

Glazed Tile Ornamentation in Mughal Monumental Architecture

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Abstract—The rich and diversified architectural ornamentation in the Mughal monumental architecture is an intelligent interplay of geometry, proportions, colours, materials and techniques in the form of highly intricate and sophisticated unparalleled patterns derived from the multiplication of basic Islamic art forms. This colourful expression of glorious Mughal era reflects their artistic excellence and most refined architectural sense that glorified the barren/ deserted Indian subcontinent during their reign. Mughals introduced different types of architectural ornamentations including glazed tiles, stone mosaic or inlay works, fresco/mural paintings, stucco etc. for the decoration of the interior and exterior surfaces. The extensive use of glazed tiles for ornamentation by the Mughals especially on exteriors is attributed to their weather durability and unique designs. The glazed tile variegated designs ranges from infinite complex permutations of lines and curves to flowing floral patterns and human, animal, plant life subjects to extremely graceful calligraphic forms. This research is the comprehensive and explorative study of the glazed tiles origin, their evolution and various influences during their development in the Mughal period (1526-1857 A.D.). In addition, the study not only explores the transformation phases essential for architectural conservations but also provides the reference for future analytical studies.

Keywords—Architecture, Glazed Tile, Monumental, Mughal

I. INTRODUCTION

The Mughals laid great emphasis on the decorations of their monumental buildings and employed all forms of embellishment: glazed tiling, stone mosaic or inlay works, fresco/mural paintings for aesthetically appealing surfaces of their magnificent architecture [1]. Glazed tiling was mostly employed for exterior embellishments while stone mosaic (pietra-dura, inlay works etc.) and paintings were used for decorating interiors [2]. The glazed tiling ornamentation (locally known as *kashi-kari*) is composed of a layer of coloured glazes spread on the plaster or terracotta body. The stone decorations including pietradura (locally known as *pachi-kari*), inlays (locally known as *khatumbandi*) and Intarsia are the modes of decoration in which the base stone is first carved out and then its lay in pieces (*raqm*) are prepared separately before being fixed. The surface is smoothed and polished to give the required appealing finish. Another type of stone decoration is fret work (locally known as *jali*) used for screens, parapets and railings. The Mughal's in the

subcontinent also developed and flourished the art of Fresco Paintings (locally known as *Naqqashi*) in their own characteristic intricate style to enhance the beauty of their buildings. The grandeur of Mughal buildings is further enhanced with delicacy through the above mentioned decorative arts. The artistic articulation in harmony to nature and composition of vibrant colour with intricate flowing lines and curves in addition to their contrasting shades in very simple yet bold impressions made Mughal ornamentation as an incomparable architectural decoration for centuries.

The aesthetically appealing architectural ornamentations in Mughal architecture started flourishing during the reign of Akbar, but were not popular at that time. However, with the advent of Jahangir tenure, these techniques gained popularity and were chiefly employed in all types of buildings [3]. Ornamentation of buildings reached to their perfection in the period of Shah Jahan [4]. These ornamentations began to deteriorate during the reign of Aurangzeb and finally disappeared with the decline of Mughal Empire.

This research investigated the history of development of glazed tile ornamentation and traced its evolution from early Mughal period. The glazed tile ornamentation designs followed two important aesthetic principles of flowing rhythmic movement and impression of infinity enveloping the surfaces with contrasting formal dominance [5]. The main focus of the current study is to document all the phases and to explore the transformations in materials, colours, designs and techniques of glazed tile ornamentation during Mughal era through the monuments in Lahore in the subcontinent.

II. RESEARCH METHODOLOGY

The current research is an application of comprehensive historical and literature documentation technique for identification of transformation phases of the glazed tile ornamentation throughout the Mughal period. The present research describes the Mughal style of glazed tile ornamentation, its development stages and the height of perfection in the Indian subcontinent with reference to Lahore monuments. Lahore being the historical and cultural hub throughout the history portrayed the best examples of glazed tiles ornamentation of Mughal period.

III. HISTORICAL BACKGROUND

The glazed tile ornamentation, originated much earlier, has a long history of its development embedded at various locations in the ancient world [6]. It was mainly employed in combination to brick architecture for interior and exterior use.

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The whole transformation of glazed tiles began with plain pigmented surfaces which further developed into terracotta, burnt clay tiles and finally converted to coloured glazed tiles. It was a continuous process of absorption and transformation yet retaining the homogeneity with its origin. It became characteristic and dominant architectural ornamentation for the Islamic architecture at various locations around the globe before its introduction by the Mughal rulers in the subcontinent [7].

The ceramic tile originated as a brick that has been covered with a glassy pigmented surface later known as a glaze with evolution in materials and techniques. The application of colourful layer on the top of ceramic makes them weather resistant in addition to aesthetically appealing surfaces that can further strengthen and enhance the beauty of built architecture. The surface decoration with these colourful tiles can be categorized into three distinct formats that started with single tiles to combination patterns comprising of many tiles to mosaics/ murals decorating the large surface areas.

The earliest known examples of glazed tiles were discovered in Egypt (4777 B.C.) and Mesopotamia (702-705 B.C.) where the art of ceramic glazed tiling was particularly flourishing and the temples were decorated with brilliant blue and turquoise/ pale greenish tone tiles with the measurement of 5" x 3.75" x 0.75". The natural animal and plant designs were used to decorate the interiors and exteriors of the temples [1]. The glazed tile manufacturing process was based on ceramic pottery production where metallic oxides and other chemicals were subjected to excessive heating to form soft fluid with different colours.

The ancient civilizations of Mesopotamia in Assyria and Babylonia developed polychrome brickwork, which was then perpetrated until to the Persian period (539-331 B.C.) and characterized by abundant details in the decorations [9]. The architectural decoration of facades with coloured bricks and tiles is due to the natural occurrence of clay as a building material particularly in this part of world during the pre-dynastic periods. Bricks either sundried or kiln burnt was chiefly employed for the construction of palaces and temples in these ancient civilizations and the coloured glazed tiles were used to break the monotony of the plain facades [2]. The art of glazed tile decorations traveled to the Indian subcontinent during the early centuries of the Christian era but was confined to Sindh (Pakistan) and Bengal (India). The Arabs adopted this traditional art from Iran and used it later to embellish their buildings while spreading it all over the Islamic world.

Glazed tiles revived and became an essential component of architectural construction after the 11th century in Iran and developed as the characteristic feature of Islamic architecture. In 1167-68 A.D. Kashan (Iran) flourished as the manufacturing center of the most beautiful glazed "Kashani Tiles". The production of tiles in Iran spanned a long time period from the 13th to the 15th century. They further developed and finally reached to the unparalleled degree of sophistication by the addition of luster faience vocabulary to ceramic art. The technique spread to Egypt, Syria, and Central Asia during the 14th and 15th centuries. Muslims coming from the Central Asia spread the art of glazed tiles to the Indian subcontinent to mark

the framework of larger unity with other Islamic states at that time [9]. They brought the idea to combine a restive mass with an active surface through the glazed tile decoration in the subcontinent architecture. Particularly, during the Timurid period (1370-1507 A.D.) a distinct intricate decorative style characterized by the blend of Chinese and traditional Islamic forms were introduced with the technique of mosaic faience.

The revival and development of these decorations started in the sub continent with the advent of the Mughal rule in 1526 A.D. [10]. Glazed tile decorations were systematically employed during Akbar period (1556-1605 A.D.). His son, Jahangir (1605-1627 A.D.), adopted glazed tiles for ornamentation and murals such as on the pictured wall of Lahore Fort. The monuments built during Jahangir period were not well appreciated due to their incomplete décor status. These decorations developed and reached their excellence during the Shah Jahan's period (1628-1658 A.D.). The monuments constructed during this period are unique due to the fact that the used glazed tiles were based on plaster at variance from the Iran's glazed tiles based on terracotta, which were also diffused in other parts of the world.

IV. PRE-MUGHAL GLAZED TILE ORNAMENTATION STYLE

The pre-Mughal or first phase of the glazed tile ornamentation in the Indian subcontinent during 13th and 15th century originated in Iran and after flourishing in Central Asia was further established here [8]. The Punjab and Sindh in the subcontinent flourished as the main centers for glazed tile ornamentation reflecting the Iranian influence at that time that travelled through Central Asia. The earliest example of the art of glazed tile decoration was found in the tomb of Sheikh Bahud-din Zakariyaat Qila Qasim Baghin Multan. The finest jewel of Shah Rukn-i-Alam at Multan depicted the excellence of decorative glazed tile ornamentation at that time compared to the monuments of Iran and Central Asia. The distinguished feature is the inclusion of only three primary colours turquoise, cobalt blue and copper white of ceramic ancient production in their ornamentation style. Some of the other historic monuments at Uch Sharif, Lal Mohra and Mithan Kot in Punjab, Hala in Sindh etc. also belonged to same period with glazed tile ornamentation in Multan Style with the addition of green, yellow and chocolate brown colour glazes.

Multan style tile decoration is also found in Lahore on the tomb of Musa Ahangar built in early part of Akbar's reign. The dome of tomb has been decorated with glazed bricks of blue color and white tiles. Afterward's the glazed tiles art of decoration flourished in Lahore and Thatta during the Mughal rule.

V. MUGHAL GLAZED TILE ORNAMENTATION STYLE

The remarkable Mughal glazed tile ornamentation categorized as second phase in development of glazed tile ornamentation in the subcontinent that has gone through various phases of transformations starting from initial preliminary designs to its zenith during the reign of Emperor Shah Jahan. Lahore and Multan established as the main cities

for this incomparable decorative art during this phase. Lahore emerged as an Imperial capital due to its historical, geographical and social characteristics and gradually rose to its present day prominence during the Mughal period. Therefore cityscape of Lahore is jeweled with numerous masterpieces of Mughal architecture and embellished with rhythmic articulation of glazed tile ornamentation in intricate patterns. The glazed tiles with Persian impressions (small and square shaped) were brought in Mughal architecture during Akbar's reign. The tiles were mainly of vibrant blue and green colour chiefly used on marvelous buildings like Jamia Mosque and Jodhbai palace at Fatehpur Sikri, Jahangir Mahal at Agra in addition to dome of Nila Gumbad and Sabz Burj. Same colour tiles have also been used at the Kanch Mahal in addition to orange coloured tiles on the parapets and friezes. The glazed tile ornamentation could not gain much popularity due to extensive use of stone decorations during Akbar reign.

This decorative art flourished during the Jahangir reign due to great Iranian influence at that time. This particular distinguished influence is attributed to Jahangir beloved wife Nur Jahan deeply rooted to her family in Iran. The migration of qualified architects and trained artisans from Iran to India also contributed in strengthening this art in Lahore. This Iranian culture promotion also influenced many other aspects of life in the sub continent during Jahangir reign. Glazed tiles were also imported from Iran during that time for embellishment of Mughal monuments in Lahore. The only example attributed to this period is Picture Wall of Lahore Fort that was initiated in Jahangir reign (1624-25 A.D.) but completed in Shah Jahan period (1631-32 A.D.).

The erection of innumerable monumental buildings richly decorated by Emperor Shah Jahan in Lahore raised its grandeur and achieved excellence in decorative arts. Predominantly, the glazed tile ornamentation style which is used in almost every Mughal magnificent building in Lahore surpasses Delhi and Agra works rather excels due to its close proximity to Iran and Emperor Shah Jahan refined artistic excellence. The example of glazed tiled surfaces in Lahore shows that work was mainly done on plaster base in addition to terracotta base at some locations. The most prominent and best example of the intricate beauty of this art is visible on the famous pictured wall of Lahore fort. The artistic profusion of variegated designs, bright colors, even tonality with rhythmic articulation of dispersed scenes is one of its own kinds. The wall displays scene of polo, elephant's fights, and hunting, camels and sports etc. in addition to geometric and foliated patterns. One of the similar examples of such details depicted in this art can be observed on the wall of Shah Burj where scenes of elephant fights being the major recreation of Mughal court have been displayed. The Iranian influence during Safavid rulers brought human and animal subjects in addition to Chinese cloud forms in glazed tile ornamentation. In Persian art the facial features of characters, combination of colors, style of ornamentation, use of animal figures and angels used in some of the panels presents familiarization to Persian miniature art as also seen in gateway of Gulabi Bagh (1655 A.D.). This is an outstanding example of the rich and vibrant mosaic tile work in Persian style.

Wazir Khan Mosque (1634 A.D.), Chauburgi (1646 A.D.), Gulabi Bagh Gateway (1655 A.D.) and Nawankot Gateway (mid-17th century) are notable examples of enameled works. Wazir Khan Mosque (1634 A.D.) built by Sheikh Alimmuddin Ansari is also considered as one of the finest example of Mughal monuments in Lahore with profound use of colorful glazed tile in mosaic work. Colors used in calligraphy as well as in glazed tile mosaic comprising of deep blue, yellow, green, turquoise and white all showed Iranian influence in this region during 15th and 17th century. Iranian decorative motifs like star shaped flowers, grapevine creeper, and cypress were also used on the walls of Wazir Khan Mosque as influenced from Iranian traditions. Wazir Khan Mosque is also considered as one of first monuments where glazed tile ornamentation is used to decorate the interior surfaces. The same style was carried out in dadoes of Jahangir Tomb at Shahdara. The decorative motif of cypress was first time used in tile mosaic at Wazir Khan Mosque that distinguished it from others at that time. The Asif Khan tomb at Shahdara is unique to have combination of local and imported glazed tiles. The floral designs in mosaic panels made Gulabi Bagh and Nawankot Gateway remarkable and elegant entrances still known for their beautiful designs. Buddha's tomb dome and Dai Anga's Tomb are known for their zigzag chevron glazed tile decoration.

The glazed tile decoration technique started declining by the end of 17th century and the only example is of late Mughal period is the tomb of Sharafunnisa Begum. The tomb is locally known as Sarunwala Maqbara (Cypress Tomb) due to its glazed tile ornamentation with four cypresses design made of small square tiles on all four sides of the tomb. Another example of the mid-18th century is the glazed tile work in Begumpuri Mosque built by Nawab Zakariya Khan. The glazed tile ornamentation deteriorated with the passage of time and eventually diminished during Sikh period.

VI. CONCLUSION

The historical development of glazed tile ornamentation in the subcontinent depicted two distinct phases. The first phase of glazed tile ornamentation in the subcontinent travelled through Central Asia from Iran and developed Punjab and Sindh as two main centers. The glazed tile ornamentation of this particular period is attributed to Lajvardina School based on just three colours; blue, turquoise and white tiles.

The Timurid period in Iran revived the glazed tile ornamentation with innovative style and technique not used before which was further developed into Safavid period. The Lahore Mughal School of Tiles also flourished in the same period and followed the Timurid traditions (as followed by Safavids) and marked the second phase of glazed tile ornamentation in the subcontinent. This particular style used whole range of vibrant colours (deep blue, yellow, pink, orange, maroon, green etc.), motifs, designs and innovative techniques as its distinguished feature. The Iranian artisans and architects were also employed during this period for the development of this decorative art in Lahore during Shah Jahan period.

The Lahore Mughal School of Tile embellished almost all

the monuments built during Shah Jahan period with its distinguished character which is still appreciated for their artistic excellence.

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