

A Study on the Graphical Dimensions of the Inscriptions and Decorations of the Akhangan Tomb Tower

Abstract

The tomb tower of Akhangan is one of the architectural marvels of the Timurid era in Khorasan, Iran. Since the architectural embellishments of the Akhangan tower have not been thoroughly examined in the literature, this paper investigates the tower with a historical, descriptive, and analytical perspective. The required information was gathered through library-documentary research and field observations, including monument photography. The historical context of the tower is analyzed and the visual aspects of its decorations are examined as a significant artwork from the Timurid era. This paper investigates the background of the Akhangan Tomb Tower and explores the visual and graphic dimensions of its inscriptions and motifs to determine its decorative designs and explain the visual features of its decorations. The findings reveal that the tower features brickwork, tilework, and plaster art, along with geometric, floral, and inscriptional patterns.

Keywords: *Tower, Akhangan, Khorasan, Decorations, Graphics*

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Introduction

Throughout Iran's history, different architectural and decorative styles have been present in each period. Khorasan, with its rich historical legacy, has emerged as a treasure trove of Iranian decorative masterpieces. The Timurid era is considered one of the most remarkable periods of Islamic civilization in Iranian art and architecture. During this time, architecture flourished with unparalleled grandeur and richness of embellishments. The exact date of its construction remains unknown due to the absence of a complete inscription. The Cultural Heritage Organization of Iran suggests that the building belongs to the Timurid period and may be associated with *Gohartaj Khatun*, the sister of *Goharshad Teymouri*. The Akhangan Tower boasts an octagonal design with eight half columns. The height of the tower to the top of the dome is seventeen meters and its main body is covered with bricks, among which beautiful jewels made of tiles with the designs of the *Shamseh*, *Shah Abbasi flower*, *Chalipa*, and polygons most of which have now collapsed. The interior decorations of the tower comprise inscriptions in the Thulth script and decorative elements on the tombstone. However, these embellishments have deteriorated over time, making it challenging to read. This building has a two-covered dome, the outer cover is pyramidal and decorated with azure and turquoise tiles in horizontal stripes.

Iran's vast land is home to numerous valuable and historical monuments that showcase the identity, culture, and art of the region. Khorasan has been a center of civilization and a hub for the promotion of Iranian culture and civilization for a long time. The tower of Akhangan tomb, located in the historical city of Toos, is one of Khorasan's historical and cultural attractions, dating back to the ninth century AH. This historical monument has not been accurately studied and limited resources are available. In all, the Timurid era is one of the

most significant historical periods of Islamic art, in which its structures are remarkable in terms of grandeur and decorative richness; inspired by the technique and style of its preceding era — the Seljuks.

The primary structure of the Akhangan Tower is constructed using bricks, adorned with stunning tilework in various patterns and designs to enhance its beauty. The interior features a plaster inscription in the Thulth script, surrounded by decorative elements on the tombstone. Prior to this research, the inscription and other decorations of the tower were not previously studied and no comprehensive study has been accomplished. Accordingly, this study was conducted to provide a rich visual source of the tower's designs while preserving valuable historical monuments. The goal is to strengthen the connection between traditional and modern arts, which will be reflected in various areas of modern art, including graphic design.

Literature review

To date, no comprehensive research has been conducted on the subject. However, a few articles have briefly acknowledged the tower's existence, but its ornamental significance has not been explored. One of the few sources that mentions this tower is the book "The Encyclopedia of Historical Monuments of the Islamic Period (Tomb Buildings)" (1997), which provides a brief account of the tower's presence in Khorasan and its decorative features. In another book, "A Look at the Towers: by Mohammad Arian (2003), it is believed that the Akhangan Tower is an astronomical tower, based on which in the past, the beginning of the new year was determined with no further explanation regarding its decorative elements. Furthermore, briefly mentions the decorations of this tower. However, no research paper has been solely dedicated to exploring the ornamentations of the tower. Therefore, this article aims to

document and consolidate its decorations in an effort to preserve this valuable heritage.

Tomb Towers (Mausoleums)

Towers are fortifications that are typically cylindrical or cubic in shape and are constructed at the corners and along the lengths of defensive walls in castles and ancient cities. They serve the purpose of defense and surveillance. However, in the context of tomb buildings, towers refer to single structures with cylindrical, cubic, or polygonal designs, sometimes featuring channels, and topped with a low semicircular or pyramidal dome. These towers have a rich history in Iranian Islamic architecture (Oghabi 1997).

The presence of tombs and their deep connection to Iranian Islamic culture has resulted in the construction of tombs in nearly every city and district since the advent of Islam. As Hillenbrand (2000) notes, tombs are an integral part of Iranian society and culture, and there is scarcely a rural area in the country that does not have at least one such structure. Moreover, Iran is home to hundreds of villages, each with its own revered shrines that are held in high esteem by the locals. These structures are likely associated with an unknown era and the identity of the person interred within, who is renowned among the people and whose significance is based solely on local lore (Kiani 2000, 58).

Tomb towers served two main purposes: primarily as symbolic burial places for significant individuals, and secondarily as guides to lead caravans and travelers to cities. These tomb buildings come in various forms, including square, circular or cylindrical, hexagonal, octagonal, ten and twelve-shaped structures, which typically feature a conical or domed roof on top. Domes are one of the most significant components of Islamic architecture as they are a result of deep and symbolic spiritual concepts. Domes are divided into two groups: *Nar* and *Rak* domes. In general, *Nar* domes are the most common type in Iran. *Nar* domes are spherical and onion-shaped, mainly covering the roof of most mosques in Iran and neighboring countries, including the Dome of Amir Teymour in Samarkand. The *Rak* dome is a pyramid or cone dome that is often placed on a cylindrical or prismatic base. The most famous of this type is the Qaboos dome in a city of the same name in Mazandaran, Iran. The tomb of Shams al-Ma'ali Qaboos ibn Vushmagir Al-Ziar is widely regarded as one of the finest examples of fourth-century AH architecture. The dome's design resembles a mountain, gradually rising in height until it reaches the sky.

Ninth-Century Architecture (The Timurids)

Before addressing the subject in this study, a brief explanation of the Timurid dynasty and the architectural features of this period is presented. The Timurid era, one of the most brilliant

periods of Islamic civilization began as architecture achieved unprecedented glory in terms of grandeur and stateliness specifically in regard to decoration. The Timurid Empire or Gurkhani Empire (911–771 AH / 1506–1370 AD) was a Turkic dynasty beholding an Iranian culture. Amir Timur, the founder of the Timurid dynasty, claimed to be a descendant of Genghis Khan and was born into the Turko-Mongol tribe of Barlas. Like the Mongols, he launched large-scale invasions and massacres, conquering Iran, southern Russia, northwestern India, Syria, Iraq, and Anatolia. He expanded his empire to include Central Asia, Khorasan, and all parts of Iran and the Ottoman Empire, as well as parts of India. During the Timurid period, Iranian architecture, which was based on the Seljuk form and structure in the eighth-century AH, flourished and became more magnificent. Timur constructed more buildings than any other Asian ruler during his reign (O'Kane 1987).

As mentioned, Iranian architecture, influenced by the Seljuk era in terms of form and structure in the eighth-century AH, became superior and more magnificent during the Timurid period. Most of the constructions of this period emphasized the verticality of the building, which was mostly due to the use of circular towers in the corners of the building. This type of decoration is one of the first distinctive signs of the architecture of the Timurid period. Additionally, the existence of the gold color in tiling, the predominance of azure color in tile decorations, and the tendency towards height are predominant during this period.

During this era, structures were built using various methods to create the illusion of greater height. This was achieved by placing the main arches of the main cover below the dome to make the roof appear taller, as well as by incorporating false arches that seamlessly connect the spaces. Timurid buildings are renowned for their stunning mosaic tiles and onion-shaped and channeled domes adorned with azure tiles, which distinguishes the architecture of this period from other historical eras. Likewise, similar to the grandeur of its architecture, the ornamentations of the Timurid era although influenced by prior epochs, reached its pinnacle in terms of richness of decorative motifs and elements. Large surfaces covered with turquoise and dark blue colors, often with mosaic glazed tiles, along with fragments of white inscriptions are distinctive of Timurid architectural art. Blue and white tiles were used for the designs inspired by the Kufic script; moreover, even surfaces, circular and angular columns, niches, Muqarnas designs, and the interior of the dome were covered with elaborate and deep arabesque mosaics. The motifs were repeated many times and most of the designs were placed inside multi-section or inscription frames. The turquoise domes in these buildings, which resemble lighthouses, were among the first examples of such decorations (Rasouli Etesam Matin, 2020).

Akhangan Tomb Tower

Akhangan Tower is one of the historical monuments of Mashhad in which the identity of the buried person remains unknown to this day. This building is located twenty-two kilometers north of Mashhad and eleven kilometers from *Tabaran* city of *Toos* to *Page* (birthplace of Ferdowsi) in Khorasan Razavi, a province in Northeastern Iran, in a village by the same name. The locals claim that their ancestors read the word *Ahangan* and *Qamar al-Malik* within the inscriptions of the structure (Oghabi 1997, 229). Currently, the building in question is located in an open place visible from all corners. This beautiful historical tower has been registered — as one of the national monuments of Iran — on the 20th of June 1952

History of The Akhangan Tower

The date of construction of the tower is not known due to the lack of valid historical documents, although archaeologists and researchers, considering the architectural style of the building, consider it to belong to the Timurid period. According to French researcher Andre Godard (2011), the tiles on the tower's body suggest that its construction can be attributed to the Timurid period. However, Lisa Golmbek and Donald Wilber (2011), two other historians, date it to the first half of the ninth century. On the other hand, Hillenbrand (2000) associates the tower's construction with the Ilkhanid era. Conversely, “one can find similarities in its construction with the structure of the Grand Mosque belonging to the ninth century AH and the Amir Chakhmaq mansion in Yazd, which was built in the early ninth century AH.” (Vatandoost Talebian 2011, 148). As mentioned, the identity of the buried person is indefinite; despite this, many assumptions have been made in regard to the identity of the tombstone. Such anticipations include the tomb of an Indian girl who passed away during the pilgrimage or others who claim it to be the tomb of *Gohartaj*, sister of *Goharshad* (*Shahrokh Teymouri's* wife). Despite their differences, all claims share the belief that the tomb belongs to a woman, as evidenced by the presence of feminine enamel flower motifs. The Andarkh War, which occurred in the year 385 AH in the Akhangan region, resulted in numerous casualties and involved over ten thousand individuals,

including Mahmoud Qaznavi and former Khorasan governors (Khorasan Cultural Heritage Organization). However, it is important to note that the veracity of these assertions has yet to be confirmed.

Akhangan Decorative Arrays

Akhangan Tower is seventeen meters high and is located on a circular platform with octagons. In addition to the circular shape, its exterior consumes eight half-columns decorated with a height of thirteen meters. In addition, it bears a conical and pyramidal dome on the top. Oghabi (1997) mentions that the tower previously had three entrance doors, however, nowadays only one south entrance is usable. Arian (2005) in the book “Another Look at the Towers”, according to his studies, states that due to the existence of holes in the body of Akhangan Tower, it beholds an astronomical feature (determination of the time of the year). The main body of the tower is covered in bricks in a layered format (horizontal *Ragchin*) decorated with fragments of tilework. The general application of tiles to decorate and strengthen the building began in the Seljuk period and peaked over the centuries, particularly during the Timurid and Safavid eras. The use of glazed bricks in Iran to decorate buildings beholds an ancient history, the oldest examples are glazed bricks of *Choghal Zanbil* in *Khuzestan* and brick artworks of the Achaemenes period. In the Islamic period, the use of azure and turquoise glazed tiles as jewels among the earthy color of the bricks become very popular. The Akhangan Tower's exterior decorations feature tile fragments with designs of Shah Abbasi, Chalipa, eight-sided Shamsch, and octagonal patterns in alternating ultramarine blue (azure) and rustic blue (turquoise) rhythms on the body. Unfortunately, over time, officials and locals have been merciless in destroying or stealing most of the tiles. As a result, the tower's body now resembles the texture of a honeycomb due to the lack of tiles. It is easy to imagine that when these tile decorations were intact, the tower would have shone like a jewel in the middle of the birch desert (see Figure 1). According to Oghabi (1997) The above-mentioned towers, such as *Radkan* Tower, *Aliabad Kashmar* Tower, *Kalat Naderi*, were not round but triangular.

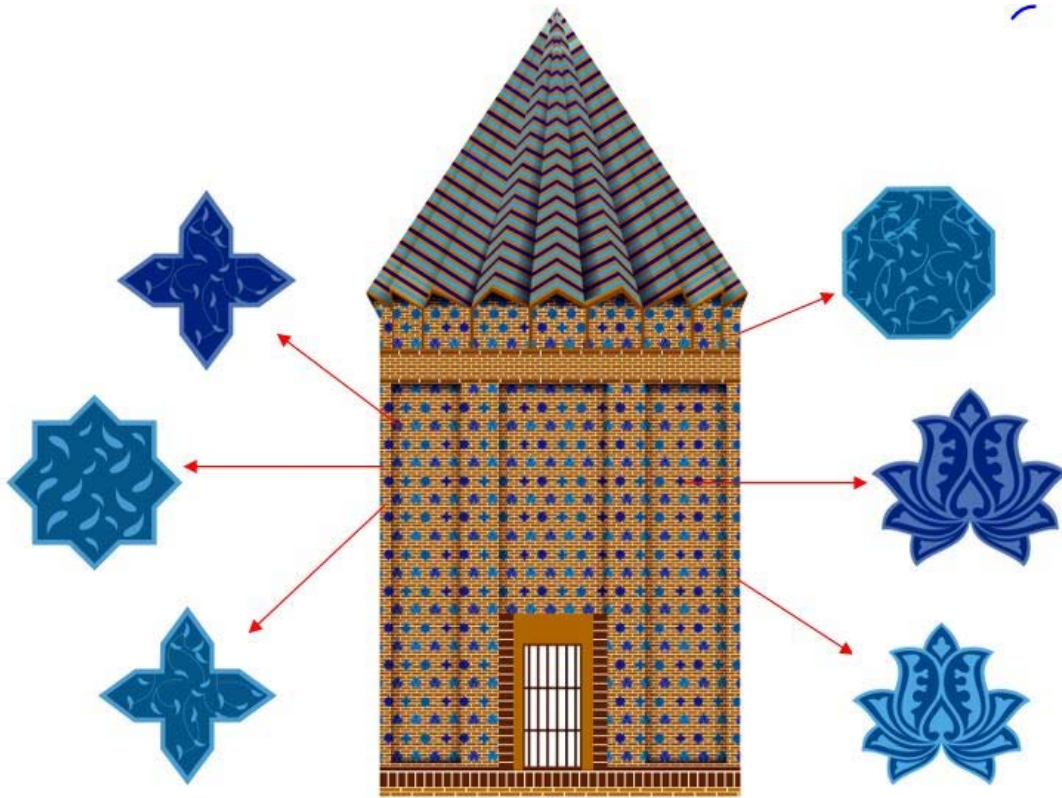


Figure 1: An overall re-construction of the Akhangan Tower, (source: authors)

Symbolic and Graphic Dimensions of Designs

As previously mentioned, the Akhangan Tower boasts rich and stunning decorations, with each motif carrying symbolic meanings in its shapes, patterns, and colors. For instance, the eight-pointed star made of eight identical elements or eight sides can symbolize the eight pillars of heaven carried by eight angels. Numbers can also be emblematic, such as motifs associated with the number six, including the six-pointed star, the six-pointed flower, and the six shells. It is likely that these motifs express the beliefs of the Shiites of the six Imams. Similarly, colors hold a special place in Iranian architecture. For example, blue, the most commonly used color in Iranian architecture, evokes a sense of tranquility and infinity, transporting the viewer's spirit to an imaginary world while emphasizing unboundedness and immortality. This is why blue and its various shades are often used in mosques and holy places. In the dry and desert climate of Khorasan, the presence

of color, particularly shades of blue, compensates for the lack of hue in the region.

Exterior Decorations of the Tower

***Shah Abbasi* or *Khatai* Flower Motifs**

The ultimate presence of the *Shah Abbasi* flower motif is during the Timurid and Safavid eras. The motif is influenced by the vine (grape), red rose, lotus, and pomegranate flower and their twisting ability created a series of meaningful forms in Islamic art namely known as Arabesque (Taghvaei; 2016, 133). The emergence of the motif of the *Shah Abbasi* flower dates back to the pre-Islamic periods as it is known as the pomegranate flower pattern or the leopard paw design and bestows a sacred status among ancient Iranians and Zoroastrians. In the Akhangan tower, this motif has an axis of symmetry and is repeated with two beautiful colors of azure and turquoise on all sides of the structure (Figure 2).

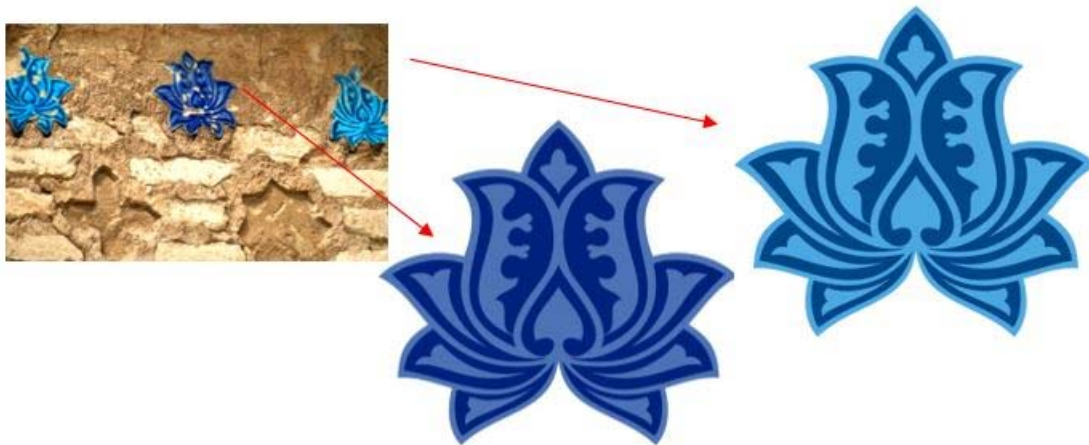


Figure 2: Re-construction of the Shah Abbasi flower motif; source: author

Eight-Sided *Shamseh*

Iranian art and architecture utilize geometric motifs to express visual principles of order, repetition, symmetry, and continuous reproduction (Taghvaei 2016, 133). These motifs are particularly significant in Islam, as they are closely associated with the concepts of Divinity, light, and heaven. The Akhangan Tower features several designs, including the Eight-Sided *Shamseh*, which is applied in a row with the *Chalipa* design. Unfortunately, these designs have been impaired over

time (see Figure 3). The *Shamseh* design is symbolic of the sun, with the nodes that emanate from it representing its rays of light. Symbolically, the number eight, or *Saad* (blessed and sanctified), has long been associated with heaven in Muslim belief. Muslims believe in the existence of seven hells and eight heavens, a concept reflected in the title of *Eight Heavens*, which is often seen in Persian literature. The division of gardens into four or eight sections, common in Muslim Iran and India, is also a reflection of this belief (Taghvaei 2016, 15).

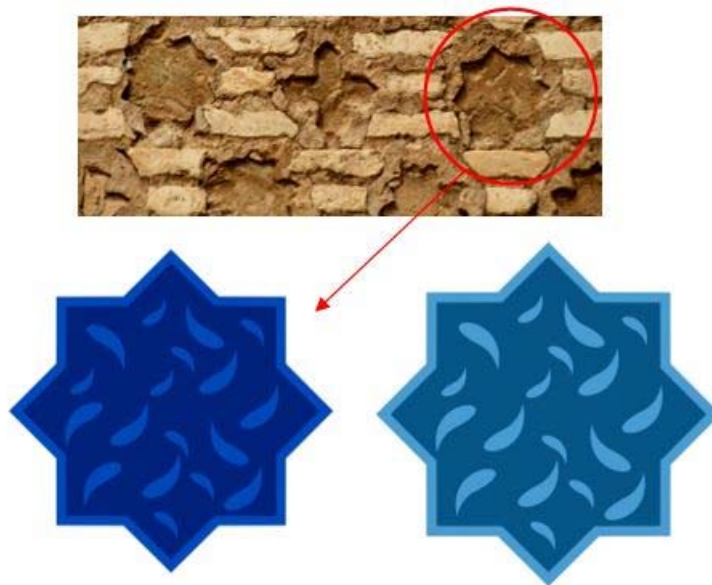


Figure 3: Re-construction of the *Shamseh* motif; source: author

***Chalipa* Motif**

This pattern is created by the collision of two equal lines with an angle of ninety degrees. *Chalipa* motifs have an exceptional place in the architectural decorations of the Islamic period. In the symbolism of Islam, this motif is a symbol of unity, the four main directions, angels overseeing the four seasons, the soul, and resurrection (mostly applied used in tombs). It is also one of the oldest ancient motifs that have existed in many ancient civilizations. In Iranian civilization, it is a symbol of the sun among the Aryan tribes, and the broken *Chalipa* motif is known as a symbol of good fortune and is called by other names such as the “cross” or the “*Gardune-e Mehr*”. After the advent of Islam, the *Chalipa*, representing religious features and sanctity, was bestowed an eloquent meaning and was used

in decorating buildings; furthermore, during the Seljuk period, this motif was mostly applied in embellishing tombs. According to Faizi et al (2017, 66), ancient people believed that after a person's death, their soul transformed into a bird that flew in the sky. This bird was represented in the shape of a cross, and for this reason, the Chalipa pattern is considered a representation of the human soul. During the Islamic period, tombs and mausoleums were adorned with the Chalipa pattern, as the cross was believed to be a symbol of the soul and a means of providing new life to the deceased. Therefore, the presence of the cross in the Akhangan Tower is likely related to this belief, as the pattern is repeated throughout the tower's body (see Figure 4).



Figure 4: Re-construction of the *Chalipa* motif; source: author

Octagon Shapes

The Akhangan Tower is missing these shapes entirely, and only the remaining outlines of the tiles suggest the presence of an octagonal shape. Symbolically, such shapes represent the eight heavens, which signify the immortality of life and balance. In the Quran, there is a verse that mentions eight

angels carrying the throne of God. The number eight has passed through the seven heavens, and as such, these two numbers are associated with heaven. Similarly, in Christianity, the concept of rebirth and baptism is similar. Therefore, the presence of such shapes on the tower's body may indicate the immortality of life (see Figure 5).

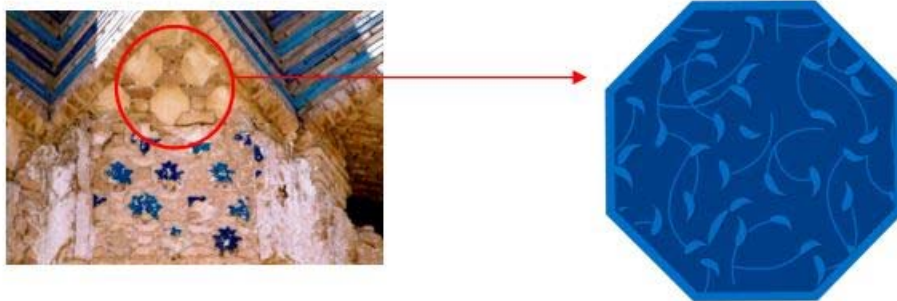


Figure 5: Re-construction of the octagonal shape; source: author

Inscription

Inscriptions are one of the beautification methods in Islamic architecture that attract the viewer to their implied messages among other ornamentations. Inscriptions have been used in

various forms throughout the history of Islamic art and architecture. They are often displayed on the inside and outside walls of mosques, around mihrabs, porches, domes, plinths, and minarets. Shahidani (2019) suggests that inscriptions in Islamic architecture not only serve as decorative elements but also carry music and rhythm, contributing to the overall symphonic ambiance of Islamic buildings. In Iran, inscriptions hold significant importance in terms of both image and content, with most scripts providing information about the building's history and the tomb's owner. Additionally, inscriptions may feature verses from the holy Qur'an, the blessed names of the Almighty, the names of the Imams, prayers and supplications, as well as Persian and Arabic poems. The inscription in the Akhangan tower in the Thulth script with herbal decorations is mostly damaged. Thulth is a script variety of [Islamic calligraphy](#). The straight angular forms of [Kufic](#) were replaced in the new script by curved and [oblique](#) lines. In Thuluth, one-third of each letter slopes, from which the name (meaning "a third" in Arabic) comes. An alternative theory to the meaning is that the smallest width of the letter is one-third of the widest part. It is an elegant, [cursive](#) script, used for decorations (Alani 2016).

The Thulth script bestows graphic attraction and its structure and movement capabilities in two vertical axes such as "Alef" which, by being placed firmly behind each other, create horizontal movements in the inscription and inverted horizontal movements such as "y", along with complex combinations has given a high ability to this script. The "Alef" letter with a movement from top to bottom indicates the descent of God's blessings and mercy from heaven to earth, thus the number "one" is a complete sign of His oneness and singleness. The presence of white plaster inside the building, along with the inscription, induces a calm and spiritual atmosphere. As mentioned earlier, significant parts of the inscriptions are worn out over time (Figure 6), especially the silver inscription on the tombstone has disappeared over time and cannot be read

A part of the remaining inscription on the interior of the tower reads:

The Greatest Justice, the world, the religion, Nasser al-Islam, and the Muslims The weak and the angels.¹

لَا إِلَهَ إِلَّا اللَّهُ وَاللَّهُ أَكْبَرُ
 مُحَمَّدٌ عَبْدُ اللَّهِ وَآلِهِ
 وَرَسُولُهُ
 وَاللَّهُ يَخْتَارُ
 وَبِاللَّهِ التَّوَكُّلُ
 وَبِاللَّهِ التَّوَكُّلُ
 وَبِاللَّهِ التَّوَكُّلُ



¹ للأمير الأعظم عدل و الدنيا و الدين ناصر الاسلام و
 المسلمين الضعفا و الملائكة¹

Figure 6: Re-construction of the remaining segment of the inscription of the tower; source: author


Tower	Location	History	Plan	Purposes	Identity of the tomb		
Akhangan	Khorasan Razavi (Mashhad, Toos)	9 th century AH		Tomb	Unknown (possibly, Gohar Khatun)		
Tower Body Shape	Dome Type	Ornamental Features					
Eight-sided	Rak or Pyramidal with lines	Geometrical	Herbal	Inscriptions			
		Shamseh, Chalipa, and multi-angle patterns	Shah Abbasi Flower	Quantity	Script	Type	Concept
				One wall inscription and one tomb inscription	Thulth	Plaster, lime, and stone	

Table 1: Overall classification of the Akhangan Tower

Conclusion

In conclusion, traditional works of art adhere to principles and criteria that combine approved elements to create beautiful and original pieces. The decorations found in Islamic architecture, ranging from mosques to tombs, showcase various motifs that demonstrate the creativity of Iranian artists through their principled composition and arrangement. The study of decorative arrays in Iranian architecture throughout different historical periods is a comprehensive discussion that requires the evaluation of all types of architecture. Khorasan, a region rich in historical architecture, boasts the Akhangan Tower, a treasure of art built during the Timurid period with valuable decorations. The tower's exterior façade features a combination of bricks and tiles, while the interior showcases a Thulth inscription, both utilizing the principle of repetition to create a coherent yet diverse combination. The artists of that period

possessed a high visual perception and ability, resulting in eye-catching compositions with order and harmony. It is hoped that this lesser-known aspect of Iranian-Islamic art, with its antiquity and richness of decorations, will captivate scholars in the field.

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Ethical Statement

Conflict of Interest

The author(s) declare(s) that there is no conflict of interest regarding the publication of this article.

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