

Evolution of Islamic Forms and Shapes of Islamic Architecture in Mosques in India

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Abstract

Islam is one of the religions which is rapidly growing throughout the world. Mosques play an important role in Islam and Muslim life. In several countries, mostly in the Western part mosques are seen whose building type is both unique and foreign to local people.

The mosque is one of the most visual expressions of Muslim identity in non-Muslim context. Many of the countries have a lot of variations in architecture styles of their Islamic buildings. Each mosque has its own individual attraction. The most important factors behind this variation in forms and styles can be divided into nature impacts as followed by manmade impacts by (Muslim Immigrants, colonialism, funding, and laws, culture and traditions).

The study aims to analyse the Islamic patterns and development of Islamic patterns in Islamic architecture especially in the famous mosques of India.

Keywords

Islamic architecture, patterns, geometry.

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I. Introduction

Islamic architecture is as centuries old category of architecture that is rooted in the principles of Islam. Islamic architecture refers to a style of architecture that was created as a physical manifestation of the principles of Islam by the Mohammedan in the 7th century. Islamic architecture encompasses both secular and religious buildings. It includes everything from large scale mosques to small scale domestic structures.

The mosques were mainly built to people to gather. They were used for praying and for communal functions, educational and other purposes. The word 'MOSQUE' is derived from Arabic word masjid which means 'place of prostration'.

II. Literature Review

Islamic Architecture is the popular and attractive type of architecture from ages. It is well known for its geometric patterns, which does not include figurative images because it is forbidden to create a representation of an important Islamic figure according to many holy scriptures. These patterns include various shapes, polygons, stars, jalis, etc.

This research paper is all about evolution of these geometric patterns right from early stage till today in mosques of India.

FIRST MOSQUES

The house of the Prophet which was built in 622, was prototype for early mosques. In early times, people used to gather in large courtyards for prayers. A flat roofed prayer hall led to a Sahn or, or an open courtyard having arcades on the sides were the main principal patterns of early courtyard mosques. A mihrab or niche in one wall indicated the direction of the Kaabah shrine, towards the direction, people should face for prayer. They included fountains in the centre of courtyard. Excluding the qibla wall, other three walls were cut into doorways or gates. It was 7th century when they started constructing tall towers on the mosques. They were initially watchtowers in which lighted towers were kept. Minaret derives from an Arabic word manara which means lighthouse, but as time passed, they are used to call out prayers.

ARAB STYLE MOSQUES

The mosques spread and developed in different countries like Syria followed by Spain and North Africa where mosques were built on rectangular plan. In this mosque, a large rectangular hall which was divided in rows and columns were used for prayers. It was called as Arab plan or hypostyle mosques. A hypostyle in architectural term is large building with flat roofed supported by rows and columns. This design was firstly used in 706-15 in the Umayyad Great Mosque of Damascus.

FOUR IWAN MOSQUES

In 11th century, a new form having four domed iwans(halls) was developed in Iran. One in each of the walls surrounding courtyard. As it forms ground plan in the form of cross, it was called 'four iwan' or cruciform design.

CENTRAL DOMED MOSQUES

The Ottomans developed vast monumental mosque with a central dome surrounded by semidomes in turkey. They were inspired by local religious architecture of the Byzantine Empire, and in particular by the magnificent Hagia Sofia in Constantinople.

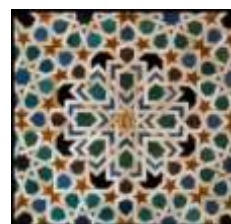
Babur the first Mughal emperor, invaded India from his central Asian homeland in 1526 and eventually established a great empire that lasted into 19th century. Descended from both Genghis Khan and Timur, the Mughals were one of four superpower states in western Asia at the time, all with Turco-Mongol roots, the others



being the Safavids, Uzbeks and Ottomans. Babur's son Humayun was a less effective ruler, and sought political asylum with the Safavid Shah Tahmasp for a time which proved very formative for Mughal court art as Humayun was much taken by the sophistication of Safavid painting. By the time he returned to India, Humayun had persuaded Persian artists to join his court, and their contributions in the royal atelier combined with Indian art traditions to great effect. The three greatest Mughal emperors were Akbar, Jahangir and Shah Jahan, who presided over a period of enormous wealth and power with great creativity and exuberance in art and architecture.

Umayyad Great Mosque of Damascus which has a hall of 160m long having a wooden roof supported with columns and a huge courtyard.

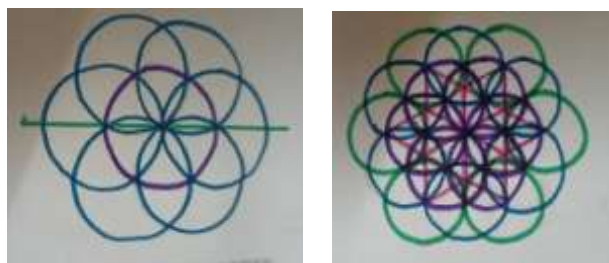
Islamic art mostly dodgessymbolic images to sidestep becoming objects of devotion. This aniconism in Islamic



philosophy caused artists to explore non-figural art, and created a general visualmoveon the way to mathematically-based embellishment.The Islamic geometric patterns derived from modest designs used in earlier cultures: Greek, Roman, and Sasanian. They are one of three forms of Islamic beautification, the others being the arabesque based on curving and branched plant forms, and Islamic inscription; all three are often used together.

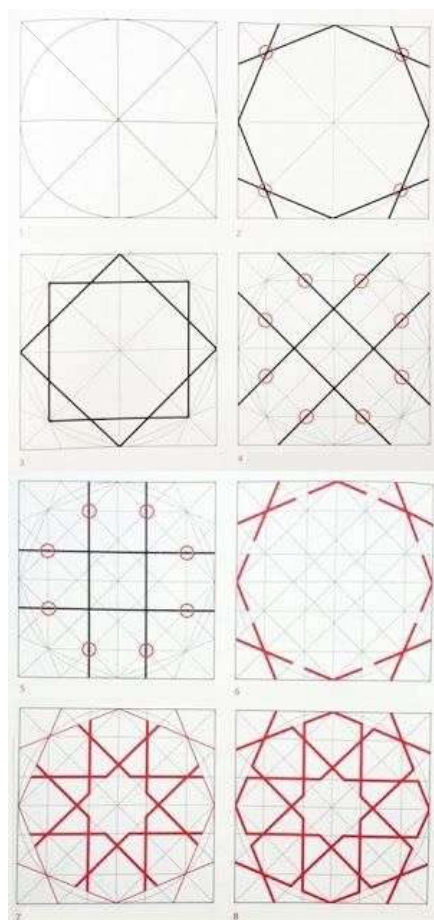
The geometric designs in Islamic art are frequentlyconstructed on combinations of repetitive squares and circles, which may be overlay and interlocked, as can arabesques (with which they are often combined), to form complicated and compound patterns, including a wide variety of tessellations. These may establish the entire decoration, may form anagenda for floral or calligraphic trappings, or may retreat into the background around other motifs. The intricacy and variety of patterns used grew from simple stars and pastilles in the ninth century, through a variety of 6- to 13-point patterns by the 13th century, and finally to embrace also 14- and 16-point stars in the sixteenth century. Geometric patterns befall in a variety of forms in Islamic art and architecture. These include kilim carpets, Persian girih and Moroccan zellij tilework, muqarnas decorative vaulting, jalicut stone screens, ceramics, leather, stained glass, woodwork, and metalwork.

Numerous Islamic designs are erected on squares and circles, typically repeated, overlay and interlaced to form intricate and composite patterns. A recurrent motif is the 8-pointed star, often seen in Islamic tilework; it is made of two squares, one rotated 45 degrees with respect to the other. The fourth elementary shape is the polygon, including pentagons and octagons. All of these can be joint and revised to form complicated patterns with a variety of proportions including reflections and rotations. Such patterns can be seen as mathematical tessellations, which can range open-endedly and thus suggest infinity. They are constructed on grid-irons that require only ruler and compass to draw. Artist and instructor Roman Verostko claims that such constructions are in effect algorithms, making Islamic geometric patterns indications of modern algorithmic art. The circle



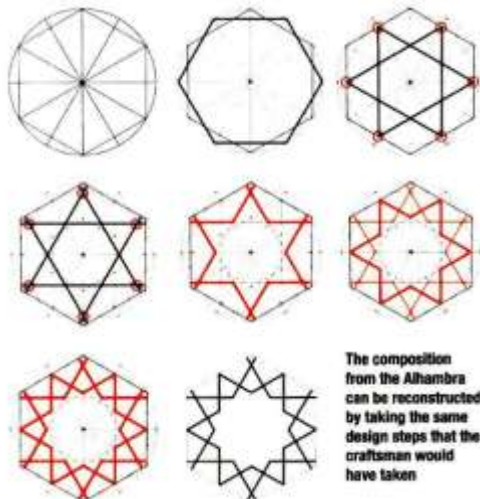
indicates unity and diversity in nature, and many Islamic patterns are drawn starting with a circle. As in the decoration of the 15th-century mosque in Yazd, Persia is based on a circle, divided into six-by-six circles drawn around it, all touching at its centre and each touching its two neighbours' centres to form a regular hexagon. On this basis is constructed a six-pointed star bounded by six smaller uneven hexagons to form a tessellating star pattern. This forms the basic design which is delineated in white on the wall of the mosque. That design, however, is overlaid

with an intersectant tracery in blue around tiles of other colours, forming an extravagant design that moderately covers the original and fundamental design.

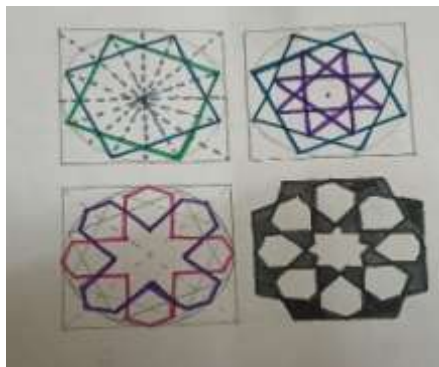


The earliest geometrical forms in Islamic art were infrequent inaccessible geometric shapes such as 8-pointed stars and pastilles containing squares. These date since 836 in the Great Mosque of Kairouan, Tunisia,

and later then have spread all across the Islamic world. The next expansion, marking the midphase of Islamic geometric pattern tradition, was of 6- and 8-point stars, which appear in 879 at the Ibn Tulun Mosque, Cairo, and then became widespread. The beginning of the late stage is obvious by the practice of simple 16-point patterns at the Hasan Sadaqah mausoleum in Cairo in 1321, and in the Alhambra in Spain in 1338–1390. The pattern (15th century) from Yazd in Iran is resultant from six regular divisions of the circle. From this a regular grid of triangles is recognized, on top of which the design is elaborated.



When you liken the art found in mosques to churches, you'll notice some crucial differences. Churches, for example, often showcase paintings, blemished glass art, and sculptures of spiritual figures such as Jesus, Mother Mary, and the saints. Mosques, however, do not contain figurative representations because Muslims trust that the creation of living things is exclusive to God, and they don't want to encourage idolatry.



The early geometric patterns in mosques comprised botanical and floral patterns. A breakthrough for geometric shape design in mosques is the 6-and 8-point geometric shapes. During midphase, artists encompassed a broader diversity of patterns and they commenced to use Girih tiles. Five girih tiles, a piece with decorative painted lines, placed next to each other create a spectacular gorgeous geometric shape.



In the late stage, these patterns were elevated to 12-point and 16-point patterns.

Mosques in India

1. Jama Masjid, Ahmedabad

Anace of Mughal architecture, the Jama Masjid situated in the ancient hub of New Delhi is the largest mosque in India. At once, it has the capacity to put up around 25,000 people! This magnificent monument was built during the sovereignty of Shah Jahan and took six years to be completed. The mosque is of superior implication as it holds several vibrant remnants from the Mughal era — which includes a copy of the Qur'an scripted on deerskin.



2. Taj-ul-Masjid, Bhopal

Taj-ul-Masjid decodes to 'Crown of Mosques' — and its polished domes and the beautiful towers confirm that the mosque lives up to its name. Specially made under the sway of Shah Jahan Begum in 1877 in Bhopal, the monument was not done till the 1980's. Surrounded by a massive courtyard, the mosque has three domes and

two minarets. It is also considered as one of the largest mosques in Asia and has some resemblances in its style to the Jama Masjid in New Delhi.

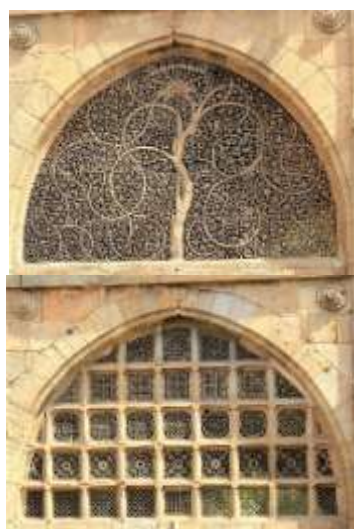
3. Sidi Saiyyed Mosque, Ahmedabad

The Sidi Saiyyed Mosque, widely known as Sidi Saiyyidni Jali locally, built in 1572-73 AD (Hijri year 980), is one of the most famed mosques of Ahmedabad, a city in the state of Gujarat, India. As confirmed by the marble tablet fixed on the wall of the mosque, it was constructed by Shaikh Sa'id Al-Habshi Sultani.

The mosque is totally arcuated and is recognized for its ten intricately engraved stone latticework windows (jalis) on the side and hindmost arches. The rear wall is occupied with square stone empaled panels



in geometrical designs. The two bays adjoining the central aisle have reticulated stone slabs carved in designs of entangled trees and shrubbery and a palm motif.



4. Jama Masjid of Tonk

Jama Masjid of Tonk is one of the largest mosques in India and delightfully portrays the great Mughal architectural style of the former era. Precisely frescoed inside and out with interlinking patterns, ferns and flowers, and twisting gold decoration.



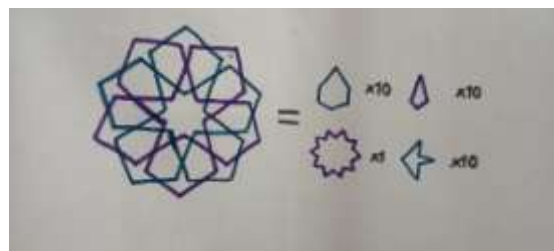
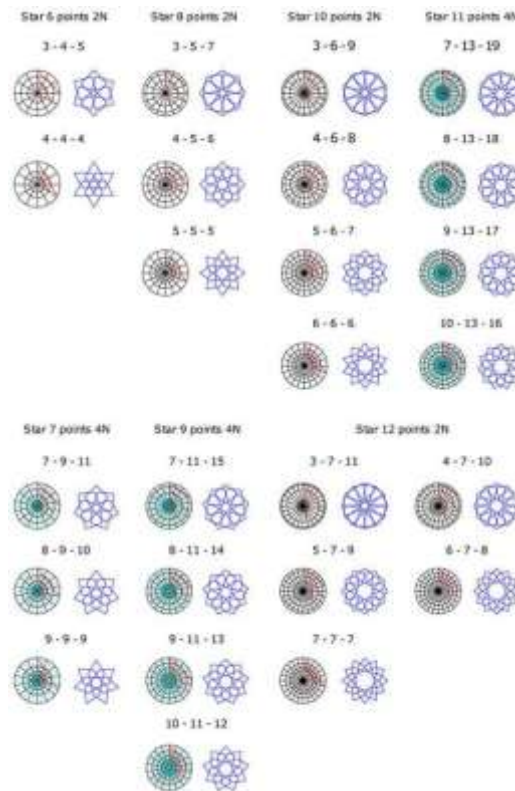


5. The JamaliKamali mosque

The JamaliKamali mosque, situated in an enclosed garden area, built first during the years 1528-29, has a southerly entry. It is constructed in red sandstone with marble accompaniments. It is appealed to be a indication in the design of Mughal Mosque architecture in India.

Findings

In the above examples of mosques in India, the geometric shapes comprised in the mosques from the start are star, circle and squares and polygons. The patterns were formed from number of points of stars like four pointed and 16 pointed stars. Basically, in Islamic architecture any figurative sculptures were not used. Instead of figural patterns they used vegetal and floral forms, which made Islamic patterns more elegant and beautiful. Girih are elaborated interlacing patterns formed from five standardize shapes as used in Persian Islamic Architecture. It includes cut brickwork, tilework. Jali are pierced stone screens with regularly repeating patterns which is the characteristic of Indo Islamic Architecture.





HEXAGON



6 POINT

8 POINT

10 POINT

STAR



OCTAGON

DECAGON



8-FOLD ROSSETTE

10-FOLD ROSSETTE

III. Conclusion

As studied from above information, this research outlined the evolution of Islamic geometrical patterns. The results display how regional influence during ruling reigns resolved the variety of Islamic stuffs and geometric forms. For instance, basic 6- and 8-point geometrical patterns, presented throughout the late 9th century era, are the furthermost prevalent Islamic ornaments. Sidewise their uniqueness, the simplicity in creation of these patterns drove architects to practice such jumbles in almost all building elements, from floor textures to minaret surfaces. The difficulty of the abstract and the intricacy of noncontractible geometrical patterns restricted their application to reachable elements (Qibla walls, window screens), mainly in India. Modest patterns were famous in the Indian subcontinent, which may be ascribed to the desire of Indian artisans for proportioned proposals and their resolve on casing all exterior sides with ornaments. Such exposure would be tough to accomplish when multifaceted patterns are used.

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