

THESIS FOR M.PHIL IN ART HISTORY, FINEARTS

Sunflower Motif at Bādshāhī Mosque, Lahore: Evolution, Development and Significance

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September, 2015



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Certificate of Approval

I certify that this thesis has been prepared at the Research Centre, University College of Art and Design, University of the Punjab, Allama Iqbal Campus, Lahore, under my supervision. *Sunflower Motif at Bādshāhī Mosque, Lahore: Evolution, Development and Significance* by the researcher Syed Farjood Ailya Rizvi is hereby approved for the partial fulfilment of the requirement of M.Phil degree in Art History.

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Declaration

This thesis is my original work, executed through the research carried out during the tenure of M.Phil, under the supervision of Prof. Dr. Shaukat Mahmood, Research Centre, College of Art & Design, University of the Punjab, Lahore.

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Abstract

This thesis is based on the use of sunflower motif at Bādshāhi Mosque, Lahore. Sunflower is used as a major feature in the important architectural areas of the mosque. The representation of this flower at the mosque is a prominent feature applied as decorative element. The character of sunflower has been analysed in categories of design, structure and materials. The thesis is an attempt to emphasise on historical connotations of sunflower for sacred places. It is an effort to explore the relation of sunflower ornamentation and its influences as character for decoration into further types. The character of sunflower decoration by keeping in view the form and function, surface and space and general principles are elaborated with photographs of flower found at the mosque. The historical development, eastern influences and colours are the critical areas. Its aesthetic values in comparison with historical context and the aesthetic criteria of the builder for the decoration is discussed.

Acknowledgement

In the name of Allah Most Gracious and Most Merciful, who teaches man what he knew not. The venture for knowledge never ends for those who seek honestly. I pay my gratitude to my teachers including Dr. Shahida Manzoor, Dr. Naseem Akhtar, Dr. Saif ur Rehman Dar, Dr. Kanwal Khalid for opening up my mind and sharpen my thinking skills to ponder over the subject of Art & Design.

My Supervisor Dr. Shaukat Mahmood takes the credit for guiding me throughout the thesis process from the beginning to end, checking all the shortcomings. His encouragement and appreciation during the thesis was the only hope to carry on without falling into any failure. This is true to my heart that my thesis would have never been completed without his guidance. I feel fortunate to be his student and have learned a lot from him. He is a legendary mentor.

I also pay my thanks to my late father Tanweer Murshad and my mother Faiza Tanweer who always encouraged me to progress. Last but not the least special thanks to my wife Laila Rizvi and my kids Adam Rizvi and Sarosh Rizvi for their love that was an emotional support throughout.

Syed Farjood Ailya Rizvi

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Transliteration

In recording multifarious details of many non-English words also encountered. The standardized method of transliteration is followed, so that the perfect pronunciation of the words, alien to English could also be made.

ا	a	ض	ḍ
ء	ʾ	ط	ṭ
ب	b	ظ	ẓ
ت	t	ع	ʿ
ث	<u>th</u>	غ	<u>gh</u>
ج	j	ف	f
ح	ḥ	ق	q
خ	<u>kh</u>	ك	k
د	d	ل	L
ذ	<u>dh</u>	م	m
ر	r	ن	n
ز	z	و	w
س	s	ه	h
ش	<u>sh</u>	ة	t
ص	ṣ	ي يے	y

Introduction

Mughal rule in the subcontinent is spanned over a period little over than three hundred years (1526-1857). Despite the fact that they built many architectural masterpieces, the aesthetics of designs and decorations was revolutionary in Indian subcontinent. There are amalgamations of mythical trends, which are applied through techniques and materials for ornamentations. A historian says about Mughals that they “built like Titans and finished like goldsmiths” (Moody).

Zahīr al-Dīn Muḥammad Bābar a Chughtā’i (Turkish Muslim) was the founder of the Mughal Empire in subcontinent in 1526. The word Mughal is derived from Mongol, the lineage of Tīmūr from Central Asia. It is said by most of the historians that Mughal constructions were influenced by Central Asia, Persia and Hindu aesthetics. All the foreign inspirations in general seems to be transformed into an indigenous subcontinent style of decorations at mosque.

Mughals built mosques to express their faith and governance in the subcontinent. The history of mosque starts with the mosque built at Madina. However the Bādshāhī Mosque of Mughal emperor Aurangzīb in Lahore is considered to be the height of the mosque architecture in the subcontinent. After Maryam Zamāni mosque (1614) built by Jahāngīr as congregational mosque and Wazīr Khān Mosque (1634), Bādshāhī Mosque was the climax of mosque construction in Indo-Pakistan subcontinent.

Although M. Abdullah Chaghtāi’s monograph on the mosque throws light on the historical context, however the decorative characteristics are not discussed in detail. Out of various ornamentation designs used in the mosque, sunflower (*Helianthus*) motif is focused in this document as a prominent feature of the mosque decoration.

Above all the exploration of sunflower in fresco inside the southern and northern flank arches of praying chamber are recorded as historical reference. The use of sunflower inside ceiling of each arch on southern flank seems to be according to the position of the sunset. This makes the research more inquisitive and thought-provoking that architects and artists were focusing the direction of sun. The types of floral designs in fresco inside the southern arches adjacent to the main arch represent life of the plants from birth to decay like

animation frames (figure 64-70). At the same time floral designs inside the northern arches of fronton, moving towards the fourteenth arch represents the bouquet themes emerging in both organic and manmade styles. The colours of the sunflowers inside the arches are not organic and most of the flowers are with yellow rays and blue discs. All the sunflowers in fresco are made with large discs and small rays. In the central arch of the praying chamber inside the ceiling, the sunflower in marble carving in low relief is amalgamated with sun shape. Moreover the red stone carving on top of the arches of prayer chamber and on the soffit of each arch on the southern and northern flanks are embellished with sunflowers as abstract symbol. Sunflower at the eastern entrance on the soffit of entrance arches of both front and back are the focal point for the visitor because of the contrast of low relief white marble inlay on red flat stone. On the soffit of the main arch of praying chamber, sunflowers as low relief stone carving are inlaid in marble.

All these indications make the ornamentation theme harmonious throughout the decoration plan in mosque. Sunflower is a famous mythical motif and carries a significant meaning through the ages. From the Dome of the Rock up to the Bādshāhī Mosque, Lahore, the evolution of the motif was focused and elaborated. Unfortunately very little is written by historians about the decorative elements of Bādshāhī Mosque. This research aims to trace the origin and symbolism of sunflower out of several ornamentation elements in this region and its transformation and application as a motif in Mughal decoration on the Bādshāhī Mosque.

The dating system is followed as BCE for BC and AD or CE is not used for Common Era. The chapter one is about the early mosque architecture in the subcontinent. Chapter two is about brief history of floral decoration, its origin of applications, and classifications of the mosques in subcontinent. Chapter three is about the history of sun and sunflower connotation and mythological stories related to this motif. Chapter four is based on the findings and particulars of the motif applied on the architecture of the mosque. All the chapters focus on the evolution and development of sunflower and significance as decorative motif on Bādshāhī Mosque.

For references MLA (seventh edition) is followed. The photographs are processed through digital image editing software Adobe Photoshop to get the maximum value. Libraries both digital and print media are utilised. The document is an effort to bring into

light fresco details inside the main chamber arches and to highlight sunflower as a significant feature applied in this mosque as decoration. It fills the gap and makes it a valuable resource for future research.

Literature Review

Perveen Hasan in her article *The Indian Subcontinent* published in the book titled *The Mosque* has discussed briefly about the development of mosque architecture in subcontinent. It is supportive for verifying the historical perception of mosque architecture. Regardless of its links the architectural developments to the native influences, it has no information about the sunflower motif as ornamentation and its significance for the mosques. This gap is filled by this thesis. The research work on this subject is a doorway for the education of art history.

Dalu Jones in *Architecture of the Islāmic World* written a principal analysis about the role of decoration. The segmentation of ornamentations has divided the wide range of decorative patterns into major categories. His research on floral patterns provides handy literary references which are documented in this thesis.

M. Abdullah Chaghtāi's *A History of Decorative Arts* an informative book regarding to the knowledge of the sequential development of ornaments in Indian subcontinent and influences of Islāmic culture relating with the Mughal decorative trends. The literature provides a general overview though no clues for flower motifs required for the thesis.

Owen Jones in *Grammar of Ornament* illustrates sunflower as character and allegories through examples of many ancient civilizations. The details and varieties creating a sequential references for sunflower motif as decorative pattern. These illustrations has helped in creating the historic development of sunflower motif.

Ghazala Misbah in her thesis *Floral Decoration in Mughal Buildings, Lahore* has written a helpful information in chapter two about sunflower. Moreover the chapter four describes the details of theme based flower decoration. It also states that flowers were a symbol of paradise to Mughals. The findings of sunflower on three Mughal mosques at Lahore is also mentioned. This document reinforce the observation of sunflower motif for the thesis.

Anna Malecka in her article *Solar Symbolism of the Mughal Thrones* provides details about the affiliations of various symbols with sun. It leads to clarify the role of sun symbol into different types and categories. Although it has no data for the sunflower and its relation with religious edifice.

M. Abdullah Chaghtāi's *The Bādshāhī Masjid* is a comprehensive book regarding history and architecture of the Bādshāhī Mosque, Lahore. It has rare reference about the sunflower as decorative motif and its significance to be used in writing about the details of the concerned thesis. It has no reference on the representation of sunflower types and its selection for Bādshāhī Mosque.

Chapter 1

History of Mosque in the Indian Subcontinent

The development of architectural features of the mosques in subcontinent is discussed briefly. The progress of the mosque architecture in subcontinent and ornamentation is focused in general. However the ornamentation and its origins emerged into indigenous mosque architecture of subcontinent steadily. It is important to understand the concepts behind the architectural aspects which flourished and reached to its perfection at Bādshāhī Mosque. Different regional styles are considered for investigation of architecture. This study would pave to recognise the architectural design and ornamentation in perspective with its inspiration and ideology in short. For this a book *The Mosque* is taken as reference for information which is also mentioned in citation at the end of the discussion.

Through the north western mountain the invaders arrived in India and joined the culturally and ethnically varied people of the subcontinent. The Muslim conquests started in the eighth century in subcontinent but a firm control was established in the eleventh century onwards. The areas of Muslim establishment in subcontinent were primary Lahore and in Delhi, and then it spread towards most of northern India. India had a rich artistic inheritance for more than two thousand years. In this huge region with the abundant diversity of land and weather shifting and the monsoon forests to waterless deserts, the highest mountain of the world the Himalayas already varied the methods and forms in architecture. Due to the existence of two great religions Hinduism and Buddhism, the land was not far from cultural or artistic *tabula rasa*¹. The character of India's temples was famous even outside its boundaries (Hasan, Asad and Arkoun 159).

The temples varied from district to district with a wide range of deities. This was in contrast to the Muslims who were against idolatry. Most of the temple buildings were made of stone with dark secret interiors with devotion focused on central monument. The womb like space acted as shell for the icons were prohibited for general people except the Brahmin priests who were allowed to perform the rites. The walls were the main area on which the native craftsmen outshined. The ornamentation of the temple was mostly sculptural than architectural. Frequently the walls and ceiling were so intensely covered with sculpture

resembling a lot with mountains or caves which were believed to be the natural territories of mysticism. The idea of space was opposite to the Muslim perception for the mosque as to be an open, functional, and large space to facilitate the congregational prayers. The term mosque is derived from the Arabic *masjid*², reference exactly (place of prostration) and the structure is labelled together as a house of devotion and as a sign of Islām (159).

The Muslim architects took advantage of antique ethnicities of the Indian masons regardless of the central dissimilarities. The Islāmic style took its source in India by emerging many syncretistic³ concepts. Its innovative architecture became wide-ranging. Before the Indo Islāmic style of building, the construction movement passed through three different stages in the subcontinent. The first stage was transient and ferocious as the Muslims were dedicated to eliminate temples. The second phase was to reuse the damaged sites to build mosques and mausoleums. The carved figures were sometimes disfigured. However hardly any struggle was made to hide the source of the building material. The third step originated after the Muslims had developed and proven to get settled. Throughout the period building material were arranged for specific structures and recovered material being used only infrequently (159).

The Muslim architecture of India may be distributed into three styles. Beginning from Delhi the royal style which is close to the twelfth century till the middle of the sixteenth century. At that point another distinguishing style of the Mughal emerged. Before Mughal in the fourteenth century the regional style of Punjab centred in Lahore and Multan dominated the architecture of Tughlaqs in Delhi (159).

The second phase was branded as district in which the buildings are more autonomous zones when governors had confirmed native freedom. Through the fifteenth century the independent kingdoms became powerful with their capitals as the centre of Muslim knowledge and philosophy. This was attained subsequently the downfall of Tughlaq dynasty after the Timūr's sack of Delhi in 1398. The provinces were partially with Delhi Sultanate, and moderately with the beginning of Mughal rule in 1526. The main foundation of the characteristic provincial style was both Imperial and regional language. It developed the influential factor later on. Accordingly a sophisticated style was established in the areas where aboriginal art ethnicities were strong and native crafts persons were extremely skilful.

Consequently regional or provincial styles of mosque architecture developed out of indigenous temple and native styles. These flairs were conditioned by land, weather and resources. Far along the huge modification among the mosques of Bengal and Kashmīr or Gujrāt. Hypostyle plan with walled courtyard was introduced from western Asia. It is generally associated with the introduction of Islām in different areas. In many cases it is clear in favour of structures more suitable to local environment and requirements. Some unusual events like experienced foreign craftsmen would come to a court, bringing with them a diverse architectural style might be accepted or rejected by the local ruler, (159-60).

The former and utmost established Indo-Islāmic architectural styles were on track at Delhi, Āgra and Fathpūr Sīkrī during the sixteenth century. It appeared one after another under the Mughal sponsorship. Altogether the mosques are focused on east-west direction, the *qibla* on the west side and main entrances are generally on the east (160).

The argument signifies places selected for the main provincial styles within the subcontinent. To the east in Bengal lies Gaur whereas Delhi stands at the centre. By the international boundary between India and Bangladesh, the medieval city is now divided by the international border between India and Bangladesh, besides towards the north of the cities of Srinagar and Lahore. Thatta to the west and Ahmadabad to the south Bijapur. So the important monuments are chosen as in lieu of a specific mosque kind or their local or other matchless qualities (160).

Here the discussion is pointing to the fact that Bādshāhī Mosque is built up according to the traditions developed in subcontinent. It appears that the local rulers influence the architecture design and ornamentation according to their own taste. However the development stages adopted many features which were based upon eclecticism.

The capital of India was listed by the Alexander Ptolemy who stayed in India during the second century, found it located between the Aravalli Hills and the River Jumna situated in the province of Uttar Pradesh. The ancient times of the city starts from about 3,000 years to the period of *Mahabharata*. Regrettably little is identified about the history of the city earlier to the Muslim takeover (163).

Quṭb al-Dīn Aibak, the slave of Muḥammad bin Sām of Ghūr in Afghanistan seized Delhi after Chauhāns in 1193. He started to build a mosque in Qila' Rai Pithora, recognized as Quwwat al-Islām (Might of Islām). It was constructed on a raised area of destroyed temple. Normally related with the overview of Islām into new areas. Utilizing the materials recovered, it was built from the remains of twenty seven Hindu and Jain temples. The fourth century an iron pillar of Vishnu temple was left in the courtyard. Even though the design of the Muslim architectural forms were new for the Hindu masons. They kept an eye on their own trabeated structural and decorative traditions. The quality of craftsmanship is obvious in the vegetal scrolls and lotus patterns, and in the implementation of the unfamiliar Qur'ānic calligraphy in *naskhi* on the separate screen of 1191. To highlight the direction of the *qibla*, the screen was set up in front of the western arcade assembled of red sandstone and prepared up of five corbelled arches. Alongside the gigantic minaret known as the Quṭb Minār to the south-east of the mosque was laid by Quṭb al-Dīn. The 238 ft. high minaret was erected for *m'udhḍhin* when sending the call to prayer and on the other hand as a triumph and mark of new religion in region (163).

After the death of Muḥammad Ghūrī in 1206, Quṭb al-Dīn crowned himself as the first Sultan of Hindustan, so mutually Lahore and Delhi functioned as military control centres. Due to the intensification of Delhi and the weakening of Lahore set in the rule of Iltutmish (r. 1211-36). He was Quṭb al-Dīn's son-in-law and heir who capitalized the powers of an Islāmic king by ambassadors of the Abbasid caliph. Momentarily Delhi developed into the greatest centre of Islāmic learning and culture in the east. With passing intermissions Delhi continued as centre of politics till 1857. Iltutmish enlarged Quṭb-al-Dīn's mosque equally on the north and south sides so that the minaret was merged into the southern court. The identical construction materials and methods were used for expansion of the building (163).

The third ruler of the Khalji family of Afghan Turks 'Ala' al-Dīn (r. 1296-1316) built the second city Siri. Though he died before his plan could be completed to double the size of the Quwwat al-Islām mosque. He also built the 'Alā'i Darwāza (1311), the colossal entry on the south side, which marks a landmark in the progress of Muslim architecture in India. The significant example of replications of numerous sorts of the 'Alā'i Darwāza, faced with red

sand stone, the Jamā' at Khāna Mosque (1325), located to the west of the tomb of Ḥaḍrat Nizām al-Dīn Awliya. It also has similar horse-shoe shaped arches with keystone, voussoir, and spearhead fringe, nook-shafts, depressed planes and extravagant calligraphic ornament (163).

In the early fourteenth century the Tughlaq rule is marked by means of great creativeness, variety and experimentation in architecture. The three succeeding capitals Tughlaqabād, Jahānpanāh and Firūzābād were made in this era. In the duration of the reign of Firūz Shāh (1351-88) four diverse types of mosque plans were established (164).

- 1- The standard hypostyle hall with courtyard
- 2- The two storied plinth mosque
- 3- The axial mosque
- 4- Simple prayer-halls

All the types are made of debris masonry and have plastered surfaces, improved walls and piers and low domes. The example of the typical hypostyle plan is the Begumpūr Friday Mosque in Jahanpanah, with its exceptional in that the four- *t̄'wan* an Iranian plan arises here for the first time in India. The Friday Mosque of Firūz Shāh in the castle of Firūzābād was having two-storied plinth mosque and the Khirki Mosque in Jahānpanāh is made up of the axial sort. A projecting domed gateway flanked by tapering engaged minarets. The axial, domed passages split the space into four quadrant, each surrounding a square court. By way of a prominent domed chamber the *miḥrāb* is visible on the exterior with tied up towers. An Exceptional feature in Sultanate architecture is comprehended through the flat roof (164).

In the mid of the fifteenth century the Afghan Lodhis took control of the region. Although the uneasiness of the rulers fighting with rebellions not permitted them to pledge any major architectural projects. The next 150 years the court exchanged between Agra and Delhi from 1504 as the capital was moved to Agra. The two mosques of Lodhi first the Bara Gunbad of 1494 in Garden and the Moth-ki Maṣjid of 1500 initiated a sequence, which was being followed by the Jamāli-Kamāli Mosque (1535) and concluding it in the Qila'-i Kuhna Mosque 1540 of Shīr Shāh, who took over the rule for twelve years from the Mughal emperor Humayūn. Thus Shīrgarh, was developed as the sixth city and the Purāna Qila' mosque was built. In the zone of alteration the mosque continued the tradition of the

simple prayer-hall, devising the features of later development in Mughal architecture. Likewise the five-bay plan, use of plaster and contrasting stones for surface decoration, special treatment of plaster and different stones for surface ornamentation, uncommon treatment of the central *pishṭaq*, merlons, the prominent *Chajja*, squinches and *muqarnas*. Without any additional support a precise rectangular frames appear with sophisticated four-centred arches, set in with spearhead fringe (164).

The Mughal inheritor from both, Genghis *Khān* and Timūr, named Bābar, captured Delhi in 1526 after defeating the Lodhi Sultān Ibrahim II. He was thoughtful of his new locations while his reign was too short and his son Humayūn besides troubled to some extent and caused few serious changes for the architectural section during their periods. The contribution made by Humayūn to the founding of the Mughal style was noteworthy for the reason that on his arrival from migrant in Persia. The fusion of Indian and Persian styles took place by the craftsmen who would be in charge. All this was best illustrated in the Emperor's tomb in 1556. Thus the most advanced form of the Indo-Islāmic style flourished from the mid-sixteenth to the eighteenth century during Mughal architectural period. The unification of empire was made by the third ruler of the Mughal dynasty called Akbar (1556-1605), he conquered Malwa, Gujarat, Bengal, *Khāndesh*, Kabul and Qandahar. The architecture was used as a representation of Muslim power over people as most of them were part of the different faith and values. His extensive invasions were emulated in the amalgamating elements from earlier Timūrid, Transoxanian⁴, Persian and Indian styles. The elasticity shown towards native appeal appeared and building circumstances in place of branding for each emperor. Mughal construction was exceptional from now on with an international quality which makes it easily familiar in any portion of the subcontinent (164-169).

During Akbar's sponsorship the architecture exceeded than that of Tughlaqs, however he did not patronise any distinguished mosques in Delhi. The child Akbar's wet-nurse Maham Anga constructed the *Khair al-Manāzil* (best of House) of 1561-2 facing the Purāna Qila', which carried the tradition of the Qila'-i Kuhna Mosque. On the other hand, there were innovations such as, the double-storey extensions encircling the courtyard and the salient *pishṭāq* on the east (169).

The Akbari style of Fatih-pur Sikri in the new centre had established in the Sultan's secular architecture and is illustrated in the palaces and related buildings of the town most exquisitely. The syncretism⁵ is notable for that it became the symbol of the age. The structures were accomplished in red sandstone, often with marble inlays, and trabeate building was used in juxtaposition with the arcuate. The multi-faceted pillars had bracket support and the domes chased the weighty Lodhi forms. The inner domes commonly had arch-netting in the shifting zone while the *Chatris* (kiosks) were used more abundantly. Luminously colour patterns were sometimes painted with Interior walls and ceilings. The regional schooled Gujarat's workmanship is basically obvious. The first among the great courtyard mosques is the Fatehpur Sikri's Friday Mosque (1568-78) of Mughal cities. The deep three domed, trabeate prayer-hall with central *pishtāq* is significant of the fifteenth-century Sultanate architecture of Jaunpur. A victory gate called the Buland Darwāza (1596) substituting one of the original entrances- featured an *ī'wan* of incomparable magnificence (169).

Before the classical era of *Shāhjahān* the reign of Jahāngīr (r. 1605-27) is measured to have been a phase of evolution. Often using a variety of materials, the surface of buildings became highly decorative, like separately from carved sandstone, involved white marble, stone intarsia, painted stucco and tile work. Stucco vaults and *muqarnas* were complexly vegetal and the earlier arch-netting achieved new involvedness (169).

The symmetry and consistency of shapes marked the classical phase of *Shāhjahān*'s reign (r. 1628-58), accomplished new aesthetic standards. The red sand stone replaced with the white marble and highly polished white stucco from Gujarat, the architectural jargon was condensed to a few preferred forms. The dome achieved a full bulbous form with restricted neck and the typical 'Shāhjahāni column' was multi-faceted and tapering, with multi-cusped. To embellish palaces and throne chambers the distinctive curved Bengali roof (*bangal*) with italic lines was used. Decorative network with plaster vaults followed widely, so did coved ceiling used to cover rectangular halls. The prevalent decorative motifs were naturalistic flowering plants, and the earlier stone intarsia patterns replaced the *pietra dura* inlay. With one or more balconies and capped by a *chatri*, the horizon was broken by multi minarets of tubular or octagonal plan (169).

The conventional appeal Shāhjahān's is exposed in his support of plentiful mosques. Two main types were customary. One is the Friday mosque with enormous *pishtāq* and multiple minarets. Second the smaller-scale mosques in which these forms were excluded. The Friday Mosque (1650-6) of Shāhjahānabād of the great city mosques is the most significant. The emperor had created the seventh city of Delhi which was founded as a new capital by the king. On the west side of the Red Fort, it is situated crossways the road, the region now recognized as Old Dehli and is one of the biggest specimens of the courtyard-style, four- *ī'wan* mosque in India. The interchanging with red sandstone remarkably faced with strips of white marble, with wide flights of stairways on three sides on the building plinth is raised. Three stories high with small attached minarets is the central entry. Framed by four-stage circular minarets each rise above by a *chatri* similar those of the smaller minarets adjoining the *pishtaq*, the seven-bay prayer-hall is self-regulating of walkways adjacent the courtyard on three sides. Leads the three-bay wings of the prayer-chamber the rectangular hall which, the bulbous domes, multiple minarets with *chatri* and the multi-cusped arches are distinctive sorts of the Shāhjahān period (169-70).

A well-known Moti Masjid (pearl mosque) in Agra Fort from 1646 to 1653 was constructed by Shāhjahān over a seven-year period. While the interior sorts patterned of white marble and exterior is tackled with red sandstone. It was also used for the *riwāq* around these sides of the courtyard with a large marble tank for ablutions in the centre. The prayer-hall's seven bays wide and three deep, is go beyond by three domes which is symmetrically placed over the second, fourth and sixth bays of the middle row. For its minimalism and pureness the mosque is well-known for both white marble and proportions. An inlaid caption in black marble records on the east side dates the construction and similarity of the mosque to an exquisite pearl. The Nagīna Masjid (Gem Mosque) in Agra Fort built by Shāhjahān is characterized by the small scale royal mosque planned for private use for the ladies of his court. The Moti Masjid (Pearl Mosque) of three domed white-marble building served as the model added to the Red Fort in Delhi in 1662 by Shāhjahān's son Aurangzīb. His architectural support was directed almost entirely towards religious and public works. The Delhi Moti Masjid is a three-aisle, two-bay mosque of refined white marble, with a curved *bangla* vault in the central bay. The hyperbole of forms is quite obvious in the bumpy domes

with confined necks. Enthusiasm of surface decoration in marble relief were individualities of constructions which at this point was well on the track to decline (170).

The ruins of the narrow and extended city runs from the north to south in the middle of the Ganges and Mahananda rivers. Heavy rains and regular floods had intense consequence for centuries on the lives of Bengalis and on their art besides architecture. Earlier in the twelfth century once Gaur became the capital of the Sena Dynasty of Bengal named Lakshmanavati after the King Lakshmansena. The city sustained the position as the capital after the Muslims seized parts of Bengal in the 13th century of thirteenth century. It was recognized to Muslim historians as Lakhnawati. Sultān Ghiyāth al-Dīn Tughlaq (1320-5) separated the government to empower control from Delhi. Since 1338 Bengal was reigned by consecutive families of autonomous sultāns. The first was Ilyas Shāhi who developed the capital to neighbouring Pandua. The capital was relocated rear to Gaur through Ilyas Shāhi rulers in the middle of the fifteenth century till the end of the sixteenth century. The Mughal Emperor Humayūn named it Janatabād or Abode of Paradise in the early sixteenth century. Its deterioration started after the capture of the city in 1539 by the Afghan Shīr Shāh Sūrī. Later Bengal was united into the Mughal Empire in the early seventeenth century. Rajmahal became the capital afterwards and the golden era of Gaur had ended. It was eventually unrestricted due to the change of the river movement. There are no remains of the early Muslim work. Mostly the monuments in the beginning had bore scripts. The buildings at Gaur exemplifies the mosque architecture. The adaptation of elements with slight alteration were established with typical local practise. All this was due to the generous approach of the Ilyās and Ḥusain Shāhi dynasties, who permitted local Muslim values for decoration (160-61).

The mosque architecture at Gaur was combined with adapted elements of native tradition. Since the early times brick had been the chief construction material in Bengal. Most of the stones was transported from Bihār some 150 miles to the west or reused from older buildings. The building were completely sheltered and made it indispensable due to the heavy rainy seasons. Large and rectangular mosques made with the plan or small and square. Enclosed courtyard are avoided and grassy court was laid. The entire Muslim period in Bengal, the only example is Adina mosque of Ḥaḍrat Pandua, which was constructed in 1375

by Sultān Sikandar Shāh with exception of courtyard plan. The single domed building with square exhibited on the bamboo huts practice. This was a general type used for mosques, gateways and tombs. The buildings fit in with local culture, which even in pre Islāmic culture lack of structure and monumental scale excluding the Buddhist monasteries. The Sultans had not signified the political power and grandeur of religion (161).

The mosques of Bengal suggest that Muslims focused on their ceremonial needs by building small useful mosques which were designed with the local building traditions. The several *mihrābs* in the *qibla* wall, single corresponding to each doorway. This evokes the settlement of a doorway similar to a niche for an image in a temple. The distinction between the plastered and plain surfaces of the later Sultanate constructions of the North India, features fancy brickwork and terracotta decoration. The Muslims had no use for stone images as it was replaced into an artistic decision made by the selection of exceptionally decorative mosques. The mosques of longer areas are situated in the north-west corner. The higher platform (*takht*) functioned both as enclosure for women worshipers and *maqṣura* for royal family. In comparison with the Sultanate buildings of this period having a noticeable local charm, the Mughal buildings are constructed within the magnificent practice. The Sultanate prototypes were similar and comprised a prayer-hall, but are single-aisled with the three or five bays. The Mughal buildings express less arduous because of their domes and the exterior of surfaces are plastered with panels, besides straight cornice (161).

The Shāh Ni‘mat Allah’s mosque on the south-western side of the tomb of the saint near the Chota Sona Mosque, is a distinctive Mughal mosque of the three-domed type. By lateral arches the interior is separated into three bays. The building dates back to the seventeenth century on the base of aesthetic similitudes with modern mosques in Rajmaḥal in India. The main feature is plastered exterior articulated with recessed arches, straight cornices with merlon decoration and high domes with lotus finials, all in noticeable differences to the former architecture of Gaur (163).

Srinagar meanings (beautiful city) is the centre of Kashmīr in the Indian province, situated on the Dal Lake and the river Jhelum. This was a crucial location in the pre-Muslim era as being there of remains of Hindu/Buddhist temples and stupas are still there. The Muslim rule began at the fourteenth century. Matchless wooden architecture of the region

started after the Muslim period of influence in the region until the time of Akbar. It continued for 200 years as Kashmīr was combined into the Mughal Empire. The obtainable stock of wood in this part of the Himalayan valleys used for building commonly home and royal architecture. The exercise extended even to areas like Gilgit, Hunza and Baltistān (170).

Though no wooden temple of the pre-Islāmic era exists, the Kashmīr temple style is present in the slanted and gabled roof of the stone built Shiva Temple at Pandrethan south-east of Srinagar. A structure perhaps dating from the ninth to tenth century is closely associated with the traditional Kashmīr temple style; forms illustrated in timber architecture. The previous surviving sample of wooden mosques dated from the fourteenth to fifteenth centuries. The form of tiered sloping roofs convey to notice that of temples and opinion to a corporate foundation. Their architectural forms are practically substitutable with the tombs of saints, locally known as *ziarats*. The overall form is cubic with a tiered pyramidal roof capped by a slim top. For the m'udhdhin to give the call to prayer in the mosques, a square of open pavilion is set at the base of the top. The method of building is uncommon as the builders trusted on gravity for the walls just as in the early stone temples. It is revealing the excessive source of building material. Typically cross-wise in the form of headers and stretchers, woods were placed in horizontal sequence, by way of as in brickwork. Pillars lifting the ceilings singular tree-trunk of deodar, a kind of cedar obtainable in the vicinity was used. Due to the in flammability of the material many mosques have gone through for numerous renovations in different phases. A distinctive sample of the wooden style is the Mosque of Shāh Hamadān, situated on the right bank of the River Jhelum. It was demolished by fire in 1479 and 1731 but originally built in 1395. Standing on the uneven masonry base of an ancient temple, the two-storied building of a square in plan has porch extensions with carved woodwork on the sides. For the heavy roof space of cornice the corbelled logs are used. The pyramidal roof of three tiers is collected of rafters on which boards are laid. Birch-bark is used to form a water proof layer under the top cover of grass. In 1619 the Emperor Jahangīr stayed Srinagar with his queen, Nūrbahān, was charmed by means of the roof gardens on gates, walls and houses, and mostly the roof of the main mosque with tulips blossoming in spring. It was praised by him in his Autobiographies (*Tuzuk*). The width of the formerly square hall has been concentrated by small chambers in the interior, on the north

and south sides. The pointy pillars are eight-sided, with foliated bases the ceiling and capitals is painted (170-71).

The Jāmi‘ Mosque built in 1385 by Sulṭān Sikandar Butshikan is in the centre of the city located underneath Hari Parbat. The mosque was enlarged by his son Zain al-‘Ābidīn in 1402 and afterwards demolished by fire and reconstructed more than on one occasion. The existing mosque dates from 1674, its plan being an adjustment of the Kaṣhmīri style to the custom surrounded courtyard kind after it was restored to the original design. A recessed doorway which leads into the inner courtyard comprises of the main entering on the south side. The exquisitely designed courtyard is fenced by arched *ī‘wan* (cloisters) roofed by two-tiered sloping roofs with clerestory, reinforced by a whole of 370 wooden pillars. A large structure with an entrance archway facing the courtyard in the middle of each side is overcame by a pyramidal roof pavilion (for *m‘udhdhin*), and an *flèche* point. This marks the central bay of the prayer-hall on the *qibla* side resembling the *ī‘wāns* of Persian mosques. Much of the interior, roofs and ceiling are made up of wood, though there is also a substantial amount of brickwork for the construction (171).

The distinguishing Mughal style which thrived all over northern India was introduced after Kaṣhmīr’s fascination into the Mughal Empire. Permitting to the architectural ideals of the Mughal nonetheless the use of stone for construction was re-energized, even so it was not in its early form. In the 1620s the Stone Mosque or *Pathar*, of local grey sandstone, is said to have been funded by Queen Nūrhān. It is a rectangular building collected of three transverse aisles parallel to the *qibla* wall, with completely natural by the native wooden practice. As the major projection on exterior consisting of each aisle having nine bays drew by arches supported by enormous cruciform (shaped like a cross) on piers. In the palace design of Shāhjahān in the capital such arched halls soon became popular (171).

Lahore has been the capital for centuries as situated on the right bank of the Ravi. It was recognized only for its fort although Maḥmūd of Ghazni occupied the city in the early eleventh century. In the late eleventh and the twelfth centuries it was developed eminent as the standard city of the Ghaznawīds. As a consequence Muslim possession of the city and because of the geographic position made it exposed to intruders approaching from the north-west, it was an important station nearly a century. Bābar the maker of Mughal dynasty in

1526, established first in the Punjab earlier setting out for Delhi. The region continued under Muslim rule up until the very end of the eighteenth century until the Sikh rule was confirmed. Very rare remains of buildings can be recognized as pre- Mughal, and these too have suffered maintenances and refurbishments at several times. In the middle of the Lahori and Shāh 'Ālami Gates the two *Nīwīn* or low mosque are situated. The other close to Yakki Gate, and the Qasabban Mosque near the Delhi Gate are all below the ground level of the adjacent zone. As suggestions of a pre- Mughal date the compact stonework structure and low domes have been indications. From the architectural point of view, Lahore remains a completely Mughal city. It is sarcastic that when typical provincial styles established everywhere during Sultanate rule, the individuality should be of previous remains in a city with a long history of Muslim rule (171).

Multan is additional significant olden city in Punjab as the early Muslim architecture of the later Mughal buildings of Lahore, point to that baked brick strengthened with wooden beams had been used in former times. Wood as an additional material was also used for brackets, doors, windows and overhanging balconies, despite the fact that painted plaster or glazed tiles were used as beautification. The provincial Lahore style or Mughal was deep-rooted in the cultural bond. The confirmation that a pre- Mughal architectural style was in the exclusive condition of a Provincial Mughal style co-existing, with an Imperial one had succeeded in the region with fine embed. However no corporal hint of it now rests (171).

Mariam al-Zamānī, mother of Emperor Shāhjahān built the early dated mosque commonly famous as Begum Shāhi Masjid in the Lahore style in 1611-14. It is an enormous construction in brick and plaster standing opposed to the Masjidi Gate of Lahore Fort. At the west end of a walled patio the prayer-hall has a single diagonal passageway comprising five bays, this was the procedure which was later used for main mosques of the city. In the piers of the front façade, its immensity is particularly obvious. The double dome the first sample in Lahore with its extravagant painted decoration in fresco has a connecting timber frame. The half-dome of the *pishtāq* and the inner central dome have grid decoration in stucco. A small pavilion with cupola each of the four corners of the prayer-hall (172).

A general heaviness is apparent in divergence to the sophisticated lines of up-to-date Royal Mughal architecture of Delhi and Agra. It carried for specimen by the piers and the

flatter contours of the domes. It appears by expending stone, marble and polished plaster was used to the emperor's constructions for the imported Imperial Mughal style. Rest members or the noble personal and representatives followed the native customs. Generally influenced to build in brick with usage of tiles and painting for beautification (172).

The Mosque of Wazīr Khān is the fine model of the later flair. It was erected by Ḥakīm 'Ilm al-Dīn Anṣārī within the enclosed city in 1634-5, he was a local of Chiniot and viceroy of Punjab with the title of Nawāb Wazīr Khān under Emperor Shāhjahān. After the conventional plan, it has a five-bay prayer-hall at the west end, and a rectangular courtyard bordered by *ī'wāns* with non-communicating chambers. The extended enclosure and added marketplace area at the east end are uncommon feature. The domes compliment the modern Mughal form, the four octagonal minarets, non-tapering and with prominent platforms, donating to the heavy presence located in the corners of the courtyard. The Chatris and oriel windows are characteristic of Mughal structures. Comprising gateways and minarets the complete exterior surface is distributed into rectangular panels mounted by bands of plain brick work, which are occupied with calligraphic and flower-patterned and geometric designs in glazed-tile mosaic, well-known as *Kashi* (undoubtedly denoting to Kashān in Persia, acknowledged for its faience⁶). Through means of shades of bright blue, green, orange and brown, there is hypothesis that the skill was introduced to Lahore from Thatta in the sixteenth century. The walls and ceilings are completely concealed with abundantly painted designs. Next to Lahore Fort the Bādshāhī Mosque (1673-74), constructed by Emperor Aurangzīb in the Royal Mughal style consuming red sandstone with marble, is the utmost extraordinary building of his rule. It also covers the biggest area of any mosque in the subcontinent in past. Elevations by a passage of steps, it is raised on a high platform and it follows the Friday Mosque of Shāhjahānabad in Delhi. However this mosque is on a massive scale. With a high central arch the entrance is two storied. A gigantic pointed minaret with prominent platform marks each corner of the courtyard. The octagonal towers with cubicles frame the prayer hall almost like a self-supporting erection. Raised up on cylindrical drums and restricted at the necks the three domes shielded with white marble. The comparison of exotic white marble with the red sandstone of the buildings and minarets used on the domes and cupolas and for inlaid ornamentation. The elegant relief ornament in painted plaster is made for the interior landscapes (172-74).

The name Thatta is derived from the Sindhi word meaning settlement on a river bank. The ancient city now in wrecks is situated in southern Sind about 96 km (60 miles) east of Karachi, in Pakistan. Though the city's major earliest times is hidden in enigmatic. This was a capital for number of sovereign Muslim reigns such as the Samma, Arghūn and Tarkhān rulers between fourteenth and sixteenth centuries ethnic centre. Through the rule of Akbar it was invaded into the Mughal Empire in 1593. In seventeenth century the Mughals allotted Tarkhān governors though the ruler sent from Delhi were not permissible to live in Thatta (174).

The stone and brick was continuously used as the architectural ruins directs towards this fact. The Old Mosque of Makli period from fourteenth century is the most ancient mosque considered in Thatta. Between Indian and Persian domains the traditional division shaped by River Indus. This is quite evident in the late architecture of Thatta and supported by the Arghūn and Tarkhān clans. The coming from Qandahār in Afghanistan was the Turkic origin and were in charge for hosting a new Tīmūrid flavour. During their occupation the memorials constructed were advanced in height and shape of the domes. The change to achieve height significantly due to the technique of modelling on high drums. This was mutual source to the Mughals buildings of this period and mainly the shape of domes and arches were similar. The Dābgīr Mosque built by Khusrau Khān Charkās in 1588 was built of brick on stone base. Between the entrances of arches have glazed tile ornamentation including a lively flowery design and schematic Chinese cloud subjects, evidently imitative from Tīmūrid templates (174-76).

The progression of Islāmic architecture of Gujarat is seen in the architecture of Ahmadabad. It signifies the second and third phases of the three separate aesthetic ages. Cambay, Dholka and Patan mosque are the first which symbolized by the built during the fourteenth century. The accustomed procedure of destruction of temples and recycle of numerous modules in building is observed in these mosques. Through early fifteenth century the second phase falsifying of a new stylishness is discovered at Aḥmad Shāhi monuments of Aḥmadabād. Eventual goal of the Gujarat style was attained as the third period during the second half of the century. The inspiration from the Muslim architecture of Delhi is found in the mosque architecture of Aḥmadabād. Gujarat probably had the major contribution of all

the native cradles. On the other hand the Mughal style in the capital developed its manifestation. The magnificent erections of Shāhjahān's time were all invented in Gujarat for instance the *20ail* screens, trabeat structures and bracket schemes of the period of Akbar and the white stucco (*chuna*) was used to provide a refined finish to imperial buildings (176-77).

In peninsular India between Bhima and Krishna rivers the city is in the core of the Deccan. 'Ala' al-Dīn Khalji first seized it from the Yadavas in 1294 and netted it to the Delhi Sultanate. Out of the remains of Bahmani Sultanate in the late fifteenth century, among one of the five free empires Bijāpūr agitated. The 'Ādil Shāhis and their family governed from 1490 to 1686 and were well-known as monarchs of Bijāpūr. It was created by Yūsuf 'Ādil Khān who was the earlier ruler of Bijāpūr. In the late sixteenth century owing to the endless tug of war between the Muslim and Hindu empires for Vijayanagar Kingdom in the south. The Marathas and Mughals fused the statuses of the attackers until Bijāpūr was captivated into the Mughal Empire by Aurangzīb in 1686 during the seventeenth century (177-78).

The rural area people continued Hindu religion. Art, literature and specifically architecture were abundantly supported by 'Ādil Shāhi Sultans. Over 300 mosques were manufactured as this is obvious from inscriptions describing about their rule. This indicates the greatest obligation to the expansion of ideas introduced openly from the Islāmic countries of western Asia. At the end of the seventeenth century, the Bijapur 'Ādil Shāhi style is matchless due to its uniformity, and there was no visible deterioration of building movement ended due to the collapse of the empire (178-79).

The Mughals were the originator of adapting and connecting art to the conversion of customs in subcontinent. Here the unification of Persian and Hindu architectural standards were applied in an innovative method. Borrowing of element like *Īwān*, pointed arches, cylindrical minaret, entablatures and liking of red sandstone are the significant architectural features. Although Jahāngīr gave a break through to the architectural style by replacing marble with sandstone and inlay of gems in place of sculpted motifs. The marble and semi-precious stones were extensively used during the reign of Shāhjahān the magnificent builder of Mughal period. Among many the standards the multifoiled arches and proportional ratios are practised thoroughly (Clevenot 47-50).

The prominent project of Mughal architecture was construction of Fathpūr Sīkrī to the west of Agra. The Red fort of Agra and mosque was erected by Akbar, Jahāngīr and Shāhjāhān in 1570. Later on the Greater mosque at Delhi was built by Shāhjāhān in 1650 (50).

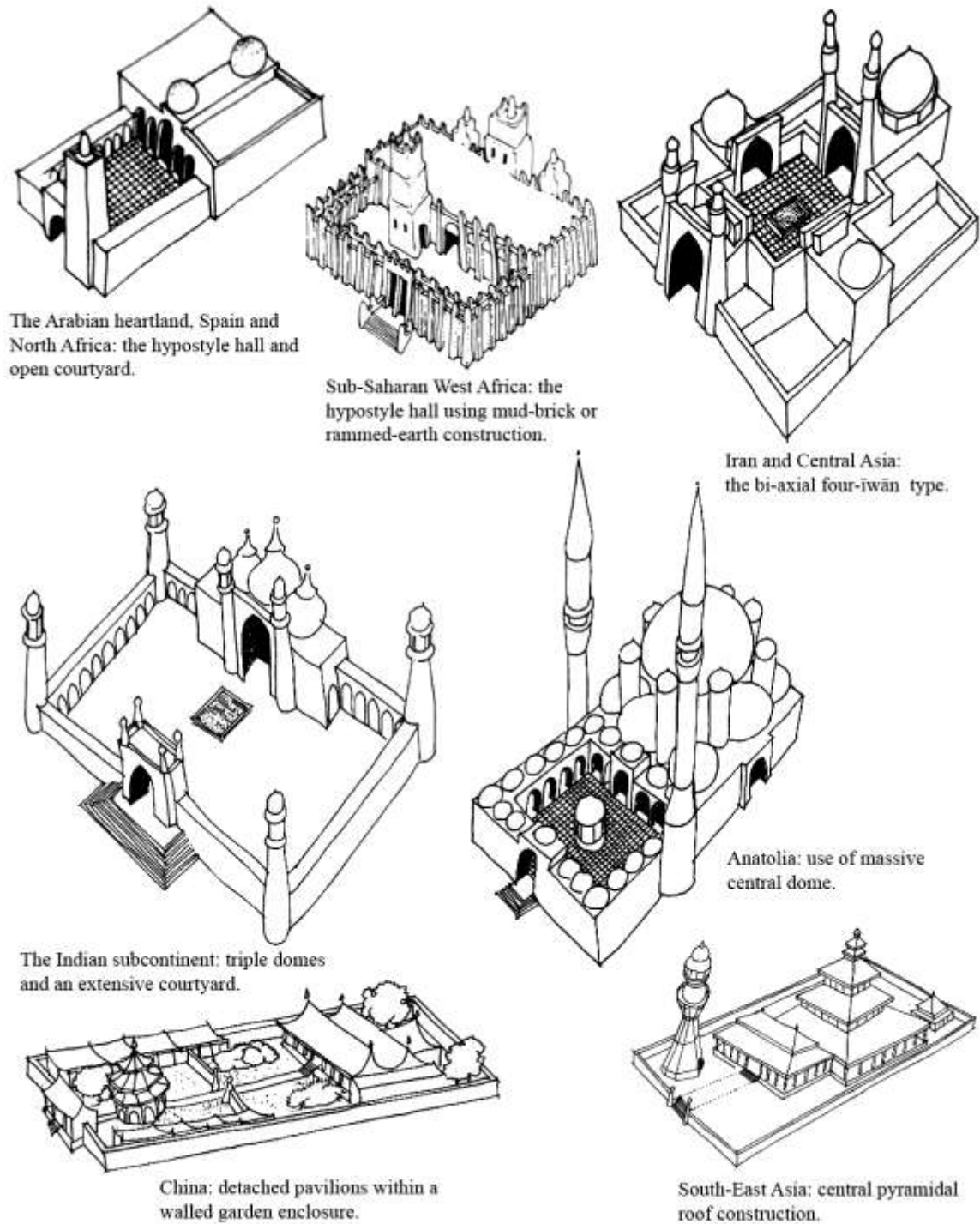


Fig. 1. The five basic categories of mosque design occur in seven distinctive regional styles. The sketches do not show specific mosques, nor are they drawn to scale

Source: *The Mosque* by Martin Frishman and Hasan-Uddin Khan, (Thames & Hudson Ltd: 2002; print; 13).

Notes

¹ Philosophy esp. in the philosophy of Locke the mind in its uninformed original state or anything existing undisturbed in its original pure state. Medieval Latin *tabula rāsa* : Latin *tabula*, tablet + Latin *rāsa*, feminine of *rāsus*, erased (<http://www.thefreedictionary.com>).

² earlier *moseak* (c.1400), also *mosquee* (16c.), probably in part from Middle French *mosquée*, from Italian *moschea*, earlier *moscheta*, from Spanish *mesquita* (modern *mezquita*), from Arabic *masjid* "temple, place of worship," from *sajada* "he worshipped" + prefix *ma-* denoting "place." Mangled in Middle English as *muskey*, *moseache*, etc (<http://www.thefreedictionary.com>).

³ Reconciliation or fusion of differing systems of belief, as in philosophy or religion, especially when success is partial or the result is heterogeneous.

⁴ Transoxiana (also spelled Transoxania), known in Arabic and Persian sources as *Mawarannahr* (Arabic: *الموراء*) is the ancient name used for the portion of Central Asia corresponding approximately with modern-day Uzbekistan, Tajikistan, southern Kyrgyzstan and southwest Kazakhstan.

⁵ Syncretism /'sɪŋkrətɪzəm/ is the combining of different, often seemingly contradictory beliefs, while melding practices of various schools of thought. Syncretism involves the merger and analogizing of several originally discrete traditions, especially in the theology and mythology of religion, thus asserting an underlying unity and allowing for an inclusive approach to other faiths (<http://www.thefreedictionary.com>).

⁶ Earthenware decorated with colourful opaque glazes.

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Chapter 2

Architectural Decoration and Floral Patterns in the Muslim World

This section is focusing on the general aspects of ornamentation types and floral patterns. Elements of decoration are conferred in detail to make a clear perception about ornamentation and floral patterns. As Islām travelled from Arab to rest of the world, different regions influenced the Islāmic architectural design and decorations. This produced eclecticism which developed into both abstract and natural styles. Thus this portion is composed for an overview about historical suggestions.

The role of decoration is cardinal to any investigation of Islāmic Art. It combines the architectural elements from all over the Islāmic world. Starting from thirteenth century the decoration has connected across a huge area from Spain to China and Indonesia. Both in architecture and in applied arts, Islāmic art for decorative subjects do not follow formula. However liberty of material, scale and technique is adopted for architectural decoration. There is never one kind of ornamentation for one type of building or object. There are ornamental principles which are appropriate to all types of Islāmic buildings and objects. Despite the variety of buildings and objects vary in quality of finishing of style, the forms and designs frequently reappear. The very character of Islāmic decoration indicates two dimensionality and three dimensionality. One purpose is to create illusions of divergent planes. Similarly the understanding of negative and positive contrasts is evident in the mirror arts, inlay, carved stone and tile work on an extensive scale. The fascination with textured surfaces explains the manifestation of stucco and tile work in places where substitute materials exist. The application of brick and stucco on Qarraḡan Tomb tower or the minaret of Ardestan in Iran exhibits the handling of three dimensionality in material. Also the examples of three dimensional stucco in Egypt (Fāṭimīd and later) and in North Africa and Spain. Abundantly foliated arabesques expanded into different design (Jones, Grube and Dickie 161-62).

The development of artistic techniques throughout Islāmic art is always geared to creating complicated surface decoration. This was achieved through the use of reflecting and shining materials and glazes, the repetition of designs, the deliberate contrasting of textures

and manipulation of planes. Islāmic art is believed to be tranquil and more logical as compared to emotions (162).

The statement about Islāmic art stated above means that a plan and conventions are followed before executing the artistic activities.

The concept of surface decoration in which patterns are restricted to well define areas. Though at the same time have infinite potentials of additions. The principle of duplication and constant variation of motives and designs are followed. The concept of decoration is elastic in nature, self-regulation of form, material and scale, works a restricted number of simple structures. In calligraphy, geometry, repetition and multiplication of floral and figural motifs. Islāmic architectural decoration as it produces patterns on surface to transform space (Jones, Grube and Dickie 162).

2.1 Classical Heritage

The story of decoration falls into three broad phases. All three may be found operating at the same time, in the same country, on the same building or even the same object. The classical heritage is the first phase consists of the early centuries of Islām under the Umayyad dynasty in the seventh and eight centuries. The methods and themes are stimulated by heritage of late classical world. The early Islāmic monuments such as Dome of the Rock in Jerusalem, the Great Mosque in Damascus or the palace Khīrbāt al-Mafjār in Jericho show in both plan and their decoration, how close was the art of early Islām to the Greek civilizations. Most of the work was continued by Syrio-Byzantine and Sasanian traditions. Beginning from Syria to Makkah walls and floor surfaces were decorated with mosaics. Which in subject matter and technique are elusive from that of Christian buildings (165).

The Umayyad of Spain excluded the Umayyad Syria's traditional forms of art. In western Islāmic world no alteration of trend followed like Saljūq and Ottoman architecture in Anatolia. Byzantium was different during this period. In Iranian art the sequential interchange of many media and Chinese inspiration in painting and minor arts of medieval Mashriq played a vital role. Islāmic ideas and motifs transformed certain aspects of medieval and even later art in Spain. The Christian influence has no related comparison on medieval

art of western Islām. The individual identity and advances a strong impact of traditions existed on visual arts. The earlier modes were followed for figures and animals. The pattern of western Islāmic art is identical in Cordoba became Umayyad capital in 756. The Syrian immigrants lived in Andalusia and carried their language, tribal rivalries and plants. The Cordoba mosque like the mosque in Damascus was erected on the Christian church. The mosque of Damascus was followed as role model in Maghrib. The Muslims of west adopted of the established lofty square minaret associated with Syria. The two tiered arcades and horseshoe shaped arches were applied on Cordoba mosque, following by the Damascus traditions. The Byzantium crafts-men were also brought in for mosaics in Damascus (Hillenbrand)

Till tenth century mosaics were used in Spain for the interior decoration of the Great Mosque of Cardoba. Mamlūks in Syria and Egypt between eleventh to fourteenth centuries moulded a decorative style progressively vanished in Islāmic art. The Umayyad palaces ornamentation seems to be uniting Christian architecture and decorative elements of Syria. The preference for general patterning, replication of elements, and intricacy is already clear in the stucco and stone decorations of the façades of the seventh century palaces of Qaṣr al-Hayral-Gharbī and Mshattā with their patterns enclosed in triangular, square or rectangular frames. At the same time the floral motifs mingle. This extensive blend between the diverse cultures of the classical world and the eastern Mediterranean, a composite of Graeco-Roman elements intermingled with more eastern inspirations. This shaped the foundation of Islāmic decoration (Jones, Grube and Dickie 165).

The stages of the progress of the Abbāsīd style in ninth century Samarra interrupts the development of classical motifs, the vine scroll into more abstract and solid arrangements. Strong contrast of light and shade are pursued from side to side deep bevelled carving. The introduction of moulds facilitated to produce stucco panelling with repetitive way to larger surfaces. This course of overall stucco treatment for interior and exterior surfaces toured far in the Islāmic world. In the thirteenth century a delicate change in stucco grew in Khurasān, although the collection of the motifs remained almost the same abstracted version of Classical designs including the vine and palmettes (165).

The classical stimulation discovers a new life in twelfth century under the Fātimids of North Africa and Egypt. Meanwhile Spain at the fall of its last Islāmic dynasty in fifteenth century conserved the decorative organizations. These were to create an architectural decoration in marble and stucco, which uses Classical elements such as acanthus leaf and palmettes (165-66).

2.2 Eastern Influences

The second phase is about the category of Islāmic ornamentation derived from the non-Hellenized elements of the Persian and Eastern. The contrast of plane and texture by using stone, brick and stucco in several mixtures techniques. It starts anxiously in Mesopotamia like indications found in Raqqa, Ukhaydir and Balis on the Euphrates. It fully accomplished its growth through Iran, Afghanistan and Turkestan. Astonishing decorative effects are attained by a subtle use of geometric brick and terracotta patterns fused with stucco or glazed tiles. The variation of these freely obtainable material shows how resourcefully brick in different layers and contrasting shapes was used. Similar effect was achieved in India Quwwat al-Islām Mosque complex at Delhi (twelfth century). It was made in carved sandstone. The decoration of gateways and *mihrāb* transformed into concrete or psychological space, as vibrant from the tenth century onwards. While the rest of the building is left plain. By the fourteenth century glazed tiles seem frequently used as it appeared in Samarra, although combined with bricks to cover large architectural surfaces (166).

The discussion above paragraph is to spot light about Islāmic domination of Muslim precepts in decoration themes. Muslims synthesize native design elements with imported features.

2.3 Emphasis on Colours

The third phase of Islāmic decoration was devoted for the importance of colours in contrast to texture. In the Western Islāmic world of Spain and North Africa tiles were used on lower parts of the wall in geometric design. Sharp contrast of dark and light colours are postured to produce star shaped and chequered patterns. In Spain and North Africa, tiles and stucco were combined with carved wooden elements in very serious geometrically and

symmetrically firm schemes, whereby the dados, Al-Ḥamrā' represent this type of blend (166)

The bent towards a largely covering of the full building decorated with ceramics, first with systematically gathered tiles inlay and later with individually patterned tiles climaxes of the Tīmūrid buildings of Iran, Afghanistan and Central Asia and Safavid. The decoration of Ottoman architecture stands somewhat apart from that of existing architecture in other parts of Islāmīc world. Mostly in stone, marble screens and carved stone panels with lavish interior covered with tiles. Colour scheme of blues and greens and deep tomato red is characteristic (167).

The Mughal buildings in India seldom had tile decorations but reflect the same principles of decoration as those in Iran. In India the effect is attained with more expensive materials like marble inlays with hard and semi-precious stones. The result is more moderate as that in Iran because the variety of colours is restricted. The general effect pursued is monochromatic with an importance on white marble or red sand stone backgrounds. The Tāj Maḥal appears glowing, in fact it has rich inlaid polychrome decoration inset in white marble. This form of decoration is a mixture between architecture and minor arts. The designs of contemporary carpets, bookbinding and miniature were perhaps invented by the same court artists. Stone is terrifically worked in India and countries like Turkey, Egypt and Syria, which all have the long established tradition of stone carving. Marble and stone carved in low relief, of great beauty are also found at all periods in Spain and Egypt. In Ottoman Empire, marble fountains and tombstones were elegantly carved with low-relief floral decoration (167).

2.4 Floral Patterns

The Islāmīc artist orld frequently saw nature loyally and replicated it with understanding to great precision. A flavour for naturalism was educated in the arts of three great late empires, the Ottoman, Safavid and best by the Mughal. In manuscripts flowers and trees were portrayed as vegetal patterns, or as motif for the decoration for textiles, objects and buildings. This taste matched with the similar contemporary trend in European art and architecture. In Mughal architectural decoration an inquiringly fusion type for floral design

emerged out of a combination of European vegetal drawings. It was similar to the late renaissance floral scrolls and acanthus leaves with local and Persian traditional florets. These designs were executed as exceptional sense. Monochrome panels of white marble, with rows of flowering plants skilfully carved out in low relief. In addition with delicately dyed polychrome inlays of precious and hard stones set in marble. It traced the outline of the similar design or that of more complex and abstract floral scrolls (170).

Nevertheless cautious and naturalistic reproduction of each plant in the sixteenth century and later took place in symmetrical and repetitive schemes. As isolating elements, it become a repeat pattern on Indian, Persian and Turkish textiles, ivories, manuscript borders and architectural decoration. This floral patterning is applied listlessly to large-scale on monumental decorative composition and on small objects. Ottoman mosques like that of Rüstem Pasha, is found on the tile revetments of the royal rooms at the Topkapi palace in Istanbul. It was arranged on glass hukka bowls in India or silk textiles in Iran. The stylish asymmetry of the floral range of China had already vanished when motifs such as that of the lotus were transported from China and Central Asia into an Islāmic basis after the Mongol raids of the thirteenth century. Likewise the spontaneously composed vine and scroll motifs of the classical world had changed by the beginning of Islām into the firmly narrowed, regular and symmetrical overall designs found in the stucco decoration of the Umayyads and ‘Abbāsids (170).

2.5 Elements of Decoration

The three types of Islāmic decorations as a standard were initiated in the Umayyad era (Wade). The Sunni revival in Baghdad gradually spread through the Islāmic world. It became associated with range of new artistic and architectural forms, which became an identifying and symbolic language. These stylistic expressions were embraced by the Ghaznawīds in Khurāsān, Seljuks in Iran, the Zangids in Northern Syria, and the Ayyubids in Egypt. The conventional style of Islāmic ornament which used distinctive inscription, geometric and abstract vegetal elements were formerly developed in this era. This Islāmic decorative list carries three major categories (Wade par. 12).

1- The Calligraphy

- 2- The Geometric
- 3- The Arabesque or Vegetal

2.6 The Calligraphy

The origins of calligraphy in detail is considered to elucidate the concept about using it as decoration in mosque. Calligraphy on Bādshāhī Mosque applied on both entrance to the mosque and entrance in the prayer chamber. In earlier monuments calligraphy was combined with floral motifs and at times written inside the flowers as decorative theme. So this brief discussion here is to dig out the connection of calligraphy as ornamentation theme.

The ornamentations in the form of calligraphy has wide range. The Great mosque at Sousse, Tunisia 850 CE is an absolute specimen of unornamented band of Qur'ān Arabic in Kufic script, covering the entire area of courtyard. The plain effect as in Eski Cami, Edirne in which the whole bay is covered with a single word *Allah*. Strikingly it looks contemporary in style and character. The Bibi Khanam Mosque in Samarqand is filled with calligraphy over brickwork and tiles on exterior and interior. The Ulu Cami at Bursa (1400) has a different kind of script on the inside of its walls. The Ottoman writing examples of 'aynālī (mirror image) a famous style in late phases. The thought to believe in God is provoked by Qur'ānic verses, which communicates with the audience. The Qur'ān inscriptions are designed for the recitation of the message for meditation. As a message from God the Qur'ānic writing has its individual value for the followers. The recital of verses is not bound to know the Arabic grammar. It is believed to a depiction of spiritual reality. The quotations from the Qur'ān is revealed in form of human speaking. Most of the writings are readable and designed to be decoded. The scripts of the holy verses are positioned at times on areas at height and distant to be communicative. Few calligraphies are planned like a puzzle for the common people to read because of Interlacing and complexity. The angular Kufic script were found on the early mosques as a primary Arabic lettering style developed by the Muslims (Thackston, Asad and Arkoun 44-45).

Abbasid innovated the rounds hands and principles of lettering proportions. It helped to the discovery of classic round scripts during tenth and eleventh centuries. *Thuluth* was more popular of all calligraphic types because of the quality to write precisely Qur'ān and

epigraphy for monuments. Though Kufic extended into more varieties and with the passage of time it was added with ornamentations and difficult to read. The Angular Kufic was merged with flora and knots into letters makes it less legible (45).

Muhaqqaq was rare for scriptures, however used for large-scale Qur'ān writings. *Tawqī* implemented on stucco words and sometimes on epigraphy for donors. *T'alīq* was employed for administrative documents. Afterwards *nast'alīq* doesn't seem appropriate for Qur'ān writings on mosque. Generally non Arabic and others than Qur'ān scripts were reserved for *nast'alīq*. As far as readability is concerned the *thuluth* type is considered like Masjid-i Shāh in Isfahān (46).

Kufic band legible due to high position of the letters however due to the tiny size not legible from ground level. The accent device wasn't developed much and it was difficult to read because of its diacritical apparatus. Kufic was used as compositional purpose to unite the upright ends of *thuluth*. This unification was used for Iranian mosque for ages. The application of text is varied for mosques nevertheless suitable for the placement where adjusted always. Text for any location conveys the programme of the constructor. The well-known Buland Darwāza at Fataḥ Pur Sikrī 1575 erected by Mughal king Akbar presents the plan for collection of Qur'ānic sections. As a memorial of a huge military victory it conveys Ṣuras carved in low relief in *thuluth* (46-47).

Generally inscriptions were not bound to be fixed on certain portions of the mosque. However *mihrāb* was the only exception because of carrying two verses from Qur'ān. These Ṣuras are significant due to the word *mihrāb* is used in the sentence. The second famous calligraphy for *mihrāb* is about offering prayers. This example exists in Bistam's congregational mosque, Iran 1302 (47).

The inscriptions based on *Hadith* were also used for calligraphic decoration in the mosques. These scripts were chosen for their message relating to mosque. The manuscript on stucco on the *mihrāb* of Urmiya, Iran 1277 (53).

Ṣura 36 (Ya Sin) is frequently used for tomb mosques. It was generally used for burials. Above all Tāj Maḥal is the delicate specimen where the Ṣura 36 is written across the four arches of the main structure (53).

All over the Islāmic regions calligraphy for the mosques were used as decoration. Both simple and complicated letterings were merged into floral and geometric designs. This was considered to be the most appropriate form of embellishment for the mosque. Due to the ornamentations calligraphy is compromised for legibility (53).

2.7 The Geometry

Architectural designs are fundamentally created through geometry. However the exploration of structural design is actually analysis of the geometric pattern. The application of geometry on architecture has numerous progresses. In west the architecture is expressed by partialities for basic shapes of square and circles (Asad, Hasan and Arkoun 55).

“Alberti, for example, recommended nine basic geometric shapes for the design of churches, six of which are derived from the circle, and the remaining of the three from the square. To Alberti good architecture depends on rational integration of proportions and the use of absolute geometry” (55).

In Islāmic theory, geometry was field of knowledge like mathematics, astronomy and music. During eighth and ninth centuries, the geometry and science flourished in Islāmic domain. It was due to the translated literature from the foreign languages of Greek and Sanskrit in Arabic. The Muslim contribution became known in the tenth century. The progress was achieved by the participation of Khayyām, Abu‘l Wafa al-Buzjāni, Abu Mansūr al- Khuārazmi and Ibn al-Haytham. The process of the transformation of the geometry on applied arts like architecture are not exact as in European Renaissance. In the western architecture upgraded from manual to mathematical arts. The geometricians and architects were in connection as mentioned in the Arabic word *handasa* means geometry and architecture-engineering (55).

The manuals written by al-Buzjani (d.998) and Ghiyāth al-Dīn Jamshīd al-Kāshī (d.1429) is about fundamentals of geometry and its use in architecture. It was proposed for the craftsmen, architect and building supervisors. The instructions for composing two dimensional decorative geometric patterns, outlines of domes and arches with the character of *muqarnas* vaulting scheme. The manuals were made to be used as technical and for simplification of mathematical principles as a substitute for exploration of symbolism (55).

Symbolism is used to depict infinity and nature of the creation of God to convey spirituality without figures.

Application of geometry in mosque architecture is varied. The approach of the application of geometry on architecture is adaptable. All the mosques can be unified by following a common theme. The square and circle was not applied as the centralized designs device in contrast with churches advised by Alberti. The main preference of mosque constructions are to provide worshipers a conducive space. For this irregular plans were followed in urban areas like Cairo Mosque of Sulṭān Ḥasan (1356-9). Above all the kā'ba in Makkah and Dome of the rock in Jerusalem 691. Kā'ba in cubic form and Dome off the Rock is an octagonal design made of two identical squares with a common centre. One square is rotated at 45° thus making double octagonal ambulatory encircled by columns and piers. Each specimen is unique for practical architecture. The common feature is that both buildings are made to offer prayer. At the same time none of them are the mosques though have unmatched metaphoric links. As pre-Islāmic architectural reference kā'ba restored in Islāmic period and remained in cubic shape. The Dome of the Rock constructed under Byzantine influence on Islāmic architecture. The centralized octagonal structures were mostly used for funereal buildings in traditions of Abbāsids, Timurids, Ottomans and Mughals (Asad, Hasan and Arkoun 56-57).

The exclusive implementation of geometry to achieve the three-dimensional or suitable character of the mosque is not only restricted to architectural plans. Conversely the other kind of geometric inventions is two dimensional surface patterns. This was focused by modern architects and artists like Owen Jones, Louis Sullivan, E.M. Escher and a German mathematician Edith Müller the writer of a monograph of decorative designs of the Al-Ḥamrā'. In modern days the two dimensional geometric patterns are affiliated to Islāmic designs as character. A very few have also used these patterns on floor plans. The decor of Islāmic architecture is featured with geometry as unique and that's is why it has become a subject. It is applied in different materials like mosaics, stone stucco, ceramics and wood. The objects are made with high skills of craftsmanship and expenditure for the accomplishment of the item. The two dimensional patterns in comparison with Renaissance the Western ethnicities, Islāmic designer employed the patterns to reduce the use of materials

for space. Thus, Islāmic monuments aesthetically weighty in look and enthused by two dimensional ornament design. The decoration as a feature added up to the architecture of mosque design dates back to its backgrounds. At Dome of the Rock the mosaic decoration on both the interior and exterior is the main feature of the monument. The Great Mosque of Damascus built by Umayyad dynasty is known for its large mosaic surfaces assembled ever. The ornamentation schemes in the early periods were vegetal, inspired by Mediterranean. Geometry as design was not used extensively in compositions. Later on geometrical design took over as major application during tenth century. The origins came through the city of Baghdād. As the first cultural centre of Islām, it flourished to the adjacent regions. The progression of Muslims in mathematics and geometry is parallel. The geometric ornamentations came to completion with the innovative aesthetic charms of Mughal, Safavid and Ottoman reigns in the sixteenth century. The reason was the realistic and open vegetal designs. The two dimensional geometric designs as ornament conveys abstract shapes, scripts and vegetal motifs based on principles of geometry. Relatively arabesque term is also based upon geometric rules. It is composed of rectilinear or circular grids. The most outstanding among is polygonal and star shapes derived by using grids. The application is flexible according to the compositional requirements. The multidimensional unit arrangement is found in arabesque. The connection between single bay of hypostyle mosque as a segment aiding the geometric unit. Unification of pattern and building in structure and construction was achieved. The presentation of the idea discussed above is executed at Great Mosque of Isfahan. The bricks were used primarily for construction and secondary for surface expression of the construction. In Turkey the Saljūq and Mamluk in Egypt, stone was used as building and for surface decoration. The first monument in Islām k'aba is covered with the textile cover the *kiswa*⁷. Likewise many monuments have different surface decoration styles. Dome of the Rock's mosaic was restored by ceramic tiles during Ottoman Şultān Sulimān II. The Safavid ruler Tahmasp I (1524-75) and Abbas II (1642-66) changed the letterings on the surface of the Great Mosque of Isfahan for political purpose (60-65).

The three dimensional architectural motifs such as domes were generated through geometry. The most striking development was the rib on Islāmic architecture of Spain and North Africa. It was also used as structural method to support a dome. Ribbing as decorative and operational purpose was applied on the Great Mosque of Cardoba built in tenth century.

The three squinch domes in front of *mihrāb* joins eight intersecting ribs thus making geometric eight pointed stars and polygons. The dome is further developed through experimentation in three dimensional transitions. Thus squinch and pendentive particularised by Muslims as Islāmic architectural practise. The dome placed on squinch converting the square into an octagon. However Sinan contributed into the transformation of the rectangle praying hall having dome on its top into a hexagon on the Mosque of Sokollu Mehmet Pasa at Istambul in 1572. In the late eleventh century the Great mosque of Isfahan having domes on its north and south carried the squinch separated into two horizontal rows. The lower level is separated through vertical triple composition of central arch flanked by two *muqarnas* (arch like) units. The higher level was made as a solo vault. This two rows arrangement is also famous as one over three. It ultimately progressed into multi-rows of *muqarnas* vault. The example is found in the *Madrasa* of al-Malik al- Ṣaliḥ Najam al-Dīn in Cairo (65)

The association of geometry with architecture in Islām is not accomplished as iconography is not signified of its construct. Assumptions are the only existing source including the Mughal gardens. The most significant are the Akbar's Tomb at Sikandra (1613) and the Tāj Maḥal in Agra (1632). The inscriptive information are the source for describing the use of water channels for the segmentation of the garden into four quadrants like a reference to the four rivers of paradise. The psychological impact of geometric motifs are associated with the background of mosque is debated as it creates favourable environment for worship and provokes meditation. The motifs catches the viewer's attention as creative art work. The Ottomans and Mughals followed geometric ideologies in mosque design (70).

2.8 The Arabesque

Arabesque is established across the wide series of modes from book illustration to plasterwork in ceramics, woodwork, metalwork and ivory-carving, even in carpets and textiles. The findings of interlacing and scroll types of vegetal designs can be traced back into Hellenistic art near East and far from T'ang China. The abstract plant shapes urged the Islāmic artist to advance into more complex schemes. Mostly this type is composed symmetrically all over the area of objects or domes. Sometimes it was also applied with bands and panels. Design is mostly based upon a theme starting with the centre of a branch. It splits the area with continuous identifiable abstract varieties of altered leaves and grapes.

The vine subject of classical periods is well-known. The whole design is relating in every direction due to the interlocking and overlying. Eventually addition in the track away from natural forms is perfect arabesque. The endless change keeping rhythm for movement is expressed through mutual replication with curvilinear lines. It creates a design scheme avoiding tension and keeping balance in check. The most significant visual quality of the arabesque comparing it with other accompanying decorative classifications is that it allows the lines to express space. The three dimensional impact is achieved smartly through differences of width, colour and texture. The whole design is enhanced with the background shapes creating additional aspect as of geometric patterns. The arabesque schemes are made up of basic geometric grid following mathematics and seems familiar with that of geometric designs. The explanation clarify about the certain types of arabesque called the geometric arabesque. The foliated designs are not the only one to be associated with arabesque schemes (Jones, Grube and Dickie 170-71).

The advancement of classical vine tendril arabesque to extreme abstract presentation started earlier in Islāmic period. The Umayyad palace of Mashāṭṭa in eight century presents the stone carving on the façade with repetition of triangles sections of curved vegetal scrolls. The design found here is depicting the complexity and symmetry in composition as compared with the Egypt, Syria and Sasanian Mesopotamia. The scrolls and acanthus leaves appeared in the mosaics on the spandrels of Dome of the Rock. The leaves transformed into more abstract schemes and extended from the main branch. Stems developed out of leaves and grow into new branch. This created an unlimited multiplication for visual. In the tenth century the ogee styles included with constant arabesque. The overlapping of branches was standard in stucco, marble and mosaic decoration in Cordoba mosque. In Spain and Egypt arabesque developed in eleventh century and extensively used on architecture. The standard arabesque of the period is used on the square panels on the façade of al- Hākīm in Cairo. The interlacing technique created by geometric principles. Arabesque reached India in thirteenth century and depicted through Quwwat al Islām mosque in Delhi. It presents the amalgamation of Hindu and Buddhist refinements. The lotus scroll is significant of all. During the fourteenth century the arabesque motifs flourished in to the eastern part of Islāmic regions comprising Iran and Central Asia more specifically. The application of arabesque was executed to the entire and extensive areas of memorials. The outer surface of domes and

facades panels were ornamented mostly. However in western side of Islāmic regions the magnifications of arabesque are not popular except the monochrome stone carving is known on domes built by Mamlūk in Cairo. Although the application is not comparable with scale and sophistication of tile work in east. The Chinese ornaments from pottery and textile were also hosted in the arabesque design schemes (171).

In Europe the term arabesque came to matching the multifaceted foliage schemes. During 1480 Vasari termed decorative style similar to arabesque as *alladamaschina* (an Italian word) from Damascus and Levant. It is also recognised as *`ala façon* (a French word) arabesque. It is extensively utilised in Europe by craftsmen and architects. In sixteenth century it motivated the outlandish designs and incited the mind of Italian artists, France and Northern Europe. In Leonardo da Vinci's anxiety for interlaced designs is depicted through his notebooks. It probably came through linear interlacing of metalwork developed in Venice. The term Moresque was coined for some complicated patterns inspired by the East. The word arabesque was used also by Dürer for the embellishment of vessel. Afterwards the term arabesque for unusual ornamentation in interior with the figures dressed in elegant eastern clothes. The easterner furniture and background in a way existed *Chinoiserie*⁸ of the period (171-72).

2.9 Development of Vegetal Motifs in Islāmic Art

Floral patterns and use of flowers as decorative motifs were used from the early period of Islāmic art. Ranging from single motif to extended pattern, it had been used differently at various times. These patterns were created by using a range of techniques, including repetitive, rotational and freehand designs (Jameel Gallery of Islamic Art).

As Islāmic empire stressed quickly from seventh century in region where earlier artistic traditions were recognized. Many of the craftsmen who worked on early Islāmic monuments were not Muslims, but worked under Islāmic rulers. They used semi-abstract motifs with which they were skillfully accustomed. Islāmic art inherited motifs and techniques from other artistic traditions inspired by plants and flowers. These include Byzantine from the eastern Mediterranean, (Coptic Egypt), Pre-Islāmic Sassanian (Iran)

empires and Roman art. The common motif is a vine scroll in both classical and Islāmic art. (Jameel Gallery of Islamic Art par. 1).

With the passage of time Islāmic art advanced its independent and distinguished style from that of earlier artistic traditions. The detail of surface decoration on objects and buildings became integrated. In addition to calligraphy, geometry the variety of design traditions was led by greater vegetation. Islāmic floral designs suggests that the artists had the great craving for the explorations of limitless design potentials of plant life. The stylization became more complex with the passage of time. This element of Islāmic art inspired Europe, the example is William Morris admired the Ardabil carpet in nineteenth century (Jameel Gallery of Islamic Art par. 2).

With the Mongol invasion in thirteenth century in Iran many motifs of lotus and peony flowers appeared in Islāmic art. In Ottoman period the plant-based designs were made both highly stylized and natural. In sixteenth century there was a fashion of more naturalistic images such as Tulip, rose and carnations (Jameel Gallery of Islamic Art par. 4).

In Ottoman period the plant-based designs were found on ceramic and textile with distinctive range and styles. In the beginning of fifteenth century Ottoman art was strongly inspired by design in Iran, using motifs of scrolling leaves and lotus and peony flowers with in impenetrable pattern system. Sixteenth century brought change of new manner of more natural images flowers such as tulip, carnations and roses (Jameel Gallery of Islamic Art par. 5).

In earliest art objects and masterpieces ornamented with floral designs appears to be carved in ivory carrying vegetal schemes. Their excellence endures in their styles in which the vegetal ornament of leaves and branches twisted so that its form appears to be moving inside. The ivories are greatly gifted with ornamental elements animated movement. It is stimulating to note the artist's aesthetic inspiration for discovering ornament plan on ivory (Al-Obaid 47).

In the late tenth century the development of botanical ornament appeared in extremely abstract pattern and a fully Islāmic style developed as the arabesque style. Arabesque development flourished from tenth to fifteenth centuries. It appeared in geometric

plans. The second feature of the arabesque pattern developed into abstract due to the Muslim designer's detection of repetitive ornament patterns to cover the surface with motifs. Besides these designs were interlocked or overlay to create more multidimensional effects to give the impression of the intricacy in a two-dimensional decorative surface. Over and done with application of the arabesque pattern in several shapes, material, aspects elevated from their choking weightiness, permitting the soul to take breaths and progress (48).

In eastern Islāmic regions the development of the arabesque is reflected to be major. The architectural decoration among the eleventh and twelfth centuries, Ghaznavīd rulers promoted this style to its top. Creating movement and depth the arabesque style is organized symmetrically (48).

The recognition of arabesque continued till the fourteenth century. Due to the Mongolian invasion new trade was set with china. By Chinese-enthused designs the arabesque was dominated by flowered motifs (50).

In Ottoman architecture natural floral ornamentation can be observed through ceramic art. It seems that the botanical ornaments exploited in Islāmic art and architecture to prettify both the holy and worldly buildings, experienced a range of variations and expansions. Floriated and plant ornaments were complicatedly designed using countless artistic approaches and can be found on various art objects (51).

“Other ornaments that convey well-being in this world or the next seem to be flowers. It has been suggested that since flowers are considered an essential element in any garden, they appear as the most ordinary visual expressions not only of the earthly, but also of the celestial Garden of Paradise” (88).

2.10 Introduction to Subcontinent Ornamentation

The subcontinent arts are related to many reasons. The beginning of these arts initiated during the mysterious periods, which are still closet for the historians. It is further discussed in the Hindu religious books known as Vedas. These books were made about two thousand years BCE and it is still in practice for religious characteristics and objectives. Buddhism flourished in subcontinent during sixth century BCE. Islām came in the eighth century. Overseas influences overcame due to the communication with the several foreign

countries. The trade with Egypt and Syria brought exchange of impressions in arts. According to historical point of view the Greeks had direct access to subcontinent. Despite these all influencing factors every new thought for creation left impression on Hindu arts. The findings of patterns on stone carving were found from the very ancient times. It can be seen on a vast and in an acute skilled manner. All these art forms are associated with the foreign inspirations of Greek and Persia and found in to a certain extent similarities. As both nations ruled and stayed in these regions, the existence of their arts here are not outlandish. The findings of decorative motives on weapons and wood and few other meticulous works are included, which carries the imported elements. By including the Hindu native cultural symbols of religion and believes, it is clearly distinguishable as native style. It is also discovered that artists of subcontinent used to accompany kings and narrate the daily life stories of the kings on the stone with decorative motives. Thus the artists were sponsored and encouraged. The most ancient and initial motives belongs to Buddhism. The king Ashoka promoted the preaching of Buddhism and built many pillars on which the principles of Buddhism were written. All these inscriptions were decorated with decorative motives. The remains of Buddhism at Sanchi the lotus flower is the chief feature. Though the lotus flower was expressed by worldwide artists of the ancient times. Like the finding of lotus flower impressions on wall and on stone in ancient Egypt's pharaoh's leftovers are famous. In subcontinent we see deities holding lotus flower in hands. These ancient art practices are transferred through generations from father to son in inheritance and that's how the tradition continues. This consecutive process of transferring art skills exists due to the law of caste system prevailing from fifteen hundred years. All these decorations and beautifications were due to religion. (Chaghtai 32-34)

2.11 Islamic influence on Subcontinent's Decoration style

Right from the beginning Muslims developed their strong hold on most of the native cities. In this early time period they established control over the idolatry and anti-Islamic environment. Because of Islamic laws, every profession of life was changed dramatically. Before the arrival of Islam the native people lived and clothed themselves quite differently. The social mechanism was discriminative and imbalanced. Muslims took off to an individual and diverse way of living and due to these new values they constructed their houses. Along

with the building and constructions they also served the native communities. These social changes inculcated new consciousness for the innate populaces. At those times many institutions were made to promote to train the individuals for further progress. The local population not only felt the social changes but adopted the Islamic way of living as well which was not here before. In these circumstances the local facilities and traditions were amalgamated. Many evidences were found from the history that among all the activities the Islamic decorative motifs developed into a new elegance. In this context period of Sultans, Khalji and Tughlaq were very significant. The Sultanates introduced independent provinces, which were devoted to the Islamic life styles more effectively. According to Islamic influences stimulated social equality and this feature got more stable, which brought a revolt in the subcontinent existing social values. By keeping this point in focus Tara Chand wrote a book titled *Influence of Islām on Indian Culture*. The study of the book explains how arts and daily life especially language and dresses were inspired by Islamic culture, which united the whole subcontinent. But all of these Islamic influences were better expressed in Mughal Islamic cultural establishments. (82-83)

2.12 Decoration during Mughal Period

Muslims held their footings comprehensively in subcontinent during twelfth century and continued ruling consecutively until first half of the nineteenth century. Due to the Muslim hold on this region, it created a particular Islamic style for living flourished. This influence inspired the non-Muslim communities as well. But the decorative style known as Muslim, established comprehensively during the reign of Mughal Empire. This style is different from rest of the Islamic countries but it gets more elegant and magnificent. The Mughal rule started from 1526 with the victory of the king Zahīr al-Dīn Bābar over subcontinent. The Mughal creed was inherited with their self-developed traditions from central Asian cultures. The origins of all the ethnicities were brought from Persia and Toran. Although at the arrival of Mughal the local arts and lifestyles were also influenced, which were conducive for the climate and environment. Further this is also generally known as subcontinent culture. So architecture, music, crafts, art, literature and many more additional arts, this Islamic culture prevailed quite obviously. The way of accommodation and fashion of clothes both are representation of religion and nation of any community in the world. This

is what differentiates human beings from region to region. Bābar's stay was too short to be benefited or inspired from the local culture. Quite often he criticizes the native people in his famous book *Tuzuk-i Bābarī*. His successor Humayūn fell into lots of troubles and due to this he had to live for long in Persia. Because of this he had not find enough opportunity to get inspired from the subcontinent Islamic culture. But the true expression and rise of Mughal's culture right from the beginning till end is discovered in art and architecture in the same era. The constructions and pictures of Mughal period are extremely firm as a living history. This includes all types of decorative and furnishings completely on the right place. In fact Mughal dresses without any discriminations seems common for both Hindu and Muslims (83-85).

2.13 Flower decoration during Mughal Period

Flowers that stimulate all senses by its beauty, fragrance and colours. The decorative devices for making floral patterns altered according to the demand of the time, region and religion revealing boundless creativities in artistic and technological context, Adapting flora as one of the widespread decorative devices (Misbah 45).

As Akbar mentioned in *Ā'in-i Akbarī* that the plants are the greatest gifts of the Creator. The initial record of floral ornamentation is establish in ancient caves. A pre dynastic seal impression from Uruk, Iraq stands with a mythical character on wall by putting eight petal flowers on the both halves in relief. A specimen of fifth century Gupta period in Mathura museum displays a female figure ornamented with floral headless and rosette-shaped earrings, like those carved in spandrel of arches or borders. In the history of artist's passion for decoration progressed to a level of complexity. The prince, princesses, rulers and deities are presented holding flowers. The Mughal attachment towards the beauty of nature could be seen in their architecture, pottery, miniature, memoirs, and painting (45).

“Singularity of, style, originality and superb drawing in Mughal art because of patronage of Mughal rulers to the artist, is no less vital than the sun to flower” (45)

In the memories of Babur, he frequently mentioned references of flowers. Jahangīr also appreciated artistic worth of flower and planted pleasing gardens, decorated with variation of flowers. Mughals depicted maximum types of vegetal domain. These types could be verified in wonderful colours and inventive categories. Many of the spring flowers

growing in India, Pakistan, Central Asia and Persia were planted by then, to decorate the interior and exterior of buildings. The decoration was done according to the convenience of space and appropriateness of architectural design. Categorizes of flowers are divided to their specific growing weather for winter and summer seasons. Monocots including Lotus, Lily, Tulip, Iris, Carnation and Narcissus are types of flowers growing in cold climate. The Dicots flowers growing excessively in Indo-Pak subcontinent include Sunflower, Zinnia, Dahlia, Jasmine, and Rose (45-46).

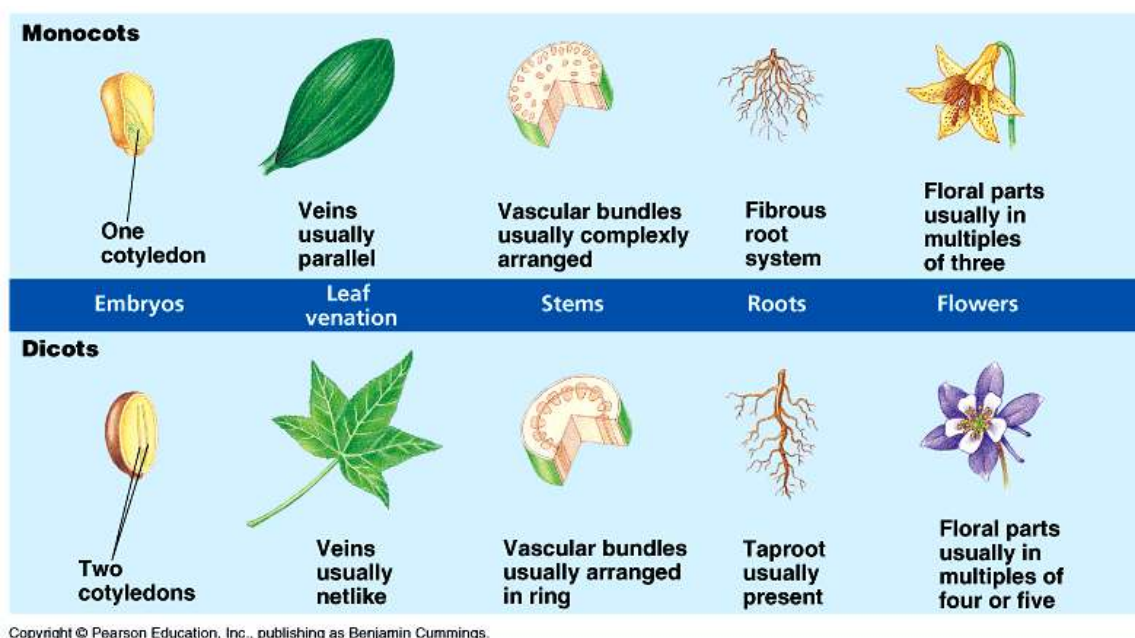


Fig. 2. Difference between Monocots and Dicots
 Source: <http://www.majordifferences.com/2013/10/difference-between-monocotyledonous.html#.VUSVVZORZ-I>

For reference about the difference between characteristic features like design and colours, the Monocots and Dicots is further elaborated with the diagram mentioned above.

2.14 Flora composed with other Subject matters

Mughal constructions reveal calligraphic decorations in the mosques and mausoleums in abundance. Wazir Khān Mosque Lahore is the best examples. The calligraphy is composed in *Nast'ālīq*, *Thulth* and *Naskh* pleasingly and ideally with flora from main gateway to the *mihrāb*. It had remained the emphasis of international calligraphists. Generally the Mughal building show *Nast'ālīq* style like in Delhi and Agra and reflected the

Iranian inspiration. The Emperor Humāyūn was known to bring expert calligraphists from the court of Shāh Tahmasp of Iran. As the most holy part of Islāmic decoration calligraphy emphasizes the portion of the building of which it is applied for. Flora is composed each in the background and fused with the calligraphy itself. To create variation foliated ornamentation is applied for effective preaching of the holy verses (155).

Calligraphy with background flora are rare in Mughal buildings nonetheless are abundantly detected in other Islāmic monuments. Large inscription panels on Wazīr Khān Mosque Lahore heightened the main gateway. Writing on white ground with cobalt blue is noticeable with minute flora sprinkled in the blank spaces and spandrels. The one piece composed of small sections framed with broad floral band. Respectively all segment holds a flowering plant also in an arched panel. The specimen of Persian inscription with floral background is also found at Fatehpūr Sikri (160-61).

The patterns create freshness and intimacy to paradise. It arouses a desire for penetration of concentration for thought. The finest specimen of lobed leaf (a leaf having deeply indented margins) evolving at the top in the soffit of arch, importantly in warm colours are traced in on Wazīr Khān Mosque. Repetitive four times in the prayer chamber. Another leaf surrounds the holy words in the spandrel of the arch. Additional in the spandrel of the arch leaf encircles the divine words in different colours as varieties found in the spandrels of main *mihrāb* are the simple roundels in Wazīr Khān Mosque, Muḥabat Khān and Sunihri Masjid, Lahore. The flowers are knotted in trailing plant of morning glory and other flowers in the advanced situation. The floral forms with calligraphy is adorned in the Muslim buildings but the Mughal monuments expressions are more schematic oversimplifications revealing creative tactic of the Mughals designers. Calligraphy adapted into flowered forms carried preaching and focus of thoughts relatively expressive to transfer meaning through highly advanced calligraphy. The features like fragrance, colours and shapes of flowers are combined with rhythmical curves of calligraphy. Alphabets are designed in circle focusing central six-petal flower and message of Allah. Composed of repeated holy word four times on an eight sided design is a combination of geometry, flora and calligraphy. *Ṣura Ikhlāṣ* inscribed in *Ṭughra* forming a six sided flower trapped in hexagon at the tomb of Zakariya Khān, Multan. The *Alif* of all the words are joint in the

middle to form a six-armed star. Like the polylobed of the floral disc are like petals, which appear in Wazīr Khān Mosque as polypetalous of full and half flowers. The centre of the dome ceiling top of half dome or soffit of arch encircled by Galūb karī (*Ghālīb Kārī*) pattern. The mosques of Iran and Turkey show the radial and vertical arrangements of letters to shape up flowers, the example of *miḥāb* Soluko Mehmat Pasha mosque, Istanbul. Mughal art lacked of such alterations however flowers are noted as stimulation from Central Asian, Iranian and Turkish monuments (164-65).

In Islāmic art the flora and geometry is presented with highly sophisticated manner in a unique method. The whole architecture is structured in an ordered pattern. For the organization of decoration schemes the two dimensional surface. Mughal monuments mixed geometric patterns of flora in various colours, thus creating an atmosphere resembling an organized garden. The blank spaces are planned to occupy with interlaced flora (166).

Hexagon, triangle and six-cornered star is further detected geometric shape in Mughal monuments. Such examples are frequent in Mariam Zamāni Mosque. The stars filled with tiny floral patterns seem in exclusive style in the spandrel of arch on the exterior of Wazīr Khān Mosque. The hexagonal star on the concave ceiling of the prayer chamber of the mosque is a phenomenal presentation with surrounding Galub karī pattern. The prayer chamber is decorated with a central large star with thin band of four petals flower and sepals. The six armed star made up of triangles in the large bath in Fatehpur Sikri is another example. The centre of stars are fenced with six-petal white flower. The Jami mosque Varzaneh at Iran in the mid ninth century is noticed for having hexagons and six-armed stars. In the Edrine mosque in Turkey dated thirteenth century carries the designs of narrowly packed six-armed stars. The projection of the geometric shapes with radiance of flora become more obvious and noticeable in dado and other parts of the building. The geometric shape of eight circles garnishes Mughal monument the most. It represents the eight paradises or degrees of heaven. After Khāna kā'ba other most important structures the Dome of the Rock is founded on octagon shaped by two identical squares having a mutual centre. In Great mosque of Cordova the design of the half dome ceiling is composed of huge eight-arm star developed by joint of arches encircling an eight-petal flower in the centre (168-70).

Mughal buildings the reappearance of octagon shaped different styles, which increased the variety of decoration. In the dado of main gateway of Wazīr Khān Mosque rows of eight-arm stars circle white 8-petal flowers. In Chauburji, Lahore each facet of the octagonal minaret is decorated with a gigantic brownish geometric flower. The row of octagonal red flowers having circular disc in the centre at Jahāngīr's Tomb stocks an eight-petal flower (170).

Notes

⁷ Kiswah (Arabic: *kiswat al-ka'bah*) is the cloth that covers the Kaaba in Mecca

⁸ A style in art reflecting Chinese influence through use of elaborate decoration and intricate patterns.

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Chapter 3

History of Sun and Sunflower Motifs

3.1 History of Sun and Sun-worship in Ancient Civilizations

This chapter is composed of details about sun and sunflower. The relation of sun with sunflower is also mentioned through references of myths and symbols. Different samples of sunflower motifs from various civilizations are documented. The botanical character of the sunflower is also analysed. Mughal fondness of using sun as ornamentation and its inspiration is also documented. The objective is to walk through the historical facts to make a concept related to sunflower as decorative motif at Bādshāhī Mosque, Lahore. Through this debate the question that how sunflower reached to subcontinent from America and the associations are reviewed.

The Historical aspects of our sun is still astonishing, enigmatic, influential, stunning, terrifying and yet mighty. These words are just not enough to explain the closest star nourishing our planet. Mankind throughout the ages has tried to resolve the mystery of fireball in the sky for most of the humans in olden times the sun was a sacred body of respect and sometimes horror. The ancient civilizations were well-read about seasonal changes in the sky. They also understood that the equinoxes⁹ destined a substitution to spring or fall would soon take place. Most of the civilizations possessed variety of mythologies about the sun whether it was a god or a super-natural energy that had to be appreciated. Some horrible conditions like the sacrifices were made of pigs, dogs, animals and humans too. The Mayan culture in Mexico focused on astronomical calendars that rigidly controlled behaviour and religious ceremony. The pyramid of Kukúlcan¹⁰ marks the two equinoxes where a snake appears to crawl down the temple. In the last few thousand years mankind has knowledge about eclipses of the sun dependent on the cue of the moon. When people were aware, those characters converted influential and developed shamans or early scientists. In Great Britain it is believed that Stonehenge is not mere aligned with solar and lunar astronomical events rather than used to predict other events such as eclipses. Stonehenge was astronomical calculator more than a temple (www.nasa.gov).

According to the modern science Sun is a big hot ball of hydrogen right in the centre of the Solar System and rest of the planets are revolving around it. On the other hand ancient people didn't know the same as their understanding was dependent on myths. The life progressed with the Sun in observance, the rising and the setting of the Sun make clear the sequence of everyday lifecycle for nearly all life. The primary mankind was reliant on the Sun for light and the moon was the only source to see in the night awaiting the discovery of fire. So as a significant object the Sun was considered for common people as god. Several civilizations worshiped and raised memorials to be pleased about it. Stonehenge in England, and the pyramids of Egypt were cast-off to spot the location of the Sun over the year. The Greek philosopher Anaxagoras was the first man who proved the exact measurement of the distance to the Sun and was threatened for this idea that the Sun wasn't a god. It was Nicolaus Copernicus who estimated a Sun-centred Solar System. The theory expanded through confirmation from Galileo and other early space scientists (Cain).

The religious beliefs of the Sumerian civilization were focused on sun worship. Though Sumerian's Sun god wasn't the major god, nevertheless it hosted the coming of Sun idolising. In Egypt Sun worship was typically complicated from with the Aztec, Maya and Inca civilizations of South America (www.solarschools.net).

During the rule of Ikhnaton the later Egyptian religion, Aton the sun-god developed dominance as the only monotheistic period in Egypt. Sun worship was also very essential in Mesopotamia where sun god Shamash was the chief deity associated with justice. Greece followed two sun deities, Apollo and the Helios. Zoroastrianism, Mitharism¹¹, Roman religion, Hinduism and Buddhism also came under the inspiration of the sun in spiritual believes (www.infoplease.com).

In the vedas of ancient India Surya is glorified as an all-seeing god who witnessed both good and evil activities. Through Indian mythology the Sun heroes and sun kings had employed as a dominant theme. Vivasvant the father of Yama resembles to the Iranian Vivahvant¹² the father of Yima. The reign of sun kings was peaceful as compare to the hostile moon kings. Iran had the ritual to celebrate the sun carnivals before Islamic era. The Indo-European sun worship is seen in the beginning of solar deity drawn on his carriage. Generally with four white horses repeated in Indo-Iranian, Greco-Roman and Scandinavian

mythology. The Roman periods in history led to solar monotheism. All the deities of the period were infatuated with the solar qualities and both Christ and Mithra attained the characters of solar deities. The meal of Sol Invictus (unconquered Sun) on December twenty fifth was celebrated with joy and finally this date was marked by the Christians as Christmas (the birthday of Christ). The most well-known of solar trend is the Sun Dance of Indians of North America. In Mexico and Peru sun worship was a noticeable feature. Aztec religion followed the human sacrifice demanded by the sun gods Huitzilopochtli¹³ and Tezcatlipoca¹⁴ (www.britannica.com).

3.2 Sun gods and goddesses

There are many of deities of sun like the Egyptians, Greeks and Romans had many sun deities and some of them are as follows (Gill).

- (i) Apollo the Greek and Roman Sun god.
- (ii) Helios (Heliuss) the Greek Sun god.
- (iii) Huitzilopochtli (Uitzilopochtli) the Aztec Sun god.
- (iv) Mithras the Iranian/Persian Sun god.
- (v) Re (Ra) the Egyptian mid-day Sun god.
- (vi) Surya the Hindu Sun god.
- (vii) Utu (shamash) Mesopotamians Sun god.

3.3 Story of Sunflower

In relation with the topic sunflower motif at Bādshāhī Mosque, this information about Greek myth is fundamental to understand that why the movement of sunflower was associated with sun. The mythology describes the connectivity of divine characters metaphorically as sunflower with sun movement. This historical story paved the track for sunflower movement according to its application on Bādshāhī Mosque, Lahore.

The great story of sunflower in the Greek myth presented as a story of unconditional love. Apollo was the son of Zeus king of all gods and men. Apollo was believed to be the sun god and had a palace in the direction to east. He drove the chariot of gold and ivory every day in the skies from east to west. At evening his journey ended up in the sea into the western

side. He had come back home on his golden boat. Apollo was known for his youth and manly beauty. He had golden hair and a most handsome person. A water nymph called Clytie was in love with Apollo. She watched him with unblinking eyes as he moved across the sky. Clytie was fascinated and was mad for him. Regrettably Clytie was ignored by Apollo and she never achieved her love. Apollo was interested in the daughter of water god the Daphne. Simultaneously Daphne did not return the love for Apollo. When Apollo frustrated to influentially motivate Daphne, her father helped her by turning her into an irrevocable plant. Apollo without hope fell in the deep sorrow. Clytie constantly watched Apollo as he travelled through the sky like sun. For nine days she sat on a rock without food and water and just kept looking at Apollo as he passed in the sky. Ultimately she was transformed into a flower known as the sun flower. It relates the moment the sun rises till it sets even to this day (Hesaraghatta).

3.4 Introduction to Sunflower

The sunflower's scientific name is *Helianthus*. Greek *Helios* = sun + *Anthos* = flower. It is properly taken to mean as flower of the sun and shortened to sunflower (www.vegparadise.com). The Carbon dating-fourteen revealed the evidence that the seeds were an important staple for Native Americans in 2300 BCE (www.vegparadise.com par. 26).

Sunflower originally belonged to Indian crops as it existed in North America or Mexico, during Pre-Columbian times. Several years after Christopher Columbus entered in the Americas by 1568, sunflower also started appearing in European herbals. The appearance of sunflower in Spain occurred in 1568 and in Belgium during 1576. It had extended to Italy and Germany by 1623 (Lalic).

There are several plants recognized for the capability to track the movement of the sun by a method called solar tracking or heliotropism. Certain plant type turn its leaves so they will be at right angle to sun's rays in the morning and evening to make the most of photosynthesis (plantsinmotion.bio.indiana.edu).

For further information about sunflower according to botanical variations and characters (figure 3, 4, 5, 6, 7).

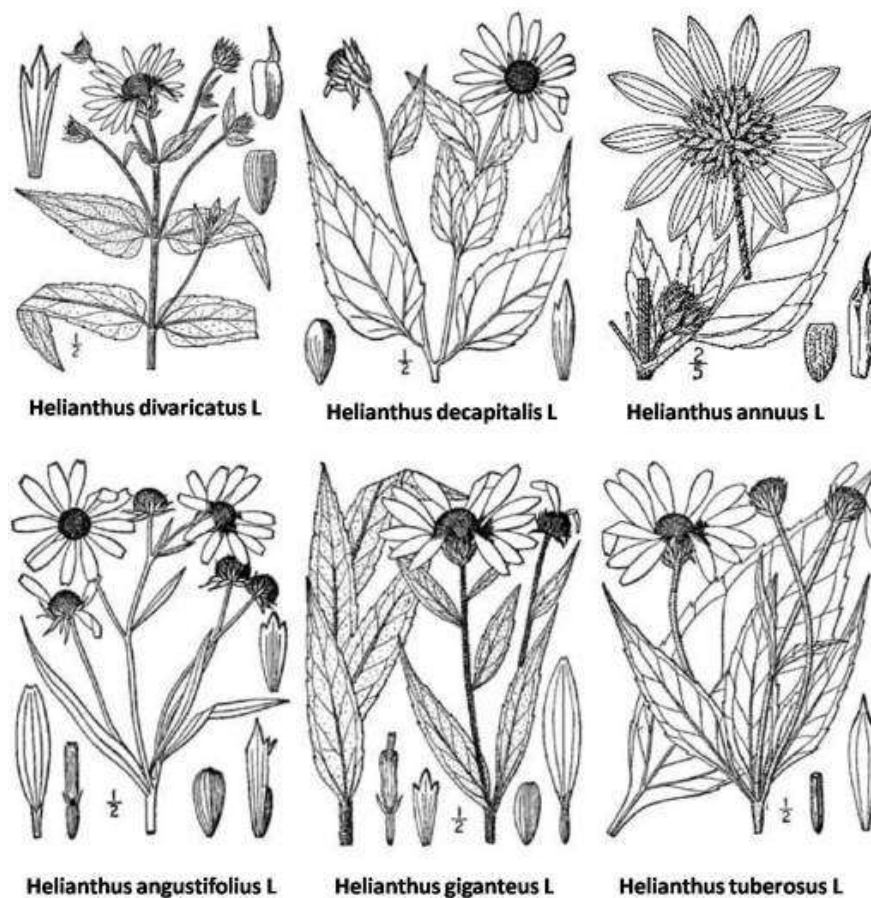


Fig. 3. Helianthus Types

Source: <http://brianaltonenmph.com/6-history-of-medicine-and-pharmacy/hudson-valley-medical-history/colonial-herbalism/the-coldens-flora-a-taxonomic-review/>: 2, May 2015.

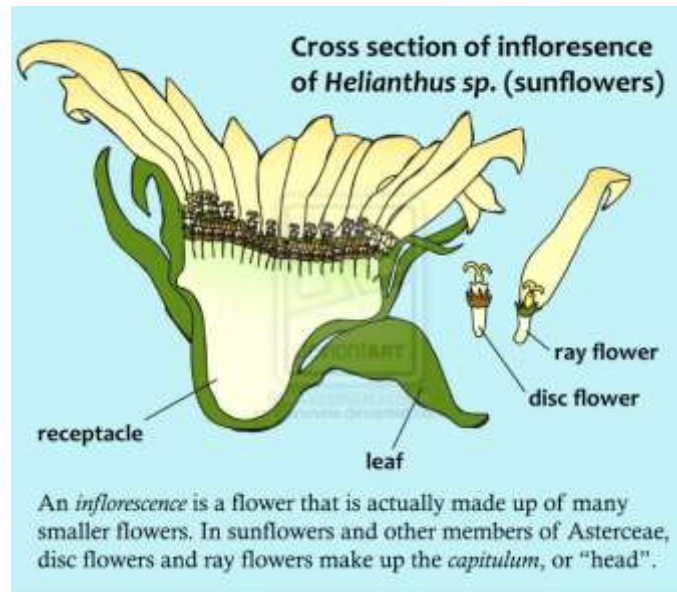


Fig. 4. Sunflower Cross-section

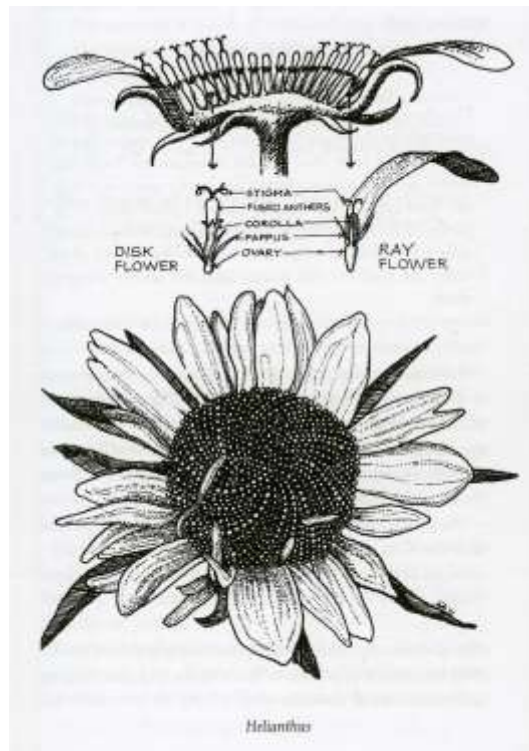
Source: <http://banvivirie.deviantart.com/art/Sunflower-Cross-section-142629125>. 2, May 2015.Fig. 5. *Helianthus*Source: <http://www.american-buddha.com/lit.anatomyrose.1.htm>. 2, May 2015.



Fig. 6. *Helianthus*

Source: <http://shelleysdavies.com/sunflowers>. 2, May 2015.

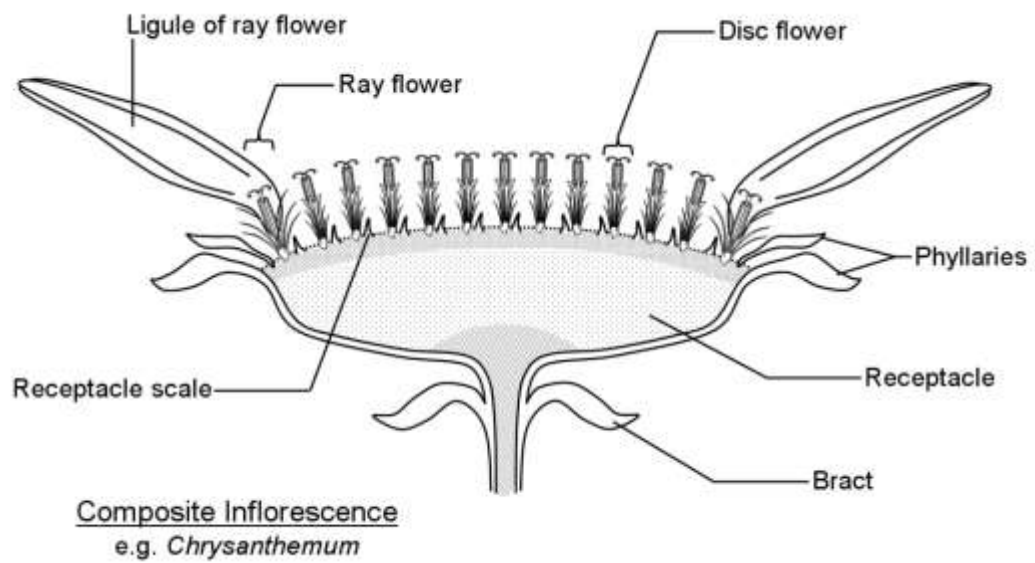


Fig. 7. *Helianthus*

Source: <http://cronodon.com/BioTech/asteraceae.html>. 2, May 2015.

The Shape of the flower carries the disk-shape characteristic. Its petals are called ray petals. Number of the petals depends on the size of the flower. Commonly the numbers of the petals is associated with Fibonacci number (figure 8). It could have eighty nine or 144 petals. “The sunflower has a numerical expression of 7” (<http://www.auntflo.com>).

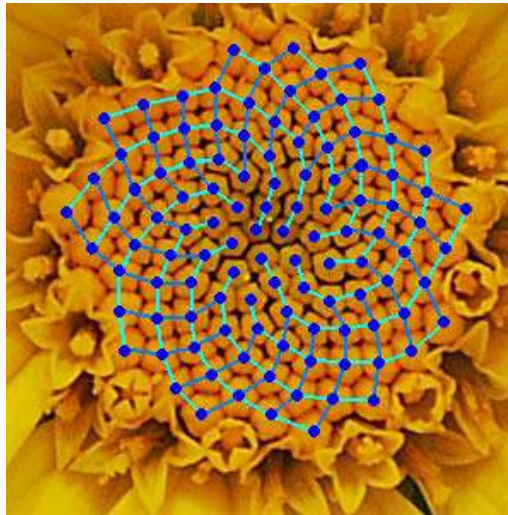


Fig. 8. Spiral pattern and Fibonacci¹⁵ numbers.

Source: <http://mathematica.stackexchange.com/questions/20924/spiral-pattern-and-fibonacci-numbers> 2, May 2015.

Sunflower as Ornamentation themes in Ancient Civilizations

3.5 Egyptian Ornamentation

The finding of inflorescence designs in Owen Jones book *Grammar of Ornamentation* has provided a reference making a connection of the sunflower motifs implementation into decoration in different civilizations. Here are some Egyptians ornaments familiar with the sunflower in shapes and styles (figure 9).



Fig. 9. Egyptian Ornaments
Source: The Grammar of Ornament by Owen Jones,
(Slovaquia: 2006; print; 37).

The era too far away to our period supports us to ponder about any hints or sources. At the same time it can be traced back in direct succession of the Greek, Roman, and the Byzantine, from this great parent to conclude opinion of precision. We have no foreign influences in Egypt, and it is assumed that they were inspired directly from nature. The figure above is from paintings on tombs, dresses, utensils and sarcophagi (O. Jones 26).

3.6 Assyrian and Persian Ornamentation

Assyrian Ornament types are different from the Egyptian. In both styles of the ornamentations painted and relief are in the method of diagram. The minor surface modelling is applied which was an unusual discovery of Greeks who took it to accurate limits.

Nonetheless the Romans carried it to exaggerated levels. The Byzantines favoured controlled

relief and the Arabs compacted the relief. On the other hand the Romanesque is notable in the same way from primary Gothic, in which the surface developed into heavy laboured and all rejoinder was demolished. The Assyrian ornament was far from nature and was not adapted as closely as that of Egyptians. The superb projection is also missing, which was adapted later by Greeks (41).



Fig. 10. Assyrian and Persian Ornaments
Source: The Grammar of Ornament by Owen Jones, (Slovaquia: 2006; print; 42).



Fig. 11. Assyrian and Persian Ornaments
Source: The Grammar of Ornament by Owen Jones, (Slovaquia: 2006; print; 43).

The Sasanian capital ornament and Byzantine in respect of their general plan included its origins inspired by Arab motifs. Commonly Egyptians and Assyrians occupied the large spaces with shapes designed by geometrical composition of lines. However the example of Assyrian ornament appeared to be the first repetition of curved lines as patterns surrounding a subordinate forms. As principle it was followed to produce perfect forms of repeating floral patterns. The domes of the mosque of Cairo and the walls of alḥamrā' were draped with this type of ornamentations (41).

3.7 Greek Ornamentation

Greek art is the amalgam of Egyptians and Assyrian. The development of old ideas toward new directions in Greek art and escalated swiftly to high state of accomplishment. The journey towards perfection has never been touched with the plentiful leftovers of Greek ornaments. The Greek land was overflowing with artists, which enabled to produce excellent ornaments with absolute reality (45).

The evident aspect of Greek floral ornament is a close observation of nature. Greeks followed the three great principles of nature (47).

- 1- Radiation from the parent stem
- 2- Proportionate distribution of the areas
- 3- The tangential curvature of the lines

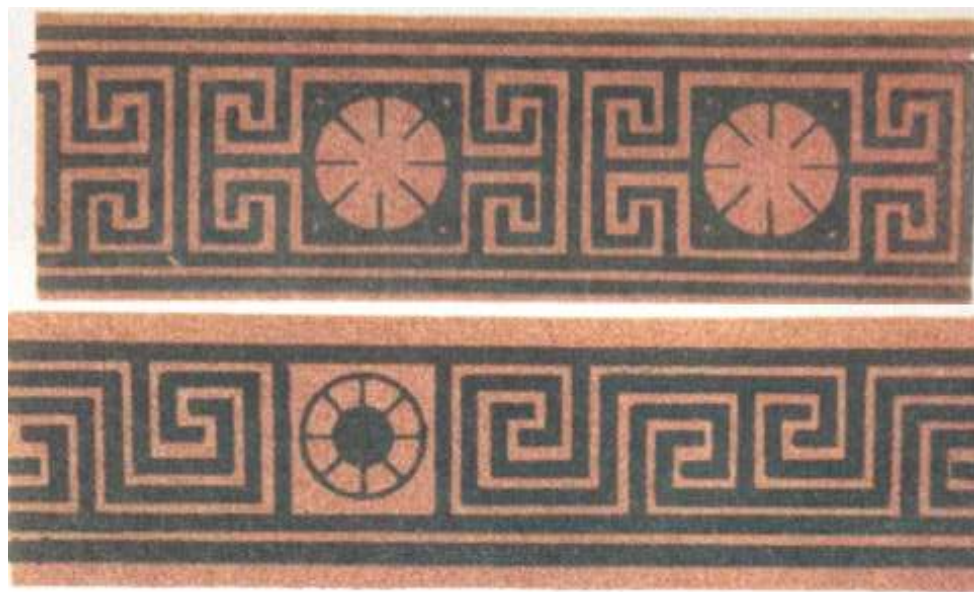


Fig. 12. Greek Ornaments

Source: The Grammar of Ornament by Owen Jones, (Slovaquia: 2006; print; 51).

3.8 Roman Ornamentation

The Roman concluded to rate the overall proportions of the building and ornaments carved. The particularized modelling completely removed the contours of surface moulds.

Ornaments grew unnaturally and were applied on surface. The Egyptian capitals represented the stem of flowers close to beauty and truth in contrast with the Roman acanthus leaves on round the bell of Corinthian capitals. The ease of Roman system of decorations gives the manufacturing of acanthus ornament to spread in any form or direction. (65).

3.9 Byzantine Ornamentation

The early English styles of flowers flow off on each side from a continuous track. The knotted rope ornament of the Greeks may also have had some influence in the formation both of these Arabian and the Moresque interlaced ornaments. The character of the Pure Byzantine ornament is recognised by broad-toothed and severe sharp edged leaves. The thin interlaced designs are favoured over geometrical schemes (74).

The Byzantine art inspired the Arabs after they established in Europe during 6th to 11th century. Arabs conquered the countries of the East and also achieved the stability in Europe. The buildings constructed by Muslims in Cairo, Alexandria, Jerusalem, Cordova and Sicily reveals the Byzantine inspirations. Byzantine trends set in the East and in Eastern Europe as basis of all decorative art (74-75).



Fig. 13. Byzantine Ornaments

Source: The Grammar of Ornament by Owen Jones, (Slovaquia: 2006; print; 79).

3.10 Arab Ornamentation

The Islamic religion flourished rapidly in the East. The expansion of the civilization directed to the forming of an innovative approach for Art. The early Muslims developed the monuments based mostly either in Roman or Byzantine constructions styles. The early buildings were erected on the remains or with the materials of ancient monuments. The character of the architecture developed on the basis of different requirements and original spirits. The buildings constructed at that time were made of old material and to imitate the details borrowed from old buildings. The alteration of Roman style into Byzantine shaped unpolished and flawed boundaries. This inadequacy revolutionized the fresh theme of designs. Thus, Muslims engaged into the creation of style of art with unique identity very early. The Mosque of Tūlūn in Cairo was erected in 876 after the 250 years of Islamic establishment. The Mosque at Cairo is among the most remarkable buildings of the world in grandeur and simplicity. The ornamentation appeared to be derived from Persians. The art of Byzantium already displays an Asiatic influence. The collection of the ornaments from the Mosque of Tulūn exhibits the early stage of Arabian art, which reach their climaxing point in the Alḥamrā'. There are numerous patterns which retained the features of Greek two flower or a flower turned upward and downward. The difference created as that of the Greek flowers grow out of scrolls, whereas Arab scroll converted into a midway leaf (81-82).

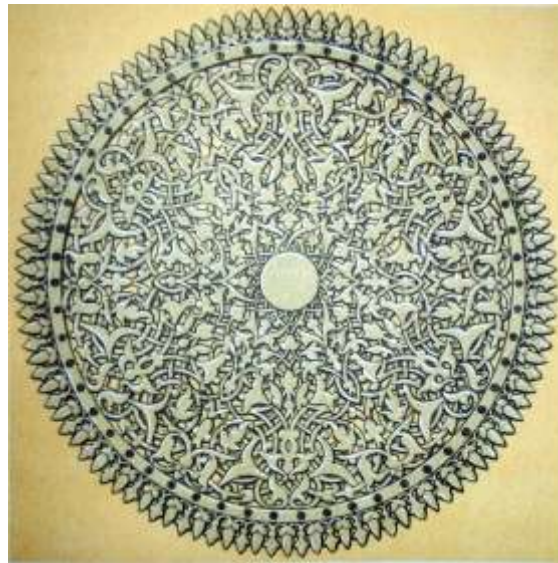


Fig. 14. Arab Ornaments

Source: *The Grammar of Ornament* by Owen Jones, (Slovaquia: 2006; print; 85).

3.11 Persian Ornamentation

The mixed style of Persian ornament combined the features and look like Arab's for attempting to get close to the nature. Its impact on Arabs and the Turkish styles is felt in Al-Ḥamrā'. The group of flowers growing from the vase exhibits the mixed styles. It is observed that the Persian subjects in the secondary and tertiary colours are much more dominant. Persian ornament exhibit much elegance, simplicity displayed in rendering of natural flowers. When natural flowers are used as decoration, and subjected to a geometrical arrangements, they can have neither shape nor shadow. The mixed character of rendering natural forms, is considered as characteristic of the Persian style. The Persian influence is seen in the floral stylishness of India, inspired by the European method of making the flower as close to the nature (112-13).



Fig. 15. Persian Ornaments

Source: The Grammar of Ornament by Owen Jones, (Slovaquia: 2006; print; 118).

3.12 Hindu Ornamentation

The paramount sample of Hindu ornamentation is signified by the statue of *Surga* (the Sun) in basalt. It is supposed to have its place in a period between the 5th and 9th century. The elegant execution of the motif (fig. 16) deceives the Greek inspiration. According to Ram Raz, lotuses and jewels are the main types for decoration on the mouldings. The moulds heaped up one over the other as architectural character. The variation in proportions as a total assessment of the style consisted in the relativity and flawless in movement (133).

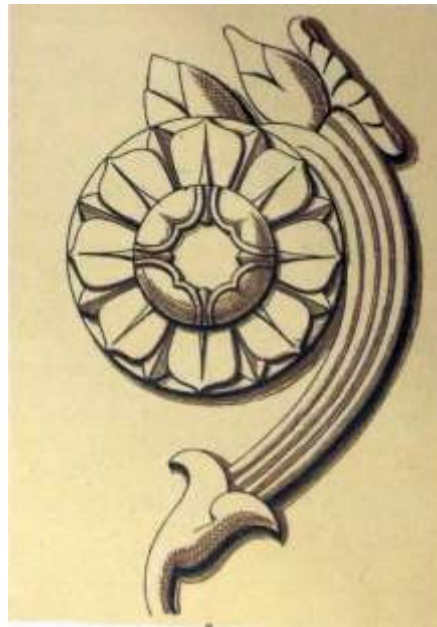


Fig. 16. Hindu Ornaments

Source: The Grammar of Ornament by Owen Jones, (Slovaquia: 2006; print; 134).

The references of the ancient civilizations above are chosen to clarify the finding of the sunflowers as ornament and clues of its significance related to different cultures and religions of the world. The depiction of flowers is both abstract and natural. Through the references of ornaments mentioned above the co-existence of works of decorations by ancient civilizations is depicted.

Mostly ornaments are accessory to architecture. By looking at the ornament we can judge the true creative power of the artist. The decoration with ornaments displays the care and enhancement of the task. To design the ornament for the specific space is not an easy work. Placement of the ornament describes the display of artistic sense more complicated in

perception and implementation. Even in the current era the floral patterns on carpets, floral papers and carvings are the indication of the development of idealization of ornamentation. (O. Jones 226).

The identification of finding sunflower goes back into Pre-Columbian temple art in India. According to professor of Indologist and Ethnobotanist Shakti M. Gupta of Delhi University, sunflower an inborn of Central and South America is found in the Rani Gumpha cave, Udaigiri, second century BCE. Johannessen individually stated in his article ‘Pre-Columbian American Sunflower and Maize Images in Indian Temples¹⁶’ that signs of interaction among civilizations of India and America do exist. (Gupta).



Fig. 17. Pre-Columbia temple art.

Source: <http://www.harekrsna.com/sun/editorials/editorials.htm>



Fig. 18. Mahayana and Tantric Buddhism Swat valley.

Source: <https://www.flickr.com/photos/travelpakistan/5186921196/sizes/l>

Sunflower motif exaggerated to look more like sun and its rays. It appeared in Roman mosaics and medieval church carvings long before sunflowers arrived. The new sunflower seems to exemplify the ancient traditions as this was resounded in the Latin name *Helianthus* coming from the name Helios the sun god of Greeks. In America the Incas made sunflower the representation of their deity. In 17th century Europe sunflowers came to represent kingship. For instance Charles I of England was referred to as sun king. After losing its favour in 18th century it became useful for crops producing oil from the seeds and medicines. It regained its artistic status in 19th century as van Gough imparted new heights and meanings (History and Meaning of Flowers in Painting).

In the sub-continent sunflower is grown regularly. This herb as a design motif belongs to family of large head. It is cultivated for decorative purpose and for oil seed. It is formed of disc and ray florets and botanically recognized as inflorescence. Calyx (whorl of sepals), is compact. The whorl of petals is attached type of corolla as yellow petals along the periphery grow as strap-shape. Small bright-colours stands in floral disc and on floral disc tubular tiny disc florets rest. Like herbaceous, hairy, alternate, simple and acute, leaves directly nurture on the stem with jagged margins. The erection of stem is cylindrical, solid and thickly furry. Mughal's depictions of sunflower is an example close to nature and responded as further types away from imitation. The main gateway of Bādshāhī Mosque is decorated with white sunflower-like rosette. It is embedded in the centre of red colour spandrel of multifoil arch. The interior of mosque presents again the sunflower in stucco in harmonious colours. Sunflower is also displayed in the centre of the high domed ceiling of the transept (Misbah 62-63).

Sunflower is highlighted more realistically on the soffit of the arch near the sanctuary in fresco at Wazīr Khān Mosque. From many angles the big yellow flowers can be observed. The depiction of strong veins from their dorsal and ventral surfaces is shown in the pointed green leaves. The same plant is designed in other panels of the sanctuary and exaggerated in details. The dado of Mariam Zamāni Mosque is covered with consistent interims of bright yellow sunflowers. The green leaves are modified into scrolls for branches and distributed harmoniously on the section. The maroon flower like a sunflower is shining on the twinkling walls of the Shīsh Mahal, Lahore. The larger circular mirror in the centre as floral disc is

encircled by pointed dark colour petals on a rectangle panel. The panel at the top and base describes half sunflower making the centre appear in focus (63).

A large sunflower of sixteen yellow petals is executed in the centre of the *mihrāb* of old Aḥmad Shāh's Jāmi' mosque in Aḥmadābād. It has a large dark coloured floral disc accommodating a sunflower repetitively. A moulded sunflower is also applied on the spandrel of the arch. With its high tips the concave appearance of flower is achieved. The floral disc is minor and bulging (63).

During Islāmic era the Masjid-i Nabawī in Madina the half white sunflowers support the *Chajjah* of the ventilator as brackets. It also inspired and inserted in National College of Art, Lahore. A single twelve petal sunflower is composed beneath the niche in northern façade inside the interior of the Dome of the Rock, Jerusalem (63).



Fig. 19. Dome of the Rock, Jerusalem, and its interior reveals a Single Twelve Petal Sunflower beneath the niche in northern façade.

Source: <http://rr.hec.gov.pk/Chapters1946-3>, fig. a page 86.pdf

From Gandhara art the similar sample is found and conserved in Taxila museum. In South Asia 1904, in Luang Prabang, Laos an example from door leaf shows small sunflowers distributed at measured gaps within the scrolls of the arabesque. An example is a seated sculpture in stylized manner the Boddhisattva Manjusri, Pit-River museum. It is sitting on lotus petals carrying a sunflower herb in his left hand. The sunflowers are ornamented on head and ears of statue. Dhaka Museum is famous because of this statue. On the piece of lotus ceiling on the Udayagiri hilltop, the flower is found in naturalistic form. It also stands on a projected thalamus or floral disc. The magnificent carving of the shape is the characteristic of the flower (63-64).

Sunflower is depicted in worldwide architecture more realistically. The stylization in colour or abstract in few cases makes it hard to recognize in Mughal monuments. It decorates the borders and the spandrels of arch but its depiction is less as compared to the lily and tulip (64).



Fig. 20. Boddhisattva Manjusri, Pit-River, museum, seated in stylized manner.
Source: <httppr.hec.gov.pkChapters1946-3> fig. c page 86.pdf

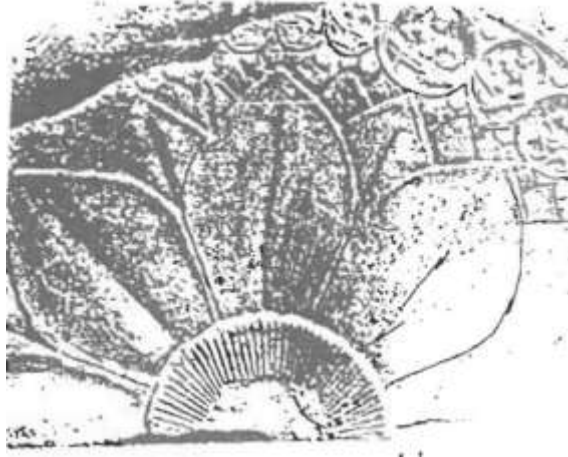


Fig. 21 Udayagiri hilltop.

Source: <http://pr.hec.gov.pk/Chapters/1946-3> fig. b page 86.pdf

3.13 Solar Symbolism and the Mughals

The conception of the ruler considered as the sun had incorporated from the Turku-Mongol, Hindu, Jain and Persian customs. The Mughal were the descendant of Mongols and linked their ancestors back to the sons of Princess of Mughalistan, Alanquwa (Alan Goa) and sun. Consulting to the Mughal hereditary publicity that the sun light came to earth on the occasion when Mariam Makāni (Hamida Bigum) gave birth to Akbar. Mughal sun devotion was paved from the Hindu rituals. Out of these rites *darshan*¹⁷ was celebrated when kings came in the *jarokha*¹⁸ (*Jharoka*) at the time of sunrise. Brahmins reflected Akbar an unbeliever Indian King to be personified as sun. Akbar lay on the solar *Ilahi*¹⁹ Period counted from Nauroz festival (New Year's Day) the year of his run to the Mughal rule started. The solar *Ilahi* conviction combined elements of Hinduism and Parsees fire worship as a spiritual guide. According to the fourth source Mughal solar symbolism was prehistoric Persian perception of the heavenly magnificence. That belief was titled in the *Avesta Khvarenah* labelled as *kharre*. In modern Persia it was recognized as *farre* or the *farr-i izadi*. This was covered in Islamic viewpoint as *nūr-i ilahi* (the holy light) obsessed by king who supposed to be *Zill Allah fil-Ard* (God's shadow on earth). Abul fazal, a celebrated narrator of Akbar's rule states that kingship is a light originated by God like a sunbeam. This heavenly sunlit was evident as an impression glowing from the hallowed face of the ruler. In the early eras this characteristic was symbolized as radiance surrounding heads of the emperors. In Jahāngīr's period forwarding towards the influence of European prints of Christ and the messengers were carried to India by the Jesuits. The impression also developed into the Mughal art through a form of glowing circle of light round the faces of the rulers (Malecka 24).

In an official way Humayūn was the first Mughal emperor to display his *farre* to his matters. He used to put a veil over his head. Akbar afterwards was named 'His majesty the Sun', 'The Sun of Mighty Power', Lamp of the Court of Dominion of Taimur's Dynasty', 'Visible God'. Akbar was the first among Mughals who presented his 'Divine Glory' in front of the eyes of his topics during *darshan*. The fabulous wisdom of Jahāngīr was depicted through his haloed portraits even on his gold coins. His son *Khurram* (*Shāhjahān*) on his birthday was named a blaze from the world powerful sun and was addressed as the invincible sun. The members of the Mughal house were also labelled solar names. For example

Mihrunissa the beloved wife of Jahāngīr was titled of Nūrhahān (light of the world). The beloved spouse of Shāhjahān, Mumtāz Maḥal was called the sun of modesty and princess Jahānara got the title of The Light of the Imperial Chamber. During the successions and enthronements, the Mughal emperors added a specific significance to the solar representations. Humayūn was preoccupied by astronomic allegory and knowledge of hidden secrets. The porches and camps were decorated with the zodiac signs copied universes for the solar ruler. The mystical associations were also built in Humayūn's renowned spiritual house. The octagonal room covered the royal jewelled throne. This octagonal form became a concept as it was aligned with universe. This concept was Turkish ancestors of Mughals. According to the conception octagon has four corners of the earth and rest four were the intermediate routes. The enthronement of the ruler was placed at the crossing point of the cosmic path like *Cakravartin*²⁰ and Kagan²¹ of Turks. The ruler Kūntogdi (the risen sun) was crowned in the track of the rising sun. Humayūn's octagonal room clearly expresses the Turkish influence. The *jarokha-i darshan* (*Jharoka-i Darshan*) in the (Dīwān-i 'Ām) of Akbar at Fatehpur Sīkrī is similar to cosmic pavilion of Turkish Kagan. It also faced the rising sun in the east. The associations of Mughals connected to solar with stages positioned on trees or cosmic throne-pillar from the *Diwān-i Khaṣ* at Fatehpur Sīkrī. These buildings unified the ruler crowned in the middle of the cosmos beside the sun in its peak. Jahāngīr corresponded with the Great light (the sun) rise and shine on earth. So the king was named Nūr al-Dīn meaning the light of the faith. The name *Khurshīd* (the sun) was inscribed on Jahāngīr's Black Throne. It was made after the rebel conflict against his father (1599-1604) and declaring himself the king (24-25).

The Solomonic motifs founded on Mughal rules are significant feature of solar symbolism. The Mughals measured themselves to be the Solomons in dignity. For that reason the motifs like flying birds and angels were represented on the throne of Shāhjahān from the Windsor *pādshahnāma*, or else his *Jharoka* in the Diwān-i 'Ām in Delhi, or ornamentation of the Kala Burj in the Lahore Fort, which was accomplished in Jahāngīr's time. The symbol of Solomon's seal was famous during Akbar's rule. The Mughal weighing of solar was weighed in compacted gold gauges in contradiction of gold, metal which was believed to be born with the provision of the sun. According to one of the sayings by Abu'l-Faḍl that the mines get gold from sun's nurturing look. The iconographic details show the

Mughal rule before a golden background fence *khargāhs* (camps). The Golden dome on a tent or a golden tent is symbolized as a paradises for a solar ruler imitated from the Turko-Mongols. Similarly the exquisite stones equally worth to gold were initiated from the sun. Among the stones ruby was reflected to be formed from the prince's blood. For the reason that of its colour initiated from the heat of the sun and believed to be a solar stone. According to Hindu astrology the *Navagraha*,²² the sun was indicated by the ruby and in Persian manuscripts the name of yellow ruby was specified for sun. Akbar was also named 'The Red Rubies'. The symbolization of countless magnificence, royal thrones were decorated with *shamsas* or sunbursts medallions collected of jewels. The sign of Turkish Kagan embellished with solar logo. Mughal's *jhandas* (flags or banners), coins, shields or manuscripts were ornamented with sunburst. By means of mark of 'The Shining Emperor' *shamsas* as decoration motif were applied on the gates and walls of palaces. Which often illuminated at night. Some thrones were shaped like sunbursts and thus surrounding the head of 'The Imperial Sun'. Occasionally the back crests having decorative motif of *shamsas* encircled with rubies were shown on Akbar's miniature from Minto Album, Chester Beatty Library in Dublin. The application of sunbursts were also illustrated on the *chattras* (majestic sunshades), which were further decorated with precious jewels (25-26) .



Fig. 22 Akbar Hands His Imperial Crown to Shāhjahān. A page from Minto Album. 1631r. Chester Beatty Library, Dublin.jpg.

Source:

http://commons.wikimedia.org/wiki/File:Bichitr._Akbar_Hands_His_Imperial_Crown_to_Shah_Jahan._A_page_from_Minto_Album._1631%D0%B3._Chester_Beatty_Library,_Dublin.jpg

The top of the umbrella was decorated with the sunburst by using expensive jewellery which also bordered Mughal seats. The *chatr* as a figure of holy light serves the grand supremacy for everlasting. The clue for the statement is found in Jahāngīr's autobiographies. His wish that as the heaven exists so do the light for the sun reflects future from the Shāh's umbrella (26).

Decoration on sunshades was executed with pearl or gold borders signifying the sun rays. Sunbursts at occasions were bordered by most legendary paradisiacal birds. Few birds found similar to the mythological Persian bird Humay²³ casting shadow on imperial celebrities. Imperial canopies were designed with many creature at times. Out of several species *sīmurgh*²⁴ a famous Persian mythical bird colonised the solar mountain of *Qāf*²⁵. The cosmic seat of Jahāngīr portrayed in the miniature by St. Petersburg, the image of *sīmurgh* is made on the medal inside the eight pointed golden star. Following Turkish ancestry Mughals

imagined the light falcons (aq-sunqurs) as royal birds. According to both Turkish and Persian poetry, the falcons were allied with sun light and royalty. They believe that the brave creatures could fly near the sun (28).

The peacock on Mughal chairs was main solar presence for decoration motive. The most noticeable association of peacock was with the sun. Persians poets titled it as *tā'ūs-i ātish* par, the peacock with the wings of fire. Real peacocks walk in *bārgāhs* (imperial tents) and crowned wooden porches is depicted in the miniatures of Akbar's and Jahāngīr's period. *Shāhjahān's* peacock throne (*takht-i tā'ūs*) decorated with two peacocks was made up of jewels. The duplicate throne replacing the one stolen by Nādir *Shāh* in 1739, was in response exaggerated by four figures of peacock (28).

Elephants were also presented as the solar sign. As statues these creatures often support Indian temples based upon the shape of palaces in heaven and vehicles. The elephants at Konārak was shaped up like the sun god's twelve wheeled chariot. Mostly elephants carried Indian gods and kings. The Rājputs believed to be the successor of the mythological Solar Dynasty and mark out their beginning to the sun. The solar symbolism of these elephants is famous as Jahāngīr named his dear elephant the solar title *Nūr-i Nawruz*. A miniature from Rampur Library presents Jahāngīr's canopy decorated by winged lions standing back of the elephants. The combination of lions and elephants is an addition of solar energy. The hybrid *gaja-simha*²⁶ a life form using elephant tail and body with the claws of lion (29).

Lion as a worldwide character of supremacy the imaginative images of gods and kings standing on lions were used in ancient western Asia by as old as third millennium BCE. The colours of the fur and resemblance to the rays of sun, this animal was considered as solar creature. The imagery of lion also served the Hindu god *Vishnu*, the Jain rescuers and Buddha's *chakravartin*. Later the *Kūshāna* period the lion throne (*simhasana*) developed into an insignia of inner Asian solar rulers. Sasanians exhibited lions as guards of throne and crown also backing the cosmic thrones (30).

The discussion mentioned above is a general view about form of solar symbolism in decoration of Mughals. It throws light on Persian, Turku-Mongol, and Jain impact on contents of solar images.

Notes

⁹ Either of the two times during a year when the sun crosses the celestial equator and when the length of day and night are approximately equal; the vernal equinox or the autumnal equinox.

¹⁰ The Maya supreme god, to whom the Maya attributed many functions. Not only was he a god of the four elements, he was also a creator god and the god of resurrection and reincarnation. He originated from Toltec myth, where he was a divine hero who taught the Toltecs laws, fishing, healing, the calendar, and agriculture. He emerged from the ocean, and disappeared in it afterwards. His name means "the feathered serpent", and the Aztec merged him with their Quetzalcoatl. His attributes, each representing one element, are a maize-ear (earth), a fish (water), lizard (fire), and vulture (air). He is the so-called 'god B'. (<http://www.pantheon.org/articles/k/kukulcan.html>)

¹¹ It was the worship of Mithra an Iranian god of the sun, justice and war in pre-Zoroastrian Iran. During Roman Empire this god was famous for loyalty to the emperor between second and third century. (<http://www.britannica.com/topic/Mithraism>)

¹² A sun-god. Father of Jamahid or Yima and Yimeh. In some references, referred to as Vivahvant, Vivanghvant, Vivanghvant, Hindu Vivasvat or Hindu Vivasvat. (<http://www.mythologydictionary.com/persian-mythology.html>)

¹³ Huitzilopochtli, also spelled Uitzilopochtli, Aztec sun and war god, one of the two principal deities of Aztec religion, often represented in art as either a hummingbird or an eagle.

¹⁴ Tezcatlipoca was one of the most important gods of the Aztecs of central Mexico. His name, meaning Lord of the Smoking Mirror, refers to the mirrors made of obsidian, a shiny black stone, which Aztec priests used in divination.

¹⁵ In mathematic the term is known as a sequence of numbers like 0, 1, 1, 2, 3, 5, 8, etc. in which each number is the sum of the previous two.

¹⁶ Proof of Contact between Civilizations in India and America" (in Davis Bitton, ed., *Mormons, Scripture and the Ancient World: Studies in Honor of John L. Sorenson*, FARMS, Provo UT, 1998). The following review has been published in the Midwest Epigraphic Journal, vol. 12/13, 1998-99, pp. 43-44. An earlier version appeared in 1998 on the newsgroup sci. archaeology.

¹⁷ An occasion or a chance to see the holy person or the appearance of a deity.

¹⁸ Jharoka is a type of hanging fenced balcony used in architecture.

¹⁹ The meaning of Ilāhi is My lord (for Allah), divine.

²⁰ *Cakravartin* is an ancient Indian term used to refer to an ideal universal ruler, who rules ethically and benevolently over the entire world. Such a ruler's reign is called *sarvabhauma*. It is a Bahuvrīhi, literally meaning "whose wheels are moving", in the sense of "whose chariot is rolling everywhere without obstruction". It can also be analysed as an 'instrumental bahuvrīhi: "through whom the wheel is moving" in the meaning of "through whom the Dharmacakra ("Wheel of the Dharma) is turning" (most commonly used in Buddhism and Hinduism).

²¹ Khagan, a title for a ruler in Turkic and Mongolian languages.

²² In Hindu religion and mythology, the nine planets occupy an important role. The planet deities are referred to as the NAVAGRAHA and are supposed to have a significant impact on the lives of individual and therefore a Hindu adorns these planets as deities, so that they may bring peace and harmony in their life and to avert any mishap. NAVA means nine. GRAHA means planet. Graha literally means to grab. They are probably called so because they cause eclipses by grabbing the Sun and other stars.

²³ The Huma, also known as the "bird of paradise," is a Persian mythological bird, similar to the Egyptian phoenix. It consumes itself in fire every few hundred years, only to rise anew from the ashes. The Huma is considered to be a compassionate bird and its touch is said to bring great fortune.

²⁴ In Iranian art the *sīmurgh* is depicted as a winged creature in the shape of a bird, gigantic enough to carry off an elephant and even a whale. It usually appears in the form of a peacock with copper coloured feathers, the head of a dog and the claws of a lion; however it is sometimes depicted with a more human face.

²⁵ Mount Qaf appears related to mountains known as Hukairya, Hara (Hara Berezaita), and Alburz in Zoroastrian texts. Like the Biblical [Eden](#), this [mountain](#) is imprecisely located in ancient texts, stated to rest somewhere to the East in the Varkash Sea.

²⁶ The *Gajasimha* is most probably a twist on this mythical being (or a variant of Hindu elephant god Ganesha), with its conspicuous elephant head and body of a lion. Unfortunately, there is not much information regarding the hybrid creature, except for its numerous sculptural and painted depictions, mostly found in the temples of South East Asia and South India.

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Chapter 4

Bādshāhī Mosque and Sunflower Motif

4.1 Historical Background of Bādshāhī Mosque

Following chapter is prepared by quoting the architectural character of the Bādshāhī Mosque based on M. Abdullah Chaghtāi's book *The Badshahi Masjid*. It is added as a foundation for the exploration of sunflower motif in relation to the architectural decoration theme. Further during the research sunflower findings are highlighted. The photographs of the sunflower at mosque are divided into two segments. The first part is about eastern entrance and second part is for main chamber. Photographs are arranged to maintain the sequence for the visuals according to the architecture plan. The types of sunflowers are also mentioned on the images. Finally the research of sunflower motif in relation to the movement with sun on the mosque is elaborated through drawings and photographs composed in a chain like series to establish the opinion. It is planned to make the references look like an animation for the reader.

The mosque development started from the time, when Prophet Muḥammad pbuh arrived at Madina and built the mosque known as Masjid-i Nabawi. The offerings of the prayers set the principle for the guide to the builders of the mosque. The most general mosque structure follows the quadrangular form of comprehensive structure with four characteristics.

- 1- *Īwān* (praying chamber) with *miḥrāb* (niche to direct the worshipers towards the Kā'ba at Makkah)
- 2- *Minbar* (pulpit to deliver the *khutba*, the sermon)
- 3- *Mizāna* (minaret for calling to prayer)
- 4- *Wūḍu* (ablution)

Varieties of constructions are made because of the materials and circumstances, however the chief fundamentals of every mosque are the same four components mentioned above. There are no boundaries for the size and design in Islām. The Bādshāhī Mosque built by sixth Mughal emperor and the third son of Shāhjahān Muḥiyy al-Dīn Muḥammad

Aurangzīb Ālamgīr at Lahore (1084/1674) echoes the peak of mosque architecture in subcontinent. During the Tughlaq government the central arch named Fronton was established as a comprehensible portion of the mosque plan. Akbar's Buland Darwāza at the mosque of Fatehpur Sikrī is a great example of principle feature consequently followed later in Mughal imperial memorials. Central higher portion of the mosque is called *Dargāh*²⁷, which has similarities with the gateway as it is compared with the two mosques built by Shāhjahān in Agra and Delhi earlier (Chaghatai 1-2).

The traditional treatment of mosque's design followed the conventions. This brought Bādshāhī Mosque closer to the supreme construction of the Mughals. With more minarets addition this edifice presents elegance sorts in composition (Brown).

4.2 Earlier Mosque constructions at Lahore

Ṣulṭān Maḥmūd of Ghazna conquered Lahore in 1019 and instantly built a mosque made up of bricks named *Khishi* Masjid. This was the beginning of the history of mosques built at Lahore. To remember his triumph over Northern India, he further constructed a minaret in Lahore fort and a mosque titled Juma'ah Masjid. None of these exists today but considered as the early mosques at the city. In Lahore the direction of the Kā'ba is not in west but 10° South of West. Mihrāb of Bādshāhī Mosque faces the Kā'ba and does not follow the west. The direction of Kā'ba was established by the great saint Ḥaḍraz Dāta Ganj Bakhsh in the mosque raised by him at the place of his *Khānqāh*²⁸. From 1019 onwards Lahore was constantly attached to the Muslims of subcontinent until Mahārājā Ranjīt Singh (1780-1839) conquered the city in 1799. Afterwards the British took it over in 1849. Almost after a century ago Lahore became part of the Muslim country Republic of Pakistan in 1947 (Chaghatai 2).

Unfortunately due to the absence of the mosques built in Ghaznawīd era, the assumption exists that those were similar to the kinds of mosques built in Ghazna, Mesopotamia, Egypt and other places as mentioned in book by Fergusson *History of Indian and Eastern Architecture*. The convincing fact stated that Ḥaḍrat Dāta Ganj Bakhsh's mosque was constructed at the place of his shrine and the *qiblah* direction was proved mathematically correct by late professor Shaikh 'Abdul Hamīd. This seems to be a clear

indication of the previous mosque presence in the city. Now today the *mihrāb* of this ancient mosque is preserved through a marble block (2-3).

Later the two mosques of Lodhi period are found. One mosque is situated between Shāh 'Alami and Lahori Gate. The second one is near Yakki Gate. Both are known as *nīvīn*²⁹ (low) masjids as lower than ground level. They are similar in architecture and based on stonework, arcuate structure and elliptical domes. The shrine of Sayyid Abdul Razzāq constructed in 1546 now named Nīla Gunbad by natives having dome of blue tiles reflects its place to the parallel period. The mosque on this memorial come across to variations. These were made by Sūrī's. According to *Tārikh-e Da'wdī* mosque at Jila'w Khāna or caravan inn of Jahāngīr's tomb at Shāhdāra gone through a temporary phase during the rule of both Islām Shāh Sūrī and Mughals. Relating to chronology the *Ūchi* masjid at Bhati Gate Bazaar constructed in the early years of Akbar stated on the words on its niches. Its arches and domes style verifies the actuality. One more shrine of Shaikh Ishāq Mazang situated on temple road was constructed in 1572 depicts the development phase of the dome and *mihrāb* (3).

According to *Muntakhab al-Tawārīkh* in which Mulla Abdul Qādir Badayūni mentioned Şuffah (mosque) of Akbar was founded inside the Fort. Ḥakīm Mişrī's poem in appreciation of this mosque is not existing today. Jahāngīr erected a Maryam Zamāni mosque at Lahore in 1614 as the script there tells us the title. At present it is known as Begam Shāhi Masjid located near the Masti Gate and on the eastern gate of the Fort. On the staircase of the Kharasian Mosque at Lahori Mandi the description on a red stone slab preserved the information that Şadar-i Jahān constructed it during Jahāngīr's government in 1606. Entirely constructed with marble the Moti Masjid at Lahore Fort is also known as the Royal mosque. This mosque presents an innovative design with addition of *maktab* (school). Nawāb Wazīr Khān in the duration of Shāhjahān was employed the Governor of Lahore. He built large mosque to function as university. This majestic mosque was built in 1634 on the memorial of Sayyad Ishāq Gazrūni Mirān Bādshāh (d. 1384). The significance of the mosque lies in blue Persian tiles on its walls like Işfahān, Iran. This is known to be the first construction with application of blue Persian tiles in Lahore. The mosque also served as the traditional focal point for scholars. Including the sections and rooms for educational organisation, the mosque

was used as academy. The other mosques founded by Wazīr Khān are situated near Delhi Gate, Taxali Gate and Shāh 'Almi Gate. In the period of emperor Shāhjahān many mosques were created like the Khwaja Maqbūl natively termed Da'i Angah (1650) next to the Railway Station. The mosque near Mawchi Gate of Maḥmūd Ṣaliḥ Kamboh a historian of Shāhjahān's time. The domes, ornamentation of luster tiles and manifoiled arches are the obvious architectural exhibition. Due to this individuality it is known as Chinian wāli Masjid. It was built by Sarfaraz Khān in Muḥallah Chabūk Sāwarān (4).

4.3 Position of the Bādshāhī Mosque

The entrance of Bādshāhī Mosque is on its eastern side. There are southern and northern passages with a vast quadrangle called Ḥaḍūri bBāgh (garden of welcome). It has a marble *bārādari* (pavilion) in its midpoint. It was built by Mahārājā Ranjīt Singh (d. 1839). It was built as courtyard or Jilā'u Khāna towards the mosque. It served as a linkage in the middle of mosque and the royal palaces. A court diarist of Mahārājā Ranjīt Singh stated that before the erection of this *bārādari*, the spot was known as Chābutara-i Bādshāhī Mosque (platform of the royal mosque. An assumption also exists that it was Abdar Khāna for refreshments of the king and Royals. At the time of Mahārājā Ranjīt it was titled Gulāb Khāna the rose water house (4-5).

The location of the Bādshāhī Mosque is inside the Rushnaī Gate out of the eleven gates of Lahore. The name of the gate is known earlier to Shāhjahān's rule as per mentioned by Chandar Bhān Brahman in his *Chahār Chaman*. The gate was used for the entry of imperial and civil servants, who moved in by boat into the Fort and city as the river Ravi situated formerly at the northern walls of the Fort. Aurangzīb once came by boat to offer prayer in Bādshāhī Mosque. The original drainage system was made on the northern side of the mosque to drain the consumed water into the river. From the time when the level of the west and south is at height, so water entrance was not possible to those sides. On site a former archway on north-eastern corner is still exists, this looks as if was a check post. Nūr Aḥmad Chishtī stated in his *Taḥqiqāt-i Chishtī* that this was a busy route and had shops (5).

History states that a large number of palaces mausoleums, gardens and mosques were built at Lahore earlier in 1674. Many of the earlier constructions of Lahore are not remaining and there are no findings of their location in any reference (5).

Few historical references about the surrounding landscape and plan of the mosques are presented. It helps to visualise the scene of the edifice in relation to its environment. The images of some portions of the Bādshāhī Mosque which are not in function today are obtained from M. Abdullah Chaghtāi's monograph *Badshahi Masjid*. The architectural map with comparison of the mosque with some images of old views made by some artist is also worth seeing.

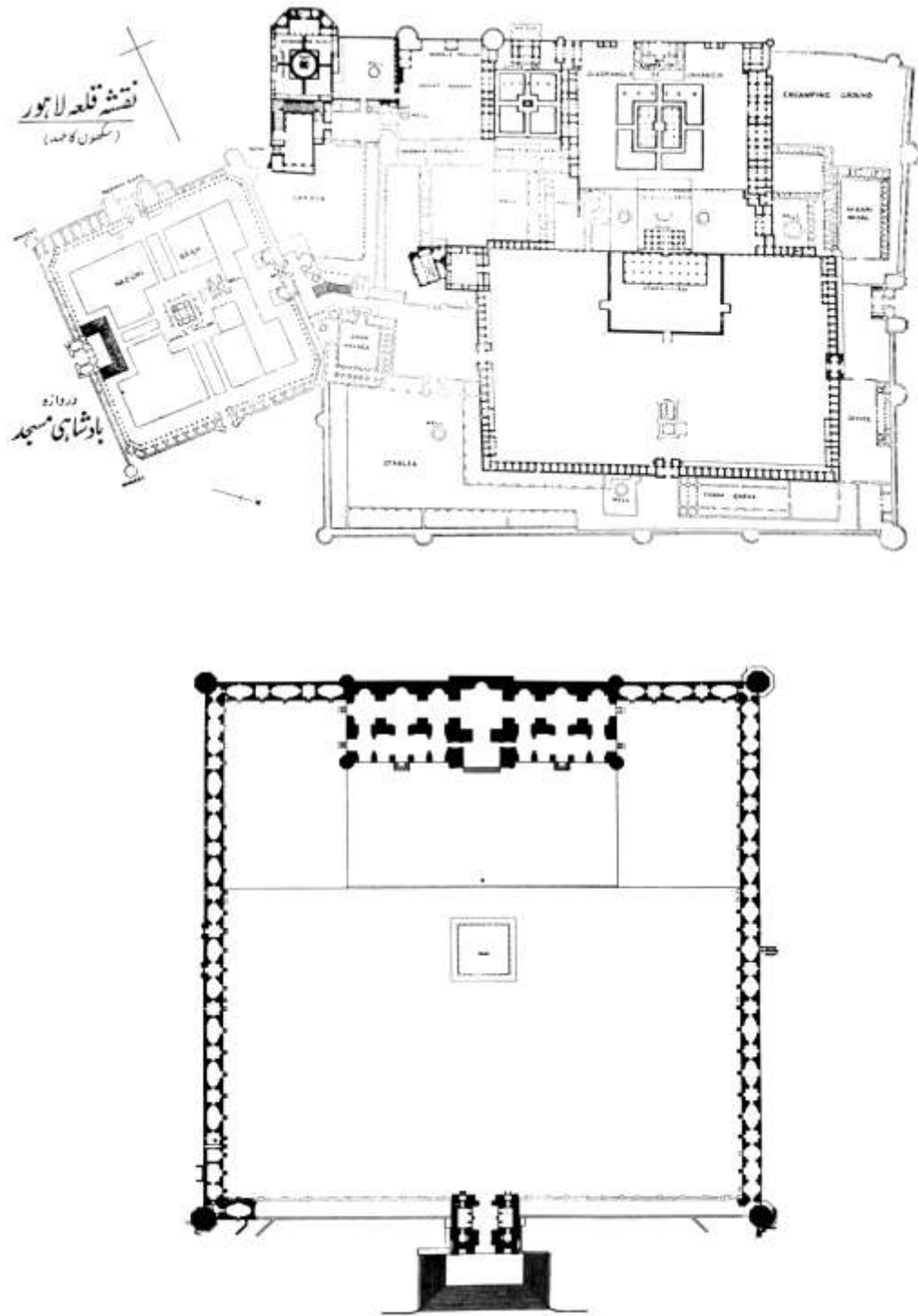


Fig. 23. Lahore Fort Ḥaḍurī Bāgh, plan of the Bādshāhī Mosque
 Source: *Badshahi Masjid History and Architecture* by M. Abdullah Chaghtāi, (Kitab Khana Nauras, Urdu Bazar Lahore: 1972; print; Plate 1. n.p).

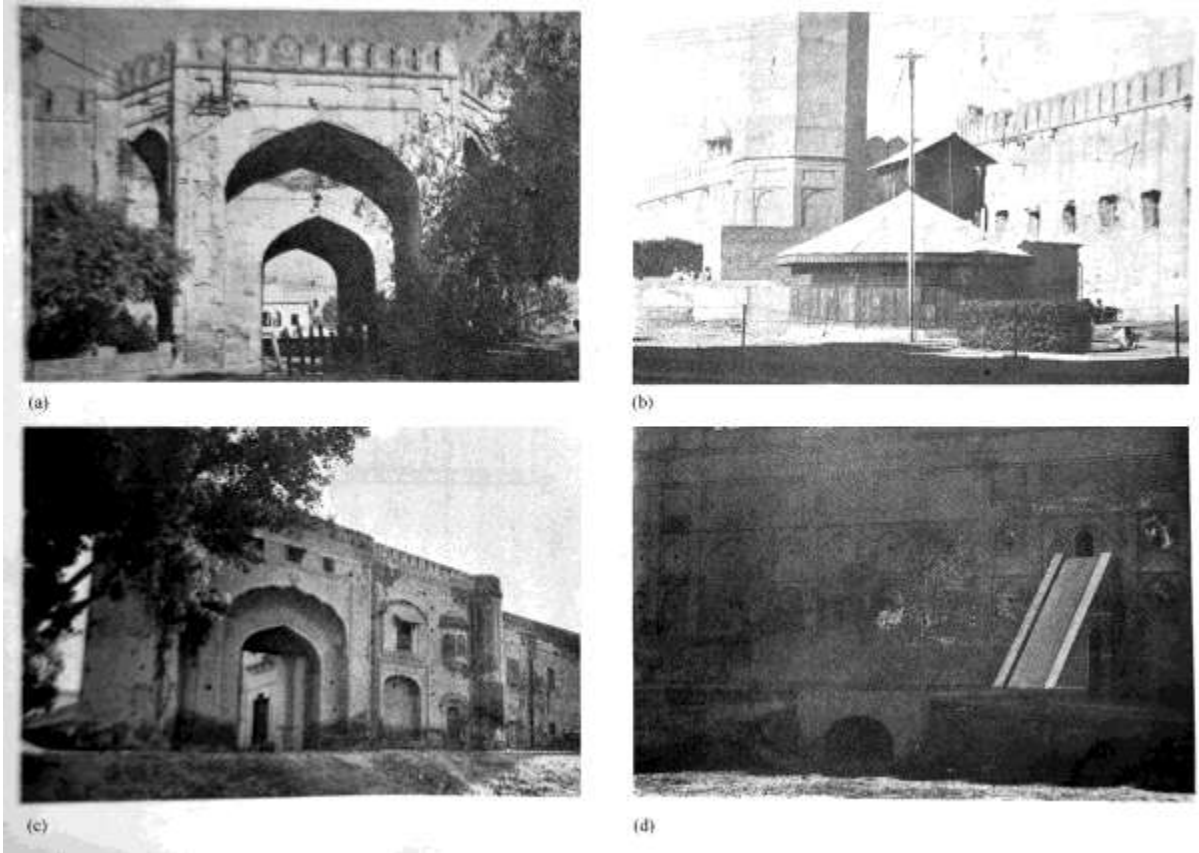


Fig. 24. a- Southern Gate from Ḥaḍurī Bāgh approaching to the mosque from the city, b- Tube well (old well of the mosque), c- Old Gateway on the ferry to approach the mosque, d- Drainage (Northern wall).
Source: *Badshahi Masjid History and Architecture* by M. Abdullah Chaghtāi, (Kitab Khana Nauras, Urdu Bazar Lahore: 1972; print; Plate 2. n.p).

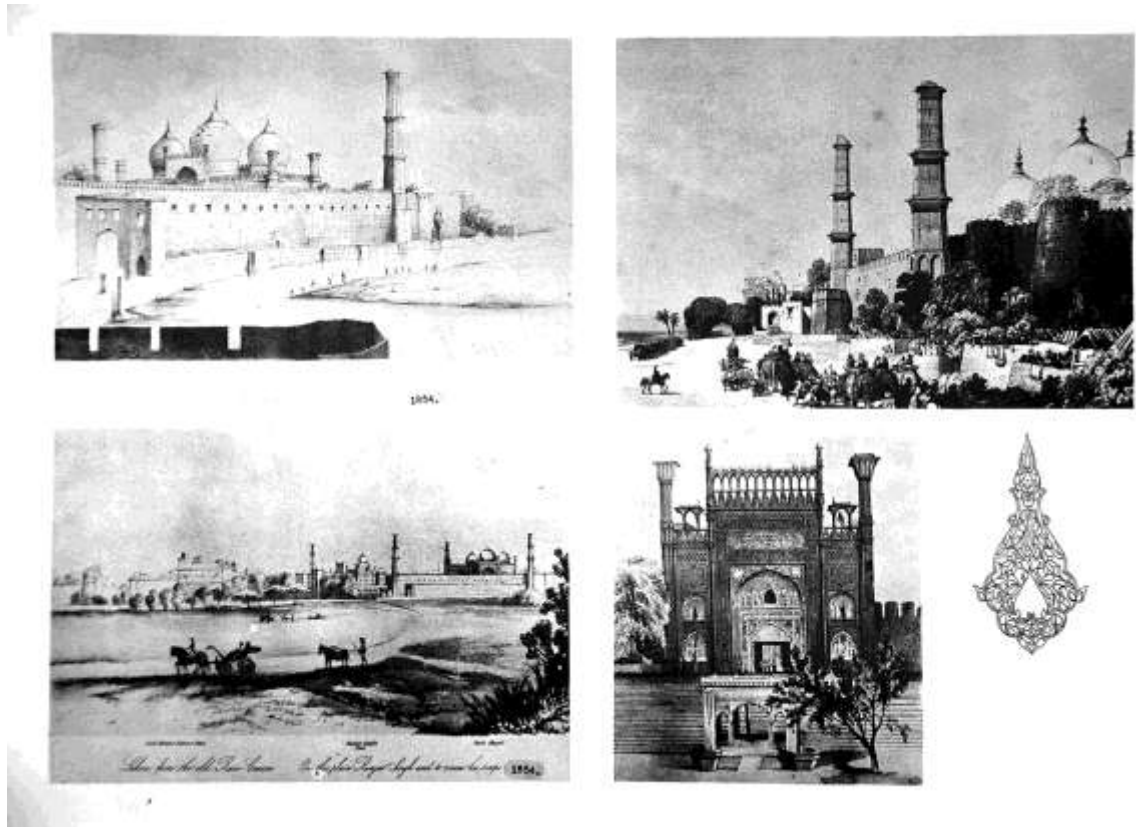


Fig. 25. Four Old View of the mosque made by some foreign artists in 1854 at Lahore (the two lithographs at the bottom are made by Dickson Bros in 1854).
 Source: *Bādshāhī Masjid History and Architecture* by M. Abdullah Chaghtāi, (Kitab Khana Nauras, Urdu Bazar Lahore: 1972; print; Plate 9. n.p).

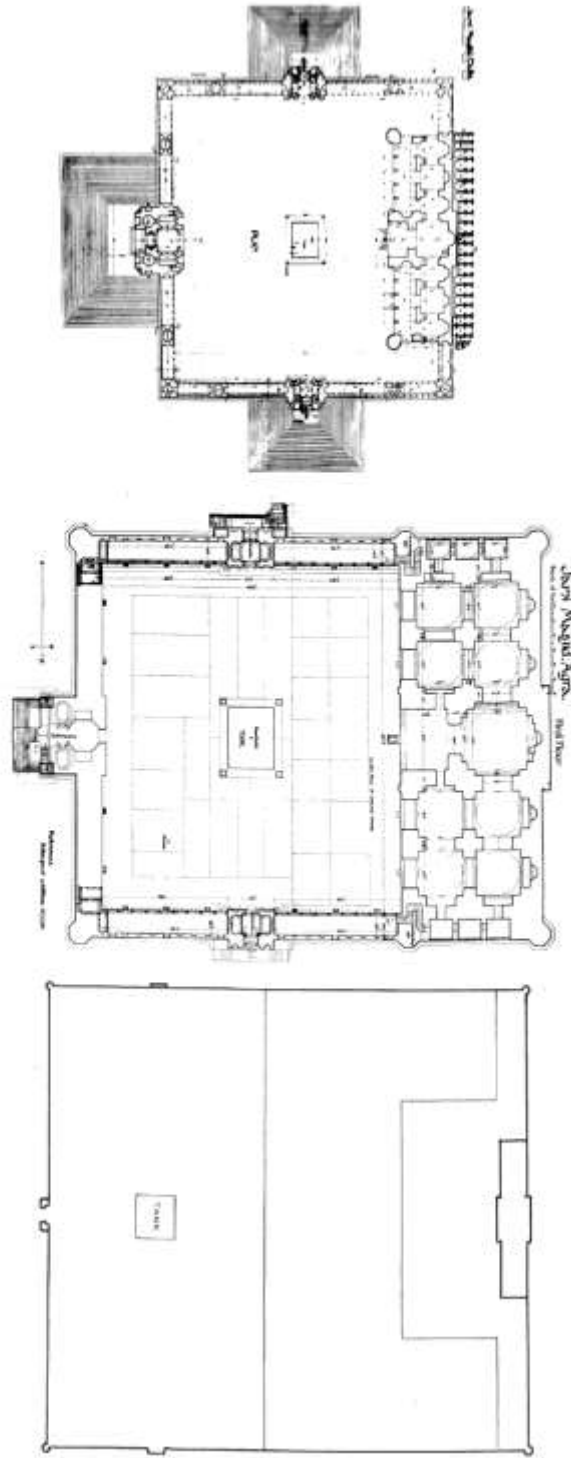


Fig. 26. 1- Jum'a Masjid of Delhi built by Shāhjahān 2- Agra mosque (Masjid of Jahān Ara') 3- 'Id Gāh at Agra built by Shāhjahān (its area matches that of Bādshāhī Masjid).

Source: *Badshahi Masjid History and Architecture* by M. Abdullah Chaghtāi, (Kitab Khana Nauras, Urdu Bazar Lahore: 1972; print; Plate 26. n.p).



Fig. 27. Prayer Chamber and mosque unique photographs before 1939 and after 1960.
Photograph from the library reference at Bāds̤hāhī Mosque 12, March 2015.

4.4 Patron of the Bāds̤hāhī Mosque

Aurangzīb came into rule after his father in 1659. Unfortunately he got engaged with the uneasy political circumstances with his brothers. Due to this tense situation, arts were not focused much. But a careful study reveals that the king was not lacking interest in fine arts. At the event of succession to rule, all the Royal celebrations were beheld. After the festivities the emperor ordered to build a mosque at Delhi in the Red Fort Shāhjahānabād for personal routine. This was made totally with the white marble to familiarize the constructions according to its surrounding of beautiful buildings in the Fort. The mosque construction is an evidence of Aurangzīb's religious inclinations but by keeping the harmony in the structural style and material is a proof of his aesthetic sense. His awareness and aptitude to appreciate

mechanical functions is also noticeable from the document written to inform his father about the renovations of newly constructed mausoleum of his mother at Agra Tāj Maḥal (7).

The process of Mughal architecture was initiated by Aurangzīb. Ultimately it progressed into a general criteria as subcontinent impression. Shāhjahān transformed the curvilinear and florid vocabulary in inexpensive and practical materials like brick rendering with plaster and stucco. It gave new direction to the subcontinent architecture. The bulbous dome, multi-lobed arches and Baluster-shaped supports were suited to be implemented to any plan. The elevation and functions according to his desire was achieved. This has become the hall mark for royal and civil grandeur (Koch 136).

Later on Shāhjahān passed away in 1666 in Agra Fort. He was buried with all imperial burial customs in Tāj Maḥal alongside with the late Empress Mumtāz Maḥal. The coffin was made with the marble on the underground chamber and on the ground floor. It was decorated with the variegated expensive stones in the *pietra-dura* technique similar to the Empress grave. Now a days it looks like if it was made by the same artist but the sarcophagus of Shāhjahān was built thirty years later than that of Mumtāz Maḥal. This is a clear indication about the Aurangzīb's perception of keeping ideals of arts as practise set by his father. He also constructed a resting place for his wife Rabi'a Durrāni Dilras Bānu Begum expired in Aurangabād, Dakkan in 1657. This building is similar to the constructions made in Agra the Tāj Maḥal. It looks identical to Tāj Maḥal by watching it from the distance. Surveillance in deep reveals that the values of art decreased. It was because of an unfortunate political struggle in the country (Chaghatai 8).

When Aurangzīb took over Dakkan, he stayed there for twenty six years and during that period Mughal style of painting flourished. Shortly due to the lack of government sponsorship because of the political unrest, fine arts suffered but the emperor himself had an adoration for art (9).

4.5 Information of the Inscription on the Eastern Entrance

Except the information about the mosque's constructor and owner, unfortunately there is no precise evidence to name a specific man to be nominated as the architect of Bādshāhī Mosque. An assumption exists that the architect of the era 'Aṭaullah (supposed to

be the son of Ustād Aḥmād) was hired to build the commemorative at Aurangabad for Rabi‘a Durrāni Dilras Bānu Bigum, wife of Aurangzīb. Another famous name quoted by historians is Nadir al-‘Aṣr Ustād Aḥmad of Lahore. The Red Fort and Jam‘ia Masjid of Delhi was constructed under his directions in the period of Shāhjahān. He also raised Khana-i Āṣif’s building of Nawāb Āṣif Khān Yamin al-Dawla at Lahore. All this information has no evidence to point a single architect’s name who had constructed the mosque (14).

The following details will elaborate the construction of entrance and arches, which are discussed in detail as per the standard features of this religious edifice. For more details about the architectural parts are elaborated comprehensively in M. Abdullah Chaghtāi’s book *The Badshahi Masjid*. Here the entrance and arches are described only as per Chaghtāi’s monograph.

4.6 The Entrance

The plan of the mosque presents that the main entrance was built on the eastern side. The key eastern door has a half domed double portal. It positions over a high porch and its height is seventy seven feet. The approach is twenty foot high mounting lead by twenty one steps. The total height of this entry is hundred feet above the ground level and appears in harmony with the royal atmosphere facing the Fort doorway of Akbar’s time. The entrances of Mughal buildings are certainly their major achievement. The entry of the mosque looks striking on arriving at the Ḥaḍurī Bāgh. The square building had dual purposes. The first one is its royal pride for the imperial mosque and the second one indicates that the double storey was used for the *Imam* and scholars. The front and back of the entrance are identical. The centre of the pinnacle of the eastern façade carries attractive pierced wall and ordered decorative band with the small cupolas. Underneath this band there are two rows of pigeon-holes in even number like that of the cupolas. Two cupolas over left and right of the façade are made for additional aesthetic appeal. At that point below, in the middle of two rows, a long horizontal rectangle with the historic information about the builder of the mosque Aurangzīb and the administrator Fida’i Khān Koka’s construction period 1674 are mentioned. On both sides of the marble slab at entrance, there are flower motifs resembling Shamsahs (sunflower), which are in relief (16-17).

The hemispherical dome is made as a roof and is not visible to the tourist from a distance due to its height. This dome is decorated inside with fresco work by placing a dominating sunflower in its centre (figure 43).

4.7 Arches

As a character piece of Muslim architecture, scientifically it is based upon a precise scheme though constructed with average stonework and lime bricks. The standardisation of multifoil pointed arches geometrically based on four points are added as per Islāmic building customs. These multifoil arches are locally famous as *Margholas*, named by masons. Its use was introduced in Diwān-i *Khāṣ* of *Shāhjahān* in Agra Fort 1635. It is also titled *Shāhjahāni* arch. The trend of using four pointed arches comes from Central Asia and Persia. Muslims brought it to India and it became in fashion. The Mughal architecture in the progress of the seventeenth century had developed it into multifoil pointed design. This flourished later on as prevailing feature in the architecture of Muslims in subcontinent reaching towards its peak. The application of this arch as cardinal part of the architectural plan is significantly unique as that of the pointed arches evolved in other Muslim countries. *Bādshāhī* Mosque presents the arrangement of arches from the entry to the *mihrāb* in a harmonious sequence (Chaghatai 19).

4.8 Types of Sunflower on Entrance of *Bādshāhī* Mosque and Perspective

The images in this section are arranged after the text as a series of references regarding the findings of sunflower at the entrance of *Bādshāhī* Mosque. It starts from fig. 28 to 43 and the second unit is about the images of sunflower on other monuments. It opens from fig. 44 to 52 chronologically.

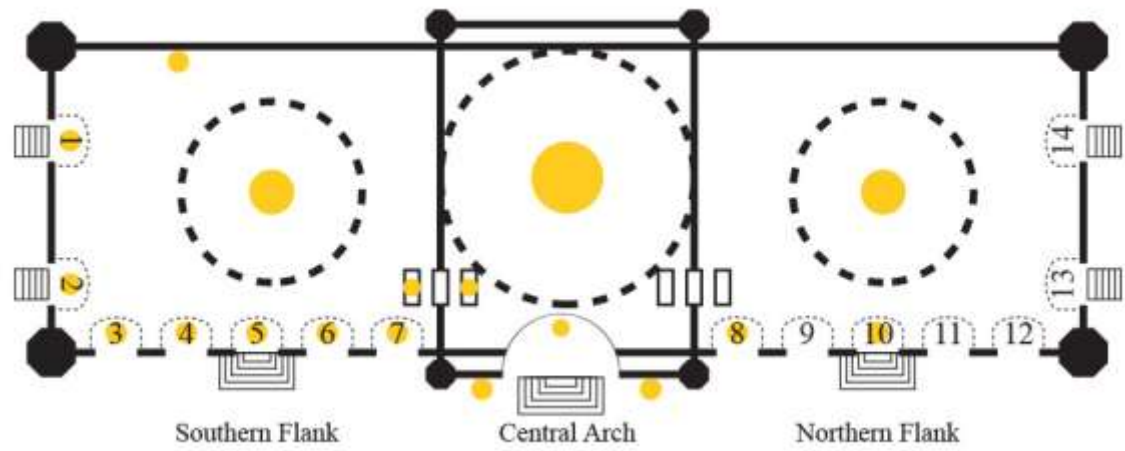
The sunflower ornament is applied on the mosque is categorised in three types.

- 1- Sunflower in low relief of red stone
- 2- Sunflower in low relief of white marble
- 3- Sunflower theme in fresco painting

At entrance all the three types are present. Above all the most significant reliefs of sunflowers, which looks so pleasing due to white marble stone inlayed in the red sandstone

stands out due to the contrast of colours on the spandrel of the main multifoil pointed central arch. These sunflowers are one of the dominating schemes applied as decoration on Bādshāhī Mosque (see fig. 28-43). All pictures are taken by the author unless otherwise indicated.

The pattern of sunflower is found on the entrances of a few Sūrī and Mughal architectural decoration themes. Some of the selected constructions starting from Sūrī at Purāna Qil'a 1533, Qil'a Rawhtās and Qil'a-i Kuhna Masjid 1541 built by Shīr Shāh Sūrī (figure 44-46). Another reference of sunflower at the entrance gate is found on Būland Darwāza built by Akbar 1601 (figure 47). At Shīsh Maḥal built by Āṣif Khān for Shāhjāhān 1631-32 at Shāh Burj Block in north-western corner of Lahore Fort, the sunflower was made magnificently in mirror work (figure 48). The Wazīr Khān Mosque is also embellished with sunflower inside the roof of sanctuary. This was built during the reign of Shāhjāhān 1634-35 (figure 49). Jama Masjid Delhi built by Shāhjāhān in 1644-58 presents an abstract form of sunflower at the spandrel of the main arch of praying chamber (figure 50). The finding of sunflower at the Moti Masjid (Pearl Mosque) Red Fort Delhi, which was built by Aurangzīb in 1659-60 for private use is noticeable (figure 50-51). All the above references show that an assortment of the sunflower was prominent and had important connotations for the Muslim monuments in subcontinent (fig. 44-52).



Main Prayer Chamber of the Bādshāhī Mosque

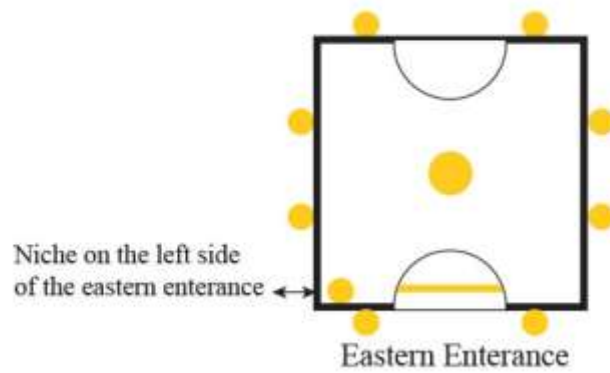


Fig. 28. Yellow circles show the locations of the sunflower
Drawing made in Adobe Illustrator software on 3, June 2015



Fig. 29. Main entrance on eastern side of the Bādshāhī Mosque.
Photograph 12, January 2014.



Fig. 30. Inscription on the main entrance of Bādshāhī Mosque.
Source: web: <https://www.flickr.com/photos/rsarwar/7709639662/>, 22, May 2015.



Fig. 31. Sunflower of white marble inlaid in red stone on the spandrel of the main entrance arch.
Photograph 12, January 2014.



Fig. 32. Sunflower in stone carving of red stone on the main entrance.
Photograph 12, January 2014.



Fig. 33. Sunflowers in stone carving both of red stone and white marble at the backside elevation of the main entrance.

Photograph 12, March 2015.



Fig. 34. Sunflower of white marble inlaid in red stone on the spandrel at the backside of main entrance arch.

Photograph 12, March 2015.

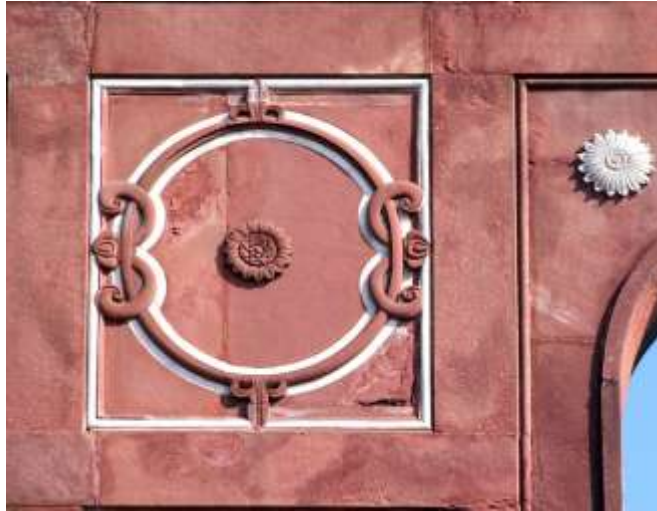


Fig. 35. Sunflowers in stone carving at the backside elevation of the main entrance.
Photograph 12, March 2015.



Fig. 36. Sunflower in stone carving of red stone at the sides of main entrance.
Photograph 12, March 2015.



Fig. 37. Sunflower of white marble stone carving inlaid in red stone at the both sides of main entrance.
Photograph 12, March 2015.



Fig. 38. Sunflower Fresco schemes on the ceiling of the main entrance arch.
Photograph 12, March 2015.



Fig. 39. Sunflower in Fresco on the ceiling of the entrance arch.
Photograph 12, March 2015.



Fig. 40. Sunflower in Fresco on the soffit of the entrance's arch.
Photograph 23, March 2015.



Fig. 41. Sunflower in Fresco as stripe of decoration inside the main entrance.
Photograph 12, March 2015.



Fig. 42. Sunflower in Fresco on the left niche of the entrance.
Photograph 12, March 2015.



(a) Sunflower close-up
Photograph 12, March 2015.



(b) Sunflower close-up
Photograph 12, March 2015.



Fig. 43. Sunflower in stucco inside the roof of main entrance dome.
Photograph 12, March 2015.



Fig. 44. Sunflower in stone carving at the entrance gate of Purana Qil'a, its foundations was built by Humayūn and carried forward by Shīr Shāh Sūrī in 1533.

Source: <http://www.skyscrapercity.com/showthread.php?p=76832885>, 23, May 2015.

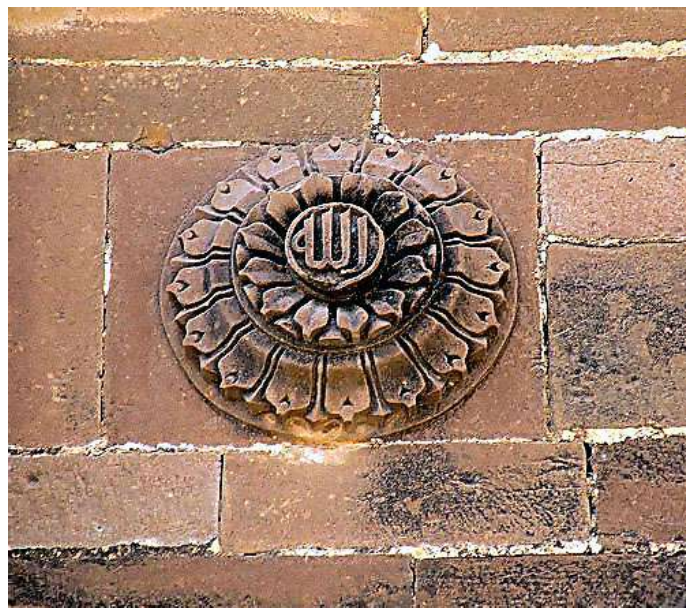


Fig. 45. Sunflower in stone carving at Qil'a Rawhtās, built by Shīr Shāh Sūrī in 1541.

Source: <https://www.pinterest.com/pin/139330182195353119/>, 23, May 2015.



Fig. 46. Sunflower in stone carving at Entrance of Qil'a-i Kuhna Masjid, in Delhi built by Shīr Shāh Sūrī in 1541.

Source: http://blog.lindsaywashere.com/2012_05_01_archive.html, 23, May 2015.



Fig. 47. Sunflower in stone carving at Būland Darwāza built by Akbar 1601.

Source: <http://www.indiantravels.com/Uttar-Pradesh/Agra/Places/Buland-Darwāza>, 23, May 2015.

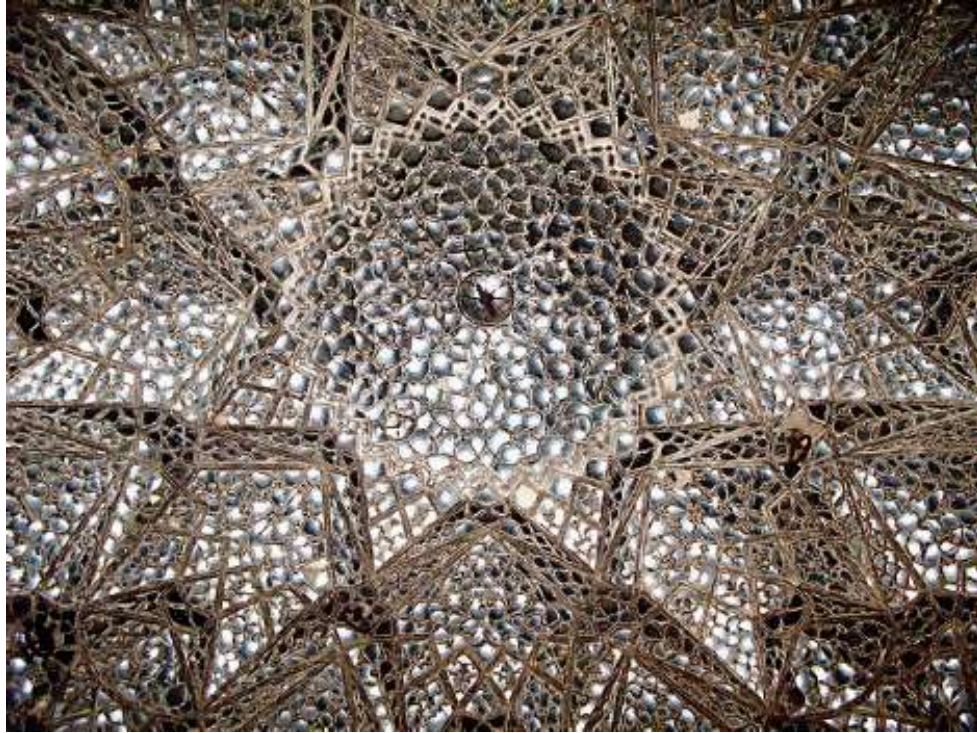


Fig. 48. Sunflower in mirror work at Shīsh Maḥal built by Āsif Khān for Shāhjāhān 1631-32 at Shāh Burj Block in northern-western corner of Lahore Fort.

Source: <https://www.pinterest.com/pin/136374694936299286/>, 25, May 2015.



Fig. 49. Sunflower in Fresco inside the roof of entrance in Masjid Wazīr Khān built by ‘Ilm al-Dīn Anṣari (Wazīr Khān) during the reign of Shāhjāhān 1634-35.

Source: <https://kirinrin.wordpress.com/2013/12/20/wazir-khan-mosque/>, 23, May 2015.



Fig. 50. Abstract representation familiar to sunflower in flat inlay with black marble on the spandrel of the main arch of praying chamber at Jama Masjid Delhi built by Shāhjāhān 1644-58.

Source: <http://www.culturalindia.net/monuments/jama-masjid.html>, 23, March 2015.



Fig. 51. (a) Sunflower in stone carving on Moti Masjid (Pearl Mosque) Red Fort Delhi, built by Aurangzīb in 1659-60 for private use.

Source: *The Mosque* by Martin Frishman and Hasan-Uddin Khan, Thames & Hudson, United Kingdom, London: 1994; print; p. 165).



(b) Close-up of the sunflower in stone carving on the exterior of Moti Masjid.



(c) Close-up of the sunflower in stone carving on the interior of Moti Masjid.

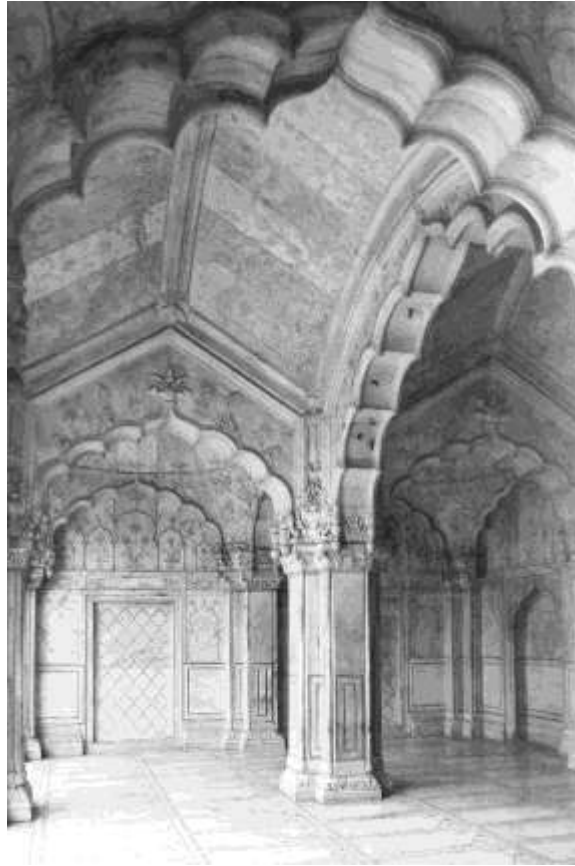


Fig. 52. (a) Sunflower in stone carving of the interior of Moti Masjid.
Source: *The Mosque* by Martin Frishman and Hasan-Uddin Khan, Thames & Hudson, United Kingdom, London: 1994; print; p. 158).



(b) Close-up of the sunflower in stone carving of the interior of Moti Masjid.

4.9 Ornamentation Schemes at Bādshāhī Mosque

Islām has focused on offering prayer to the God and no other thing should be there except the facility to perform worship. However to a certain extent to praise God it is expressed by making decoration in the mosque and allowed the builders to add decoration as does not distract the worship. The period of decorations started from the Umayyad dynasty's ruler Abdul Malik Bin Marwān. He built Qubbat al-Ṣakhra (Dome of the Rock) in Jerusalem in 691. Later Walīd the successor raised two mosques. The one was of the Prophet Muḥammad pbuh at Madina in 705 and another was at Damascus. The above mosques above were ornamented on their walls with mosaics in precious stones belonging to Byzantine origin. It is believed that the main focus of Umayyad rulers was to raise the standard of the mosque in comparison with Christian churches. This paved the way for decoration as fundamental part of the mosque construction. Each period afterwards developed its own style of decoration consequently to their environment and locality. Further the architects of these religious monuments developed the ornamentation a compulsory element for the mosques. All the elements used in for decor had been harmonised with the themes of designs and motifs applied on the particular construction. Natural environment was the main inspirational aspect for the artist, however mostly the imitation is followed as conventional style. The application of decoration was applied on walls, ceiling in stucco and plaster, glazed tiles and stones of several categories. These types were mainly derived from Egypt and Greeks. Some of the known types are water lily, lotus, palm, honeysuckle, rosette and acanthus. The major contribution of Muslim artists is the utilisation of all these elements in harmony and symmetrical arrangement. These are universally known as Arabesque designs. As a chief feature the ornaments had played a vital role in Islāmic architecture and that is why it is placed under the heading of architecture. At Bādshāhī Mosque many ornamentation styles break the monotony of flat red stone on exterior and white surface of interiors. The overall decoration of both exterior and interior is divided into four types (Chaghatai 24).

- 1- Stone Carving in relief (white marble and red stone)
- 2- Decorative motifs of white marble cut-outs in flat inlay on red stone.
- 3- Decorative motifs of white marble cut-outs in low relief inlay on red stone.

- 4- Mural ornamentation of Arabesque schemes of natural colours on white plaster surface of walls, vault and stalactite patterns.

The entire magnificence of Muslim architecture involves the ornamentations of different types for the religious monuments. Mostly one of the major elements which attracts the visitors here at Bādshāhī Mosque are the decorative schemes. Which at times provokes the inquiry of finding its origin and relation to foreign influences (24-25).

Thus concluding the ornamentation at mosque has its own merit for those who has keen eyes. The figures are place in upcoming pages to present the discoveries of sunflowers on the prayer chamber at Bādshāhī Mosque, Lahore.

4.10 Chamber for Prayer

The prayer chamber is situated towards Makkah in the western side of the mosque.. The heart of this figure is the *mihrāb* in the centre of the back walls. The external area is 275 feet by 120 feet with fifty one feet tall walls. Muslim writers named this portion as *Īwān* or al- *Īwān* (the prayer chamber) mentioned by European writers as omitting the first alphabet 'a' it remains *Īwān* only. This gathering room is made according to the standards set by Mughals at Agra and Delhi. Three crowned domes are erected on the western chamber with vaulted bays among them. The minor compartments opposite courtyard are completed with flat vaulted roof arrangements. The floor is raised five feet higher with steps. The impact of the façade of the chamber is enhanced by central fronton. On the left and right flanks it holds five porticos of multifoil pointed arches of equal size. The central arch is planned with steps to reach to the main praying hall. In the north and south of *Īwān* consist of opening to the arcaded chambers (Chaghatai 20).

It consists of two rectangular chambers which are constructed with multifoil pointed arches at regular intervals. The inside of ceilings of these arches are decorated with stalactite patterns in fresco work. The findings of sunflowers on southern flank arches are most surprising discovery. Only a keen eye can detect the sunflowers are composed in the centre of the fresco design patterns in all of the southern flanked arches. It starts from the first southern arch at the opening to the arcaded chambers and leads towards the seventh arch adjoining the Fronton of the prayer chamber. It can be assumed that the sunflowers are

painted on all of the southern flank arches due to its visual position at the time of sun setting. The sun set appears on the southern flank of the main chamber. It seems that this flower is composed inside the arches of the southern flank because of the relation of sun with the sunflower as a prehistoric association of Greek myth. By facing *mihrāb* the southern section comes in the front of the sunset. Apparently both section are similar from exterior. Yet sunflowers painted in fresco repeatedly appear only on the southern flank ceilings of arches which is not ignorable. In northern flank the tenth arches is also composed with sunflower in the middle of designs on its ceilings (figure 64-77). The sunflowers of white marble in low relief on the spandrel of the arch are identical to the sun.

4.11 Sunflower on Prayer Chamber

Types of sunflower motif on main eastern entrance are extended into more variations on the Praying chamber. On the spandrel of main arch of praying chamber, sunflower is composed as a main motif surrounded by vegetal motifs (figure 54-55). The white petals of flowers are enriched with black marble inlay in contrast. It has eight petals and eight rays donating the light of sun. In centre of the disc of sunflower, it has further petals bent inside and ready to blossom after the first eruption of florets. Thus following the principle of growth in natural environment. In the next stage central disc is composed with eight corner star motif as concluding the motif. Facing wall of the prayer chamber has sunflower in both white marble inlay and red stone carving. On the small arches of southern and northern flanks, the disc of sunflower has a different type of low relief effect however similar to the compositional formula adapted on spandrel of the main arch of praying chamber. Here black marble inlay is not used and the overall impact is achieved in white marble carving. The monotony is broken through the detailed and sophisticated carving (figure 56).

The red stone carved sunflowers has eight categories of design formations. Some of the formations are repeated casually. Still the composition of sunflowers are different in character. This difference is maintained from side to side by variations in disc, florets and the vegetal motifs surrounding the flowers. Only a keen eye can observe these varieties. The similarity of white marble sunflower like eight petals and eight spikes of rays of light is still followed to keep overall harmony (figure 57).

Inside the ceiling of entrance arch to the prayer chamber, two sunflower motifs are transformed into reverse formation. Petals are folded inside towards centre and the rays are grown large (see fig. 53). Sunflower inside the large dome of main praying chamber has sixteen petals and eight corner star in the central disc (see fig. 58). The ceiling of small domes also has sixteen petals flowers on the other hand notable with the small petals depicting the second movement of florets ready to blossom according to the natural sequence (see fig. 59). The stone carving in low relief is well-arranged in more natural way as petals are growing outward. Discs of these flower is depicting rough treatment of Fibonacci pattern. It is painted over disc of the flowers (figure 60).

The presentation of sunflower motif in fresco paintings inside the ceiling of southern arches is related to sun movement. The findings of the motif application continually on the southern flank reveals this detail. During the time of the sunset, sun comes on top of southern flank and gets set (figure 63).

Sequence of fresco paintings inside the ceiling of southern arches with vegetal themes is revolving around the sunflower as a main motif. Sunflower inside the ceiling of southern arch one has blue disc and yellow petals fencing it as circular frame. Colour of the disc is not according to natural appearance of the flower. The large size of disc and small petals defines this type of flower as individual motif. The patterns around flower appears growing for bloom. Six corner stars are also visible in the eight corners encircling sunflower in the centre. All the flowers in surrounding of sunflower has similar blue colour discs like sunflower. By looking at close ups of patterns, it can be observed that finishing of the motifs are handled roughly. It could be due to the restoration works done by Muslims when they took it from British government (figure 64).

The ceiling of southern Arch two has eight petals sunflower with similar numbers as that of flowers on the front wall of prayer chamber. Here colours of the flower are similar to the arch one. However petals are bigger than the disc of flower is in contrast to the previous arch. The decorative pattern of vegetal scheme is presented to depict next phase of growth. The flowers are growing towards bloom and added up with more leaves on stems. Further the flowers are painted in upward direction as compare to arch one, where the flowers on stems

are pointing to downwards. This shows a connection and creates animation of two dimensional patterns. Few portions are still under renovation of this section (figure 65).

In the ceiling of third southern arch sunflower's disc is filled with four petal flower motif. Though the disc is again bigger than petals and colours are also familiar to the arch one. Flowers in adjacent locations of the pattern are exhibiting flower heads are more prospered and leaves are increased in numbers. The flowers in the six corner stars are in variety of forms and colours. Different flower motifs are added to give it a look of spring season (figure 66).

The fourth southern arch's ceiling carries sunflower theme in another fashion. Main petals of flower are not similar to sunflower and bigger than the disc of the flower. In opposite the disc in blue colour is identical as to the earlier arches though surrounded by petals smaller than its disc. It presents a sunflower inside a flower motif. The theme is more evident on ringing flower motifs which are presenting half sunflower motif set in the head of flowers. The whole pattern has transformed the flower budding into reversion. Flowers are shrinking back to the position where they came from (figure 67).

Fifth ceiling of the southern arch presents relatively bigger sunflower. The motif is more complex in details. The character of sunflower here is enhanced by adding another white sunflower inside the disc of flower. Its disc is bigger than its petals like that of first and third arch's sunflower. On the other hand the petals are in white paint and the disc is in blue hue bordered by yellow ring. The whole pattern is projected to show the flowers reverting back to the position before come into blossom. The reduction in number of leaves is also notable (figure 68).

Coming towards the ceiling of sixth southern arch where sunflower is again dominating in size and slightly smaller than the flower on the fifth arch. The disc carries matching white flower motive with blue colour fenced by yellow border. Though leaves are painted in dark green hue. It has ten petals fencing the motif. All the petals are executed in red outlines and crowned with red flowers on finishing spots. Where as in previous five designs eight petals are used with filling of different tints. The plant pattern on all sides of the flower has stems moving slightly downwards as compared with the previous arch pattern (figure 69).

Seventh southern arch has sunflower motive on its ceiling comparable to the fourth southern arch. The basic formula of the composition is repeated. The petals of the sunflower are smaller than the blue disc. It is also surrounded by smaller petals inside a flower motif. Nonetheless the pattern of plant scheme has maintained the sequence of the episodes developed in previous arches. The style of decoration casing flower is changed from petals to flowers moving in anti-clockwise direction in a circle resembling to the movement of *Tawāf* around Kā'ba (figure 70).

All these visuals are also relate to the process of life and death. The blossom of flower is related to the birth and the decline of the plant after growth is depicted as death. It is acting like communicating a concealed message of nature as a sign for the followers. The whole series is based on natural bouquets. In contrast the series of fresco paintings inside the ceiling of northern flank is portrayed on manmade bouquet themes composed of rose bowl. These vases has different types and shapes probably depicting the royal standards of poetry. Besides different types of flower motives are arranged in the centre (figure 71-72).

The tenth northern arch is composed of a flower very much similar to sunflower and has eight petals. Most of its part are still under renovations and appears missing (figure 73). In eleventh northern arch the ceiling is more colourful and ornamented with additions of fruits near the flower motif (figure 74). The tenth and eleventh arches are without vase designs. The vase theme appears in twelfth northern arch. This pattern appears more elegant due to the mode of colours are relative (figure 74). The thirteenth and fourteenth arches minimized the details of ornaments.



Fig. 53. Sunflower and sun of white marble cut outs as low relief and inlay in red stone on the ceiling of main arch of praying chamber.
Photograph 30, October 2014.



Fig. 54. Sunflower in white marble cut outs inlay on the spandrel of central arch of praying chamber.
Photograph 30, October 2014.



Fig. 55. (a) Sunflower in white marble cut outs inlay on the spandrel of main arch of the praying chamber.
Source: Photograph 30, October 2014.



(b) Close-up of the sunflower in white marble on the spandrel of main arch of the praying chamber.
Photograph 30, October 2014.



Fig. 56. (a) Sunflower white marble cut outs inlay on the spandrels of small arches at the praying chamber.
Photograph 30, October 2014.



(b) Close-up of the sunflower on spandrel of small arches of the praying chamber.
Photograph 30, October 2014.



(c)



(d)



(e)



(f)



(g)



(h)

Fig. 57. Sunflower in stone carving on red stone at the exterior of praying chamber.
Photograph 30, October 2014.

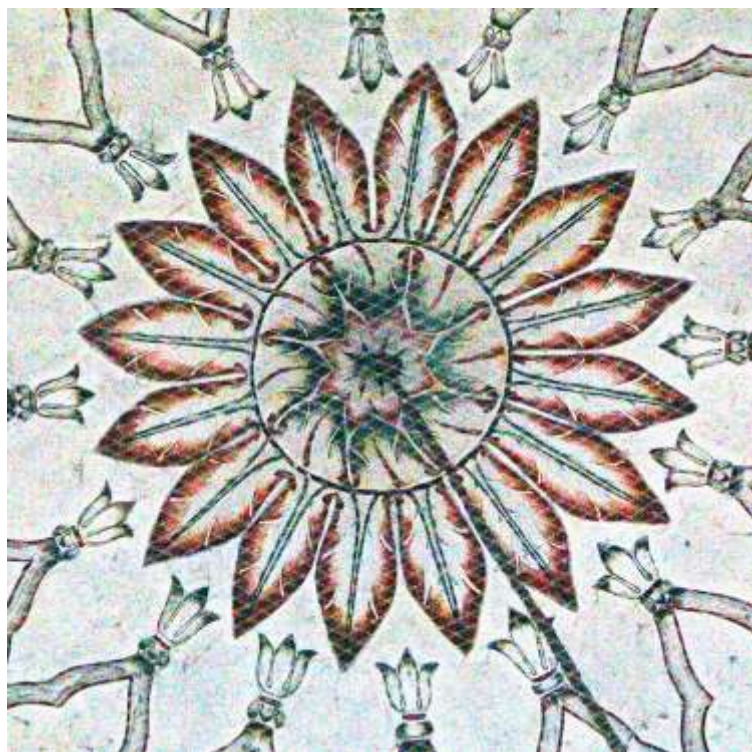


Fig. 58. Sunflower in Fresco on the ceiling of the large dome at praying chamber.
Photograph 30, October 2014.



Fig. 59. Sunflower in Fresco on the ceiling of the small domes at praying chamber.
Photograph 30, October 2014.



Fig. 60. (a) Sunflower in stone carving of the interior walls of the praying chamber.
Photograph 30, October 2014.



(b) Sunflower in stone carving of the interior walls of the praying chamber.
Photograph 30, October 2014.



Fig. 61. Sunflower in Fresco on the ceiling near left side of entrance arch of praying chamber.
Photograph 30, October 2014.



Fig. 62. Sunflower in Fresco on the ceiling near left side of entrance arch of praying chamber.
Photograph 30, October 2014.

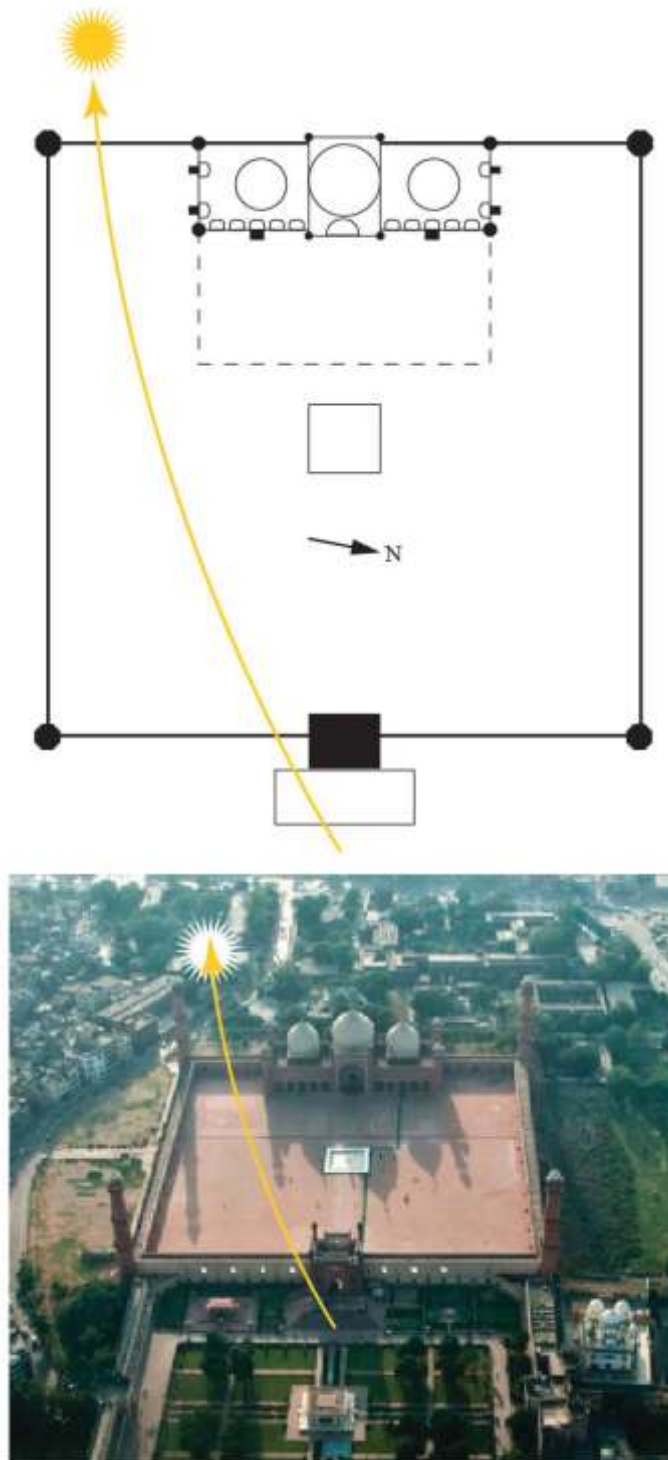


Fig. 63. Movement of the Sun
Drawing 3, June 2015: Image taken from Google earth and edited in photoshop.

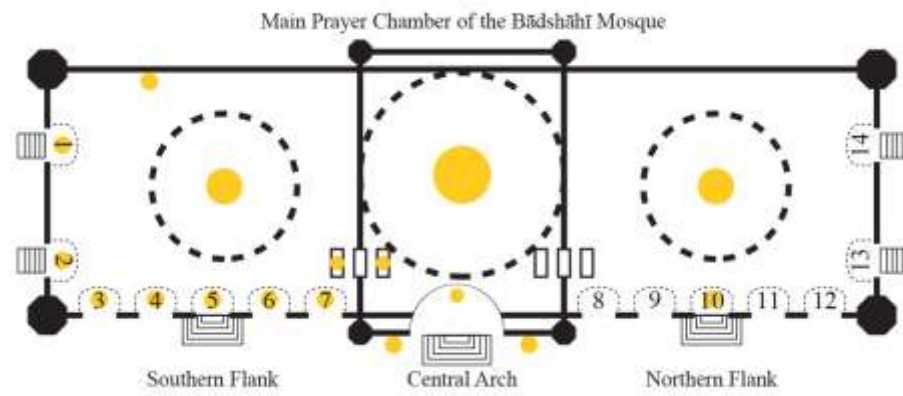
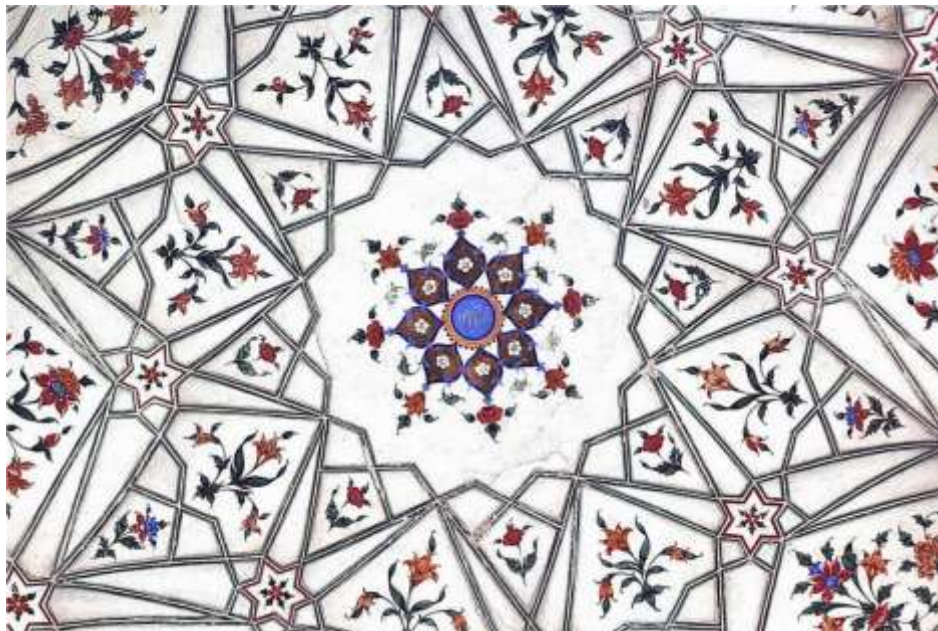


Fig. 64. (a) Sunflower in fresco on the ceiling of southern flank, arch- 1 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of sunflower motif 30, October 2014

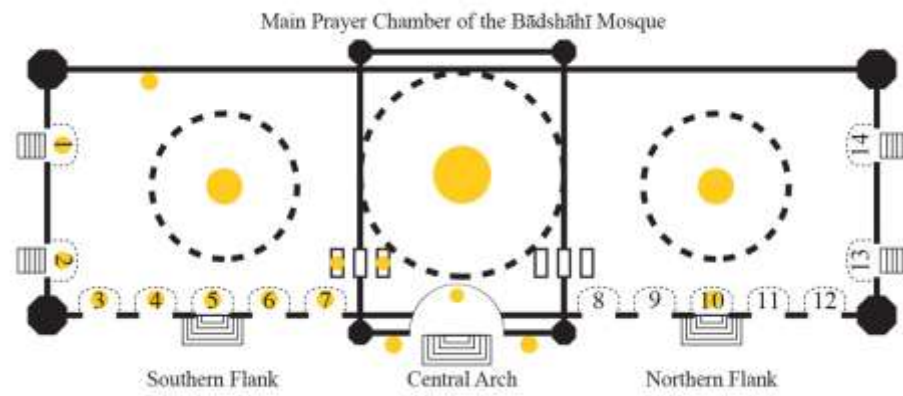
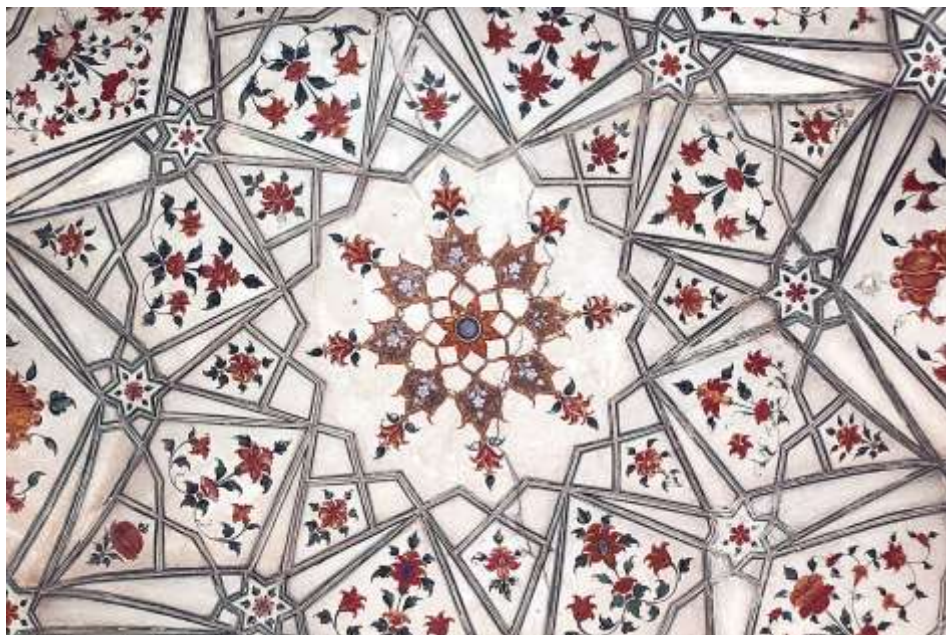


Fig. 65. (a) Sunflower in fresco on the ceiling of southern flank, arch- 2 of praying chamber.
 Photograph 30, October 2014



(b) Close-up photograph of sunflower motif 30, October 2014

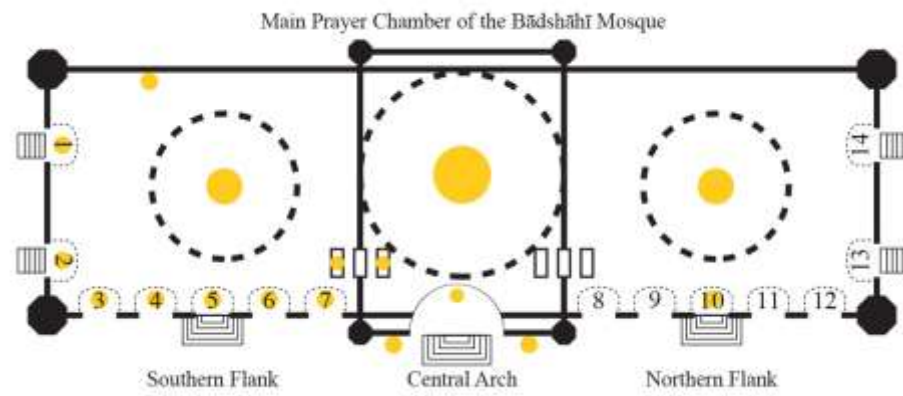
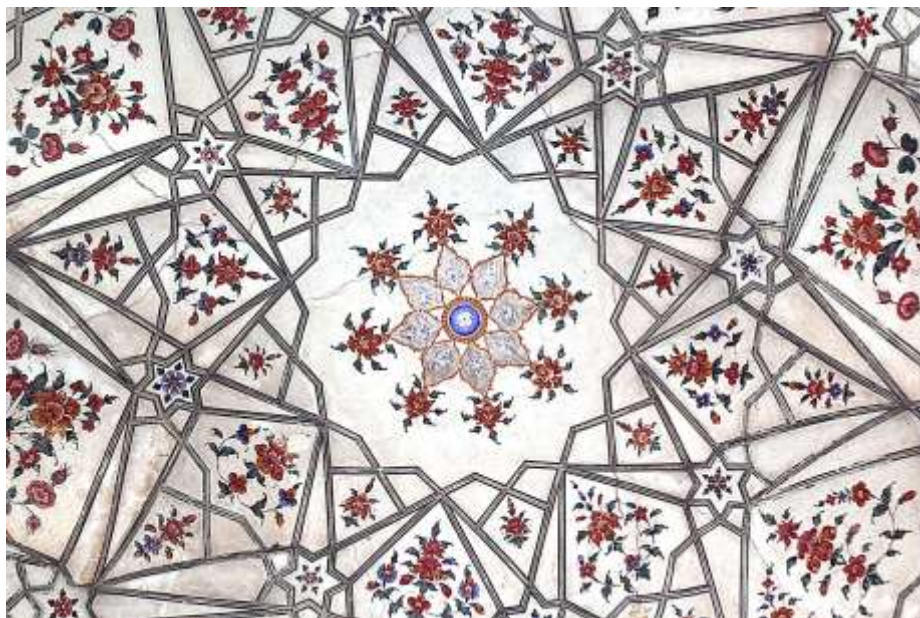


Fig. 66. (a) Sunflower in fresco on the ceiling of southern flank, arch- 3 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of sunflower motif 30, October 2014

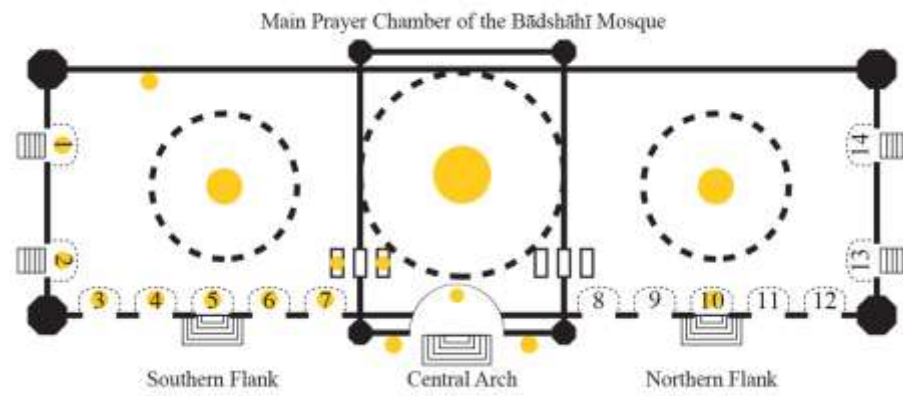
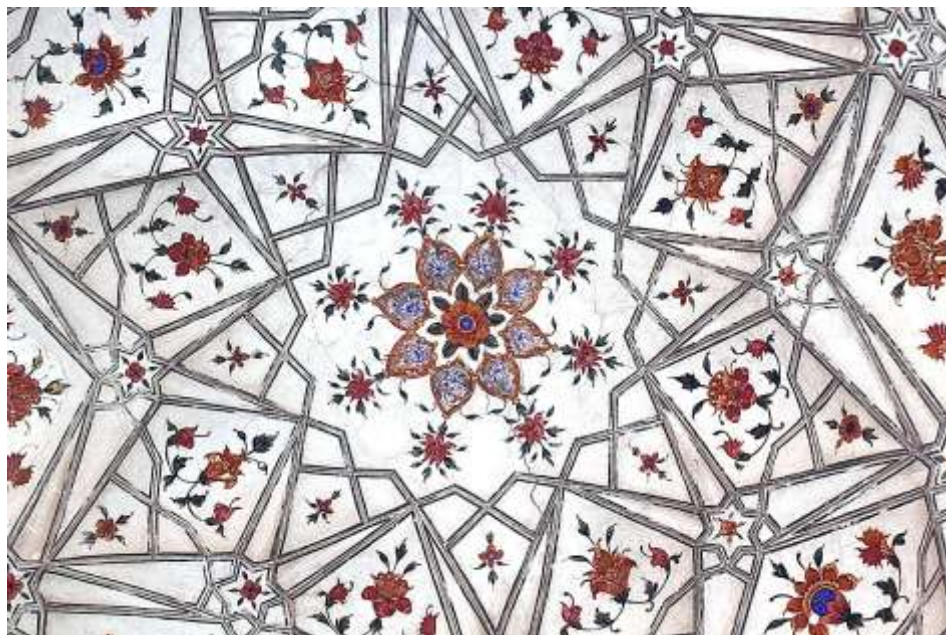


Fig. 67. (a) Sunflower in fresco on the ceiling of southern flank, arch- 4 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of sunflower motif 30, October 2014

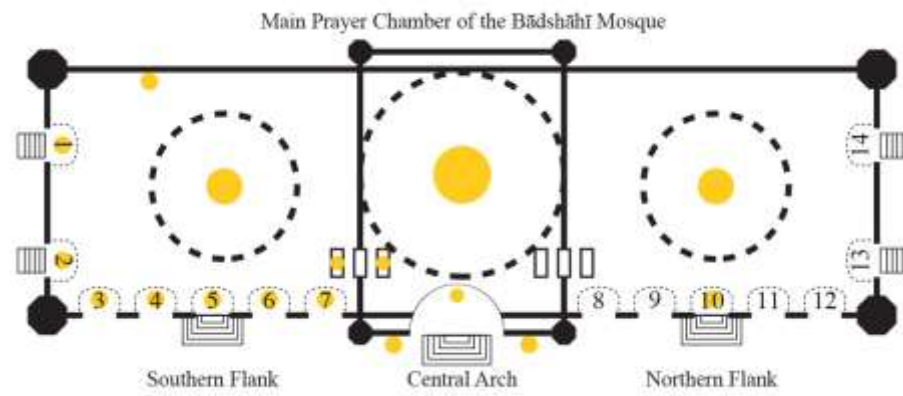


Fig. 68. (a) Sunflower in fresco on the ceiling of southern flank, arch- 5 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of sunflower motif 30, October 2014

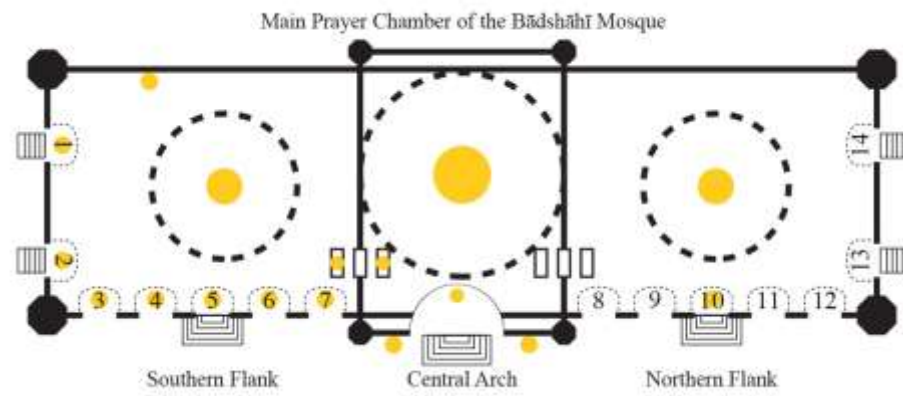
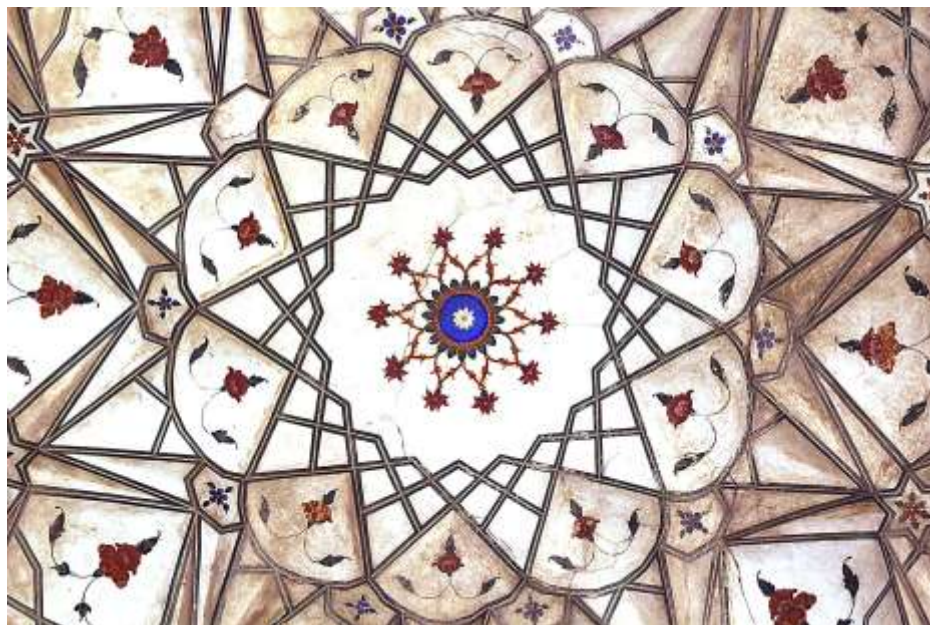


Fig. 69. (a) Sunflower in fresco on the ceiling of southern flank, arch- 6 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of sunflower motif 30, October 2014

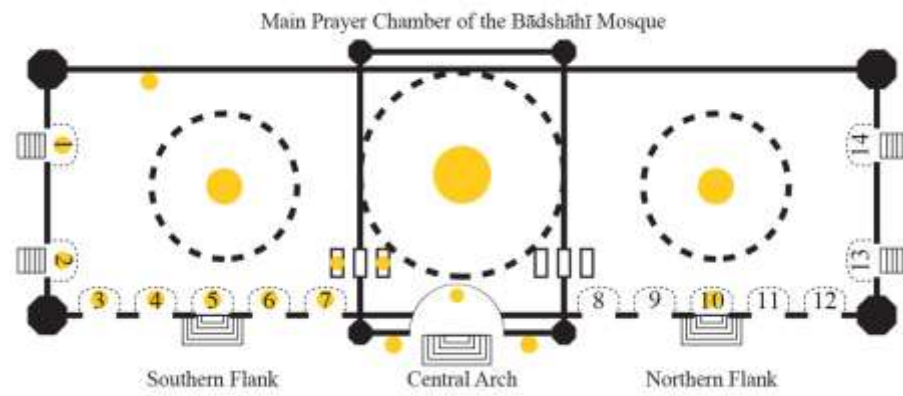
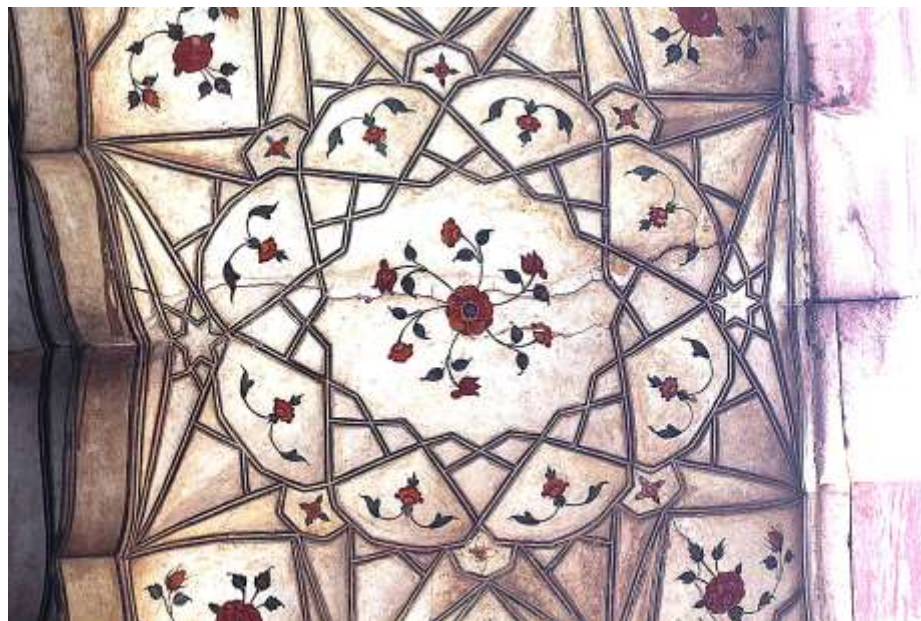


Fig. 70. (a) Sunflower in fresco on the ceiling of southern flank, arch- 7 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of sunflower motif 30, October 2014

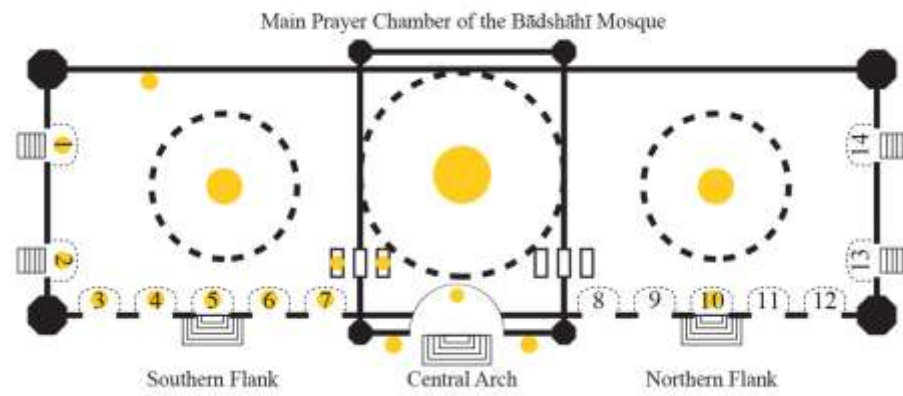


Fig. 71. (a) Flower motif in fresco on the ceiling of northern flank, arch- 8 of praying chamber.
 Photograph 30, October 2014



(b) Close-up photograph of flower motif 30, October 2014

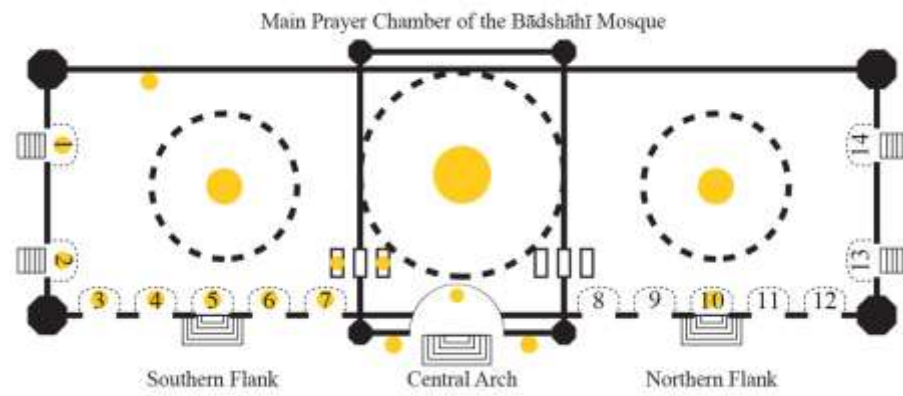


Fig. 72. (a) Flower motif in fresco on the ceiling of northern flank, arch- 9 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of flower motif 30, October 2014

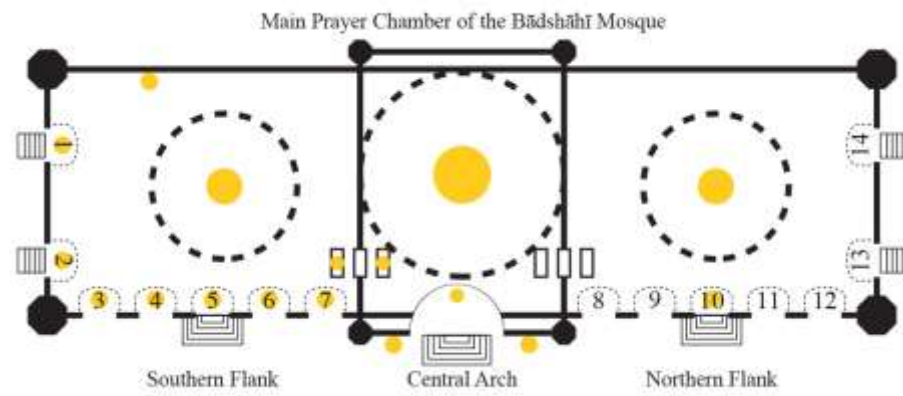


Fig. 73. (a) Flower motif in fresco on the ceiling of northern flank, arch- 10 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of flower motif 30, October 2014

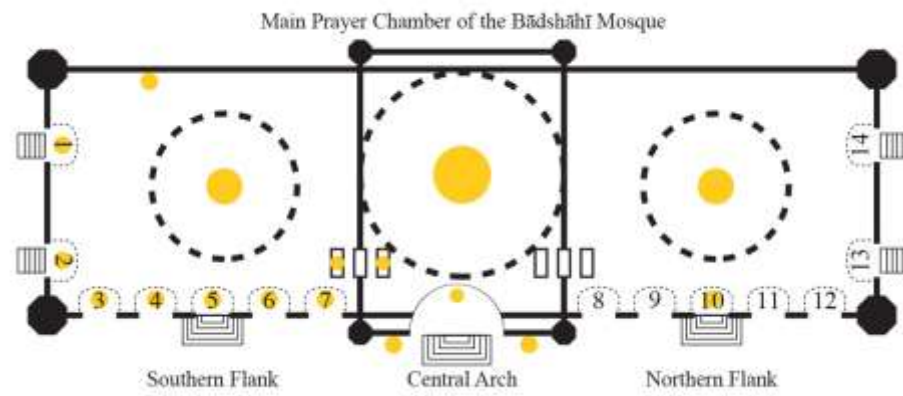


Fig. 74. (a) Flower motif in fresco on the ceiling of northern flank, arch- 11 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of flower motif 30, October 2014

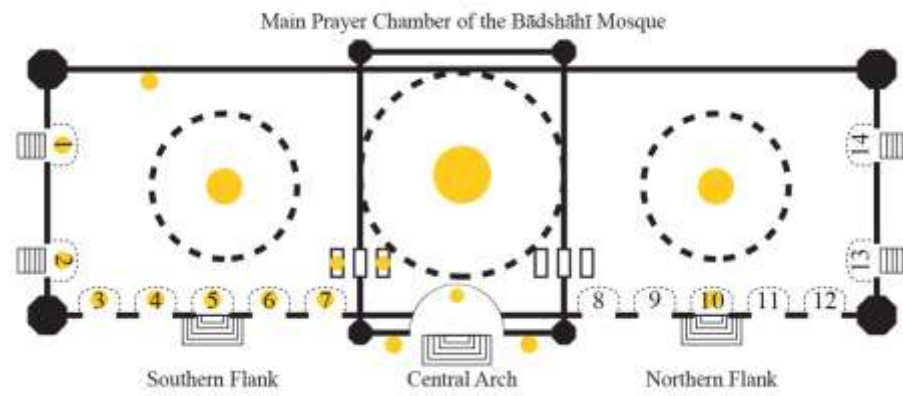
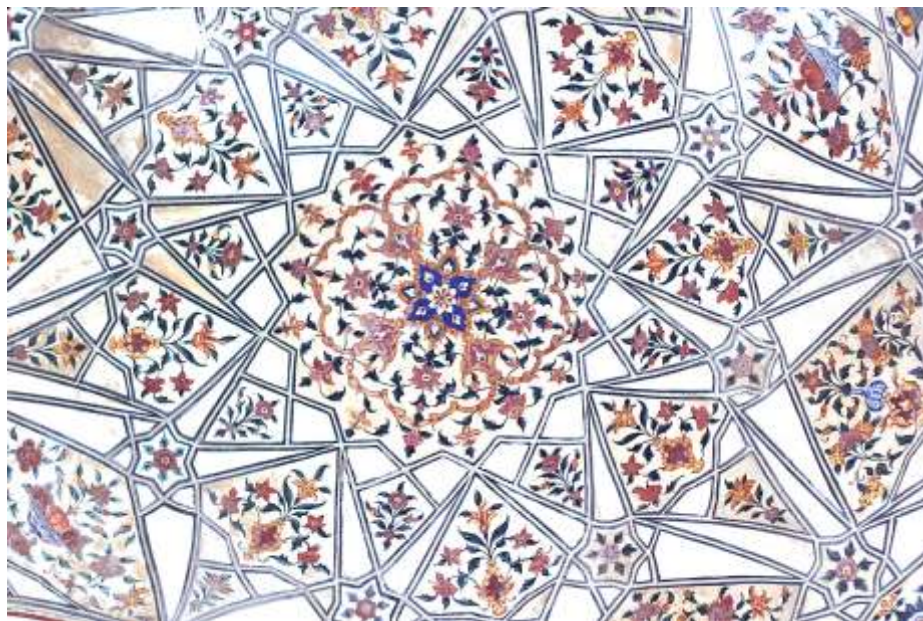


Fig. 75. (a) Flower motif in fresco on the ceiling of northern flank, arch- 12 of praying chamber.
 Photograph 30, October 2014



(b) Close-up photograph of flower motif 30, October 2014

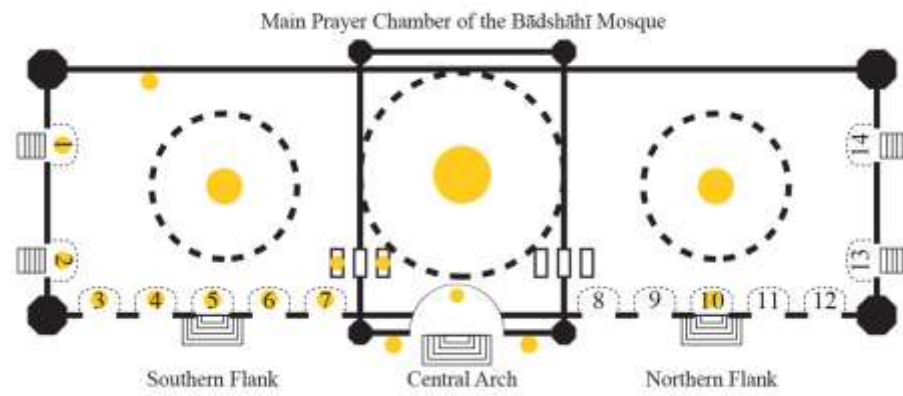
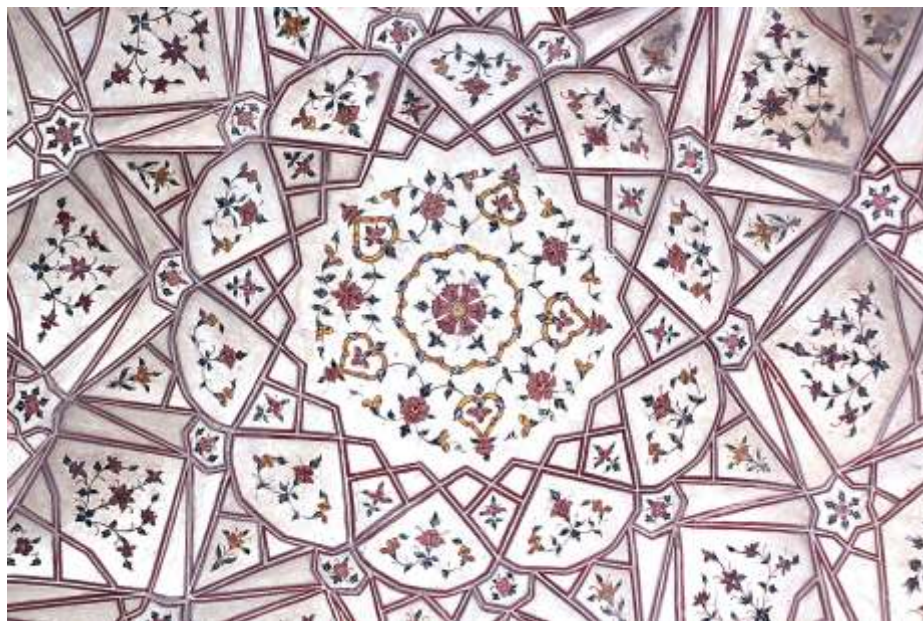


Fig. 76. (a) Flower motif in fresco on the ceiling of northern flank, arch- 13 of praying chamber.
Photograph 30, October 2014



(b) Close-up photograph of flower motif 30, October 2014

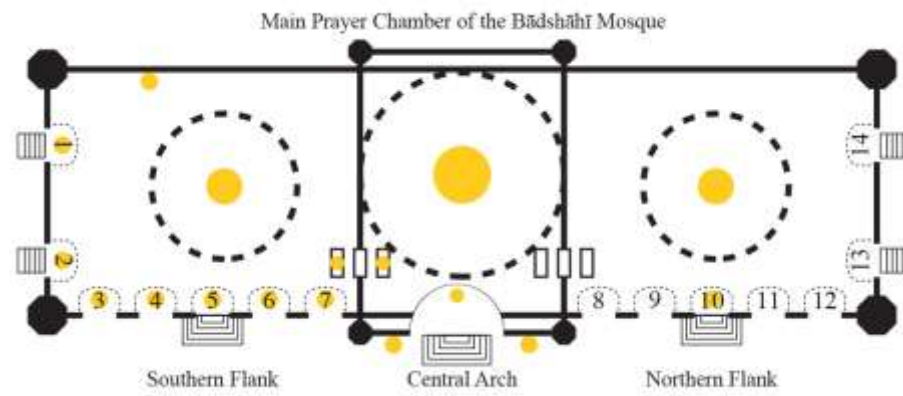
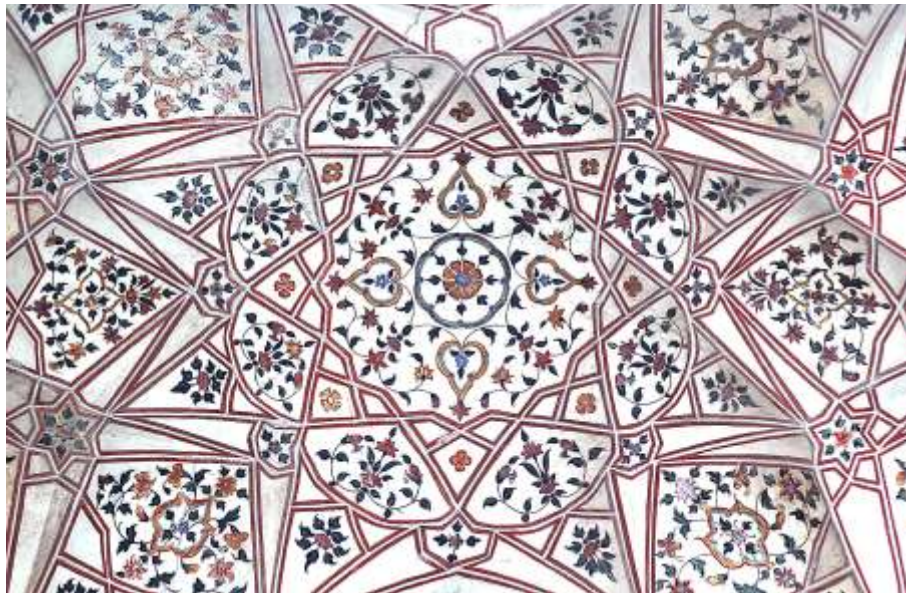


Fig. 77. (a) Flower motif in fresco on the ceiling of northern flank, arch- 14 of praying chamber.
 Photograph 30, October 2014



(b) Close-up photograph of flower motif 30, October 2014

Notes

²⁷ The tomb or shrine of a Muslim saint.

²⁸ The institution of a residential teaching centre for Ṣūfīs seems to have emerged in Iran with the formalization of Ṣūfī activity in the late tenth or eleventh century.

²⁹ A Punjabi language word which means below ground level

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Conclusion

This research has been carried out for the discovery of the evolution, development and significance of sunflower ornament in subcontinent's mosque. Among many Mughal solar symbols, sunflower is associated with sun and royalty. The emperor Aurangzib's Moti Masjid (Pearl Mosque) Red Fort Delhi built in 1659-60 was for private use. This was abundantly decorated with sunflowers carved out on white marble in low relief. It might be possible that Aurangzib have liking for sunflower. However the discovery of sunflower in different types at the mosque of Aurangzib is not in isolation. The sunflower carved in stone at the gate of Purana Qila which was initiated by Humayun and carried forward by Shir Shah Suri in 1533. It is a considerably early reference of the ornament on Muslim buildings. Shir Shah Suri built Qila Rawat, in 1541. It also projects sunflower with inscription of letters Allah composed as the disc of the flower. The motif displayed on the Buland Darwaza built by Akbar in 1601 is comparable with Badshahi Mosque, Lahore. It is also found in the centre of the ceiling of Shish Mahal built by Asif Khan for Shahjahan 1631-32. The black marble in flat inlay on the spandrel of the main arch of Praying Chamber projects abstract form of sunflower. It was built by Shahjahan in 1644-58 at Jama Masjid Delhi.

All these findings indicate that sunflower was a significant motif in subcontinent's architecture. The kind of flower was associated with the sun since ancient civilizations. The appearance of sunflower on the entrance gates of Suri and Mughal buildings or mosques shows that it had inspired the Muslim rulers as native artefact. The use of sunflower in the fresco work on the ceiling of the arches of praying chamber is planned according to the movement of the sun over the mosque. All this proves that the architect and the patron both were well aware of sunflower and its relation with the sun.

The subcontinent was already familiar with the flower in pre-Islamic periods and probably in the pre-Colombian period's temple. It was not strangely associated with the royals on the other hand rationally adapted into Muslim decorative themes. Among all the historical places in Lahore, Badshahi Mosque stands with distinction as a magnificent Mughal tribute. The decorative features are of cardinal importance and suggest the fact that the rule of Aurangzib was towards religious convictions. Even then architecture of the Badshahi mosque has continued to ideals. The findings of sunflower as ornamentation for the

holy place is applied as a theme and its repetition on different parts are harmonising it with the mosque design. It has three types of designs which are already discussed in detail in 4.8 heading types of sunflower on entrance of Bādshāhi Mosque and perspective in chapter four. The most recent discovery about the Mughal gardens created with the symbolic meaning of gardens of Eden carrying four main canals flowing from the centre to the four corners of the world. Some of the gardens were layout to the directions of sunrise and sunset on solstices. Since the architect of ancient civilizations followed the alignment of sunrise and sunset on solstices. The article by A.C. Sparavigna using satellite images, Google Earth through a programme called SunCalc is phenomenally contributed to the fact that sun movement in architecture was part of the design. Sunflower on the ceiling of arches in prayer chamber was implemented in fresco work in relation to the sun³⁰.

As sunflower is familiar with the impression of sun like the large disc in the centre and small petals similar to the rays of light. It represents the source of life on earth and was being worshiped by ancient man as god. Aesthetically the natural the Fibonacci ratio which was the hallmark of proportions followed by the ancient artists is central part of the flower. In the centre of the flower the two spirals of one moving clockwise and the other moving anti-clockwise is notable. It depicts Yin and Yang also. Though at Bādshāhi mosque all the flowers are depicted meticulously except the flowers inside the praying chamber in stone carving are rough. As most of the mosque restored under British rule later, so it might be possible that these marvellous details are not carried forward carefully.

Muslims were exposed to the variety of arts and cultures due to the expansion of land in Islām. The eclecticism is the noticeable character of Islamic ornamentations. Sunflower appears as a sacred symbol of God on earth like a link between heaven and earth. Muslim used it as a sign of creator in the natural world. Sunflower gives the impression to project the almighty's source of light and connecting the man with the creator on Bādshāhi mosque. Evolution of sunflower ornamentation and Muslim adaptation both are statements to appreciate nature and God on the sacred places. It was the desire from the very beginning of mankind of exaggerating the sacred places in praise to God.

Note

- ³⁰ Sparavigna, A. (2015). Observations on the Orientation of Some Mughal Gardens. *PHILICA.COM Article number 455*.

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