perspective of the craftsman toward the material, the locking of these designs together and its different types can help contemporary artists.

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