

STONE MOSAIC OR KHATAM SAZI WORK IN THE LAHORE FORT,ITS TECHNIQUES & HISTORY

Muhammad Naeem Qazi

A. DEFINITION

The stone intarsia or marble mosaic, is an elegant work which is executed with great care and skill in the pavements, dadoes etc. of buildings. This beautiful work of decoration is also called Khatam Sazi or Opas sectile, tessellated or marble inlay.

Khatam Sazi is an Iranian term used for inlay work of marble in combination of stone pieces of different colours. In this connection it may be stated here that its attribution to the Iranian traditions did not seem to be correct. As, we known all “Persian” was the official script during the Muslims domain in India. It is equally interesting to state here the majority of the Islamic period buildings erected in the Subcontinent were either inscribed with Arabic or Persian scripts. Moreover, most of the royal memories particularly the Mughal memoirs were written in the Persian script. Furthermore, the Khatam Sazi work was not a popular technique to adorn the buildings in Iran. In the forth-coming pages the present author has described the exact roots of its origin. In short stone mosaic was originated in the Roman world during the Christian era. While the Arabs have taken it from the west world. Then it disccemenated to Central Asia and onward to the Subcontinent.

The execution of stone intarsia needs expert hands, as each and every piece must be laid with the utmost precision and accuracy. In this mode of work, various coloured stone pieces are carved out in different shapes and sizes, and then fixed in the engraved surface, which is variously known as mentioned above.

B. TECHNIQUE

Every care and accuracy is needed in laying such special pavements with precise and correct adjustments of various stone pieces in their pattern or Chal to form a uniform plan or chess board where different stones of various colours are exhibited in pleasing harmony.

The technique of marble intarsia is quite similar to pietradura work. Here, instead of semi precious stones, marble or stone pieces are inlaid; therefore, it is called stone mosaic. In the stone intarsia technique, each piece is separately cut out according to the desired shape. It is pertinent to mention here that before the preparation of the desired motifs, carved out from various stones with the help of stencil, the marble surface is engraved with sharp chisels and light hammers to inlay the different motifs in it, where every care and concentration is needed for its exact adjustment to fill the cavities properly. After completing this process the inlaid mosaics are rubbed by using emery powder, the cavities are then filled with different kinds of adhesives. Then the entire inlaid surface is finally rubbed with rubbing tools to remove any irregularity.

In Mughal architecture, this craft is applied in the special kind of flooring called tessellated. In such flooring, marble of different colours are laid and jointed in geometrical and floral formations, separated from one another by a distinctive lining of black marble known as *Sang-e-Musa*. The other stones are used in combination of white marble (*Sang-e-Marmar*), shaded marble (*Sang-e-Badal*), variegated stones (*Sang-e-Abri*) and yellow marble (*Sang-e-Khattu*).

C. HISTORY

Marble inlay work was not, in fact introduced in South Asia by the Mughals, as it appears even in the buildings erected before their arrival. The actual foundations of Islamic art and architecture were laid by the Turks, who later on became known as the Slave dynasty. The Turks who established themselves at Delhi came through Afghanistan in the last decade of the twelfth century AD. They brought with them their own traditions which were utilized by them along with local themes and techniques (1).

In the Umayyad's time when the first extension was made to the Cordova Mosque the Byzantine columns and capitals were used. they continued the use of western elements in their buildings until the late tenth century AD when they did not introduce their own style. In the beginning the walls were tiled with marble slabs and marble mosaic work. The above stated artistic work was carried out particularly in Damascus and Jerusalem. In this regard it may be pointed here that the marble inlay work executed at Dome of the Rock and in the courtyard of Umayyad Mosque at Damascus is laid in novel composition, which are most effectively

adopted to the Islamic context. The stone mosaic work of the above mentioned buildings are indicating the workmanship of western craftsmen school in Byzantine. The western artists were sent even in the tenth century AD to Cordova to adorn the mehrab wall and the dome chambers in front of it with marble inlay work (2).

Besides the stone inlay the art of metallic inlay was developed in the similar technique in central Asia. In this connection it may be added here that the first examples of copper inlay in bronze are reported as we have seen in the decadent phase of Sassanid art which developed mainly in west Turkistan during the Samanid's reign. In their times at Khurasan the method of copper and silver inlay was flourished during the 11th and 12th centuries AD to work out such brilliant pieces as the bronze pot preserved at Leningrad, authenticated as Herat work of the year 1163 AD. Moreover, during the 12th century AD in Northern Mesopotamia different metallic pots were manufactured. Besides other ornamental styles in few examples inlay work has also been carried out. It is equally interesting to point here that during the beginning of 13th century AD Mosul took lead in the production of metallic objects. In this school of Mosul metal work and the inlay technique can be observed in very elegant manner. Furthermore gold and silver were used as inlay materials at Mosul (3).

In this regard it may be suggested here that the Muslim artists have learnt this elegant work from the western traditions particularly when the Umayyads conquered the European regions. To conclude the matter of its origin here it is quite clear that after their invasions, when the trade and commerce links were strengthened between the Arabs and western world thus the idea was taken from the Roman artists, who seemed to be employed to carry out such work for the Muslim rulers. Furthermore, during the 11th century AD this art flourished in central Asia. where inlay work was wrought on the metallic vessels. In this process it may be accepted here that most of the sub-continent rulers came from central Asia where the metallic inlay was a popular art particularly during the 13th century AD, thus this art was introduced here. The Arabs used it in limited number, while the central Asians have developed it further, whereas, in the time of Mughals it reached to the perfection. The first example of this kind of work is assigned to the time of Allauddin Khilji. The magnificent Alayi Darwaza near Dehli dated to 1305 AD was adorned with inlay work.(4) In the time of Feroze Shah Tughlaq during his additions to the Qutab Minar its top most storey was executed with marble inlay but not in mature form.

For the development of this device of architectural decoration in the Subcontinent, the Mughals are said to have contributed a lot. The Humayun's **tomb** at Delhi contains the inlay work wrought on its facade executed in red sandstone. This tomb is rightly considered as the proto-type of the imperial tombs of the Mughal period. It was constructed during 1557 to 1565 AD (5) by a Persian architect along with other artists who were employed by Humayun's Persian architect along with other artists who were employed by Humayun's Persian wife. Haji Begum. However, local craftsmen also shared in the project according to their talent and skill.

This mode of inlay work over the years continued with certain developments. particularly under Akbar, the workmanship of stone mosaic was further refined both geometrical and floral motifs were used side by side. In this connection, noteworthy specimens of this art can be observed at Fatehpur Sikri, where the Jami Masjid. dated 1571 AD (6), possesses besides other adornments, a fine specimen of marble inlay work. It is pertinent to mention here that the gateway to the mosque at Fatehpur Sikri, known as Buland Darwaza dated 1575 AD (7). The facade of this monumental archway has marble inlay work beautified with stylized, inlaid sunflowers.

During the reign of the artist king, Jehangir, this elegant work passed through various developmental stages. in this period, perfection and accuracy in decorative motifs and technique can be observed. The tomb of his father, Akbar. built by Jehangir in 1631 AD (8) at Sikandara near Agra, possesses marble inlay work. The facade of the tomb is skillfully inlaid with yellow and white marble on red sandstone surface. The spandrels of the main arch are inlaid with floral arabesque whereas, the remaining part of the facade is ornamented with *gule-nau*, sunflowers and lotus flowers. Besides the facade and alcove of the main arch, the minarets of the tomb are also inlaid with some sort of net pattern decoration.

It is important to mention here that the motifs of inlay work continued until the third quarter of the 17th century in all the important buildings of the Mughal period. It was in Jehangir's period that the marble inlay work evolved into pietradura technique, a very minute and delicate technique. The tomb of Itmadudaula, father of Queen Noor Jehan, which was built in Agra by Jehangir in 1626 AD, is the earliest monument where pietradura was introduced (9). The facade of this tomb is beautifully adorned with marble inlay work. The most important decorative device is the floral arabesque in the spandrels of pointed arches.

This tomb, like that of Akbar, is a turning point for future buildings in the field of inlay work. From 1626 AD onward, both stone mosaic and pietradura were used side by side and reached their climax under Shah Jehan, known as the builder King of the Subcontinent. It is, however, noteworthy to mention here that both Birdwood (10) and Percy Brown (11) are of the opinion that pietradura in the buildings of the Mughal period is an improved form of the traditional marble inlay in red sandstone as depicted by the facades of Jehangir's and Noor Jehan's tombs at Lahore.

The most illustrious work of inlay is executed in Jehangir's tomb at Lahore. dated 1637 AD (12). The monumental archway to the tomb complex is excellently garnished with marble inlay work. The eastern facade of this gateway is very attractively adorned with stone mosaic ornamentation. The yellow marble, white marble etc, are skillfully cut in different sizes and are inlaid with great care in the form of *gul-e-nau*, chevron, stylized floral vases, and ornamental floral plants. whereas the facade of the tomb is elegantly inlaid with white marble, executed on red sandstone facing, showing both geometrical and floral motifs. Among the important patterns executed in the facade, are *gul-e-nau*, star shaped motif, chevron design and lotus flowers.

The above mentioned motifs are the continuation of the early buildings where such ornamental motifs are executed, as previously enumerated. The key features of Jehangir's tomb are its minarets, the lower portion of which have floral panels bordered by chevron motifs, whereas, the upper portions have chevron designs wrought in black, yellow, and white marble. The floor of the roof is also veneered with tessellated work executed in geometrical and floral designs. The floor of the tomb chamber and the four vestibules, are also embellished with delicate tessellated pavements. The geometrical and floral formations wrought there is various colour stones have greatly enhanced the grace of the monument.

The tomb of Queen Noor Jehan at Lahore, built in 1645 AD (13), presents superb instances of inlay work, showing motifs of white marble executed on red sandstone. The tomb of Ali Mardan Khan at Lahore, constructed in 1656 AD (14). possesses stone mosaic embellishment of floral pattern, wrought in black marble on a white marble surface.

During Shah Jehan's reign the stone inlay work was practiced with great care and precision. In this connection, the famous Taj Mahal, one of the wonders of the world, built in 1632-52 AD by Shah Jehan at Agra, contains beside other decorations, the marble inlay work

carried out with great skill (15).

There are three pearl mosques in the Indo-Pak Subcontinent, two of which are built by Shah Jehan, one at Lahore in 1645 AD and the other at Agra in 1648/54 AD, whereas the third pearl mosque was constructed by Aurangzeb Alamgir in Delhi in 1659-62 AD. All these mosques have been beautifully made of chaste, white marble and adorned with marble inlay work (16).

The unknown tomb of Nawan Kot at Lahore has tessellated flooring similar to the Shah Jehan's period. In this tomb, shaded, black and white marble pieces are used. It is, however, important to mention here that the surviving patches of shaded marble are quite similar to the work in Jehangir's tomb's vestibule executed in the same stone. This striking affinity leads to the suggestion that the two monuments are probably contemporary to each other (17).

The stone mosaic evidence is also noticed at the Mughal Gardens at Wah, some 15 km NW of Taxila. Here, the water channel flooring was originally inlaid with chevron design completed in yellow and black marble (18). Yet another examples of tessellated flooring are found in the veranda of Shah Jehan's aramgah and in the pavement of the central pavilion, both restored and situated in the upper terrace of Shalimar Garden at Lahore.

The Badshahi Masjid at Lahore, dated to 1673-74 AD, the spandrels of the prayer chamber archway are inlaid with floral arabesque decoration. Another good specimen of stone intarsia is noticed in the flooring of the marble pavilion situated in the middle of the spacious Huzuri Bagh, in Lahore dated to the Sikh period.

D. MARBLE MOSAIC WORK IN THE LAHORE FORT

I. Dewan-e-Aam

The dado of rear portion of the balcony of Dewan-e-Aam has stone mosaic ornamentation in zigzag pattern. This geometrical element can also be observed in Shish Mahal at Lahore Fort and Jehangir's Tomb.

II. Seh Dan Pavilion

The pavement in front of Seh Darn pavilion to the NE side of Jehangir's Quadrangle is elegantly embellished in tessellated technique.

III. Shahi Hamam or Turkish Bath

It is located to the SW corner of Jehangir's Quadrangle. The floor of this royal bathroom was delicately adorned with stone mosaic work, traces of which still exist in some parts of the floor. These traces are showing geometrical formation.

IV. Moti Masjid

The floor of the sanctuary of Moti Masjid is very delicately inlaid with Musallah decoration. The musallahs or imitation of cusped arches, are skillfully marked by means of black marble lines on white marble paved flooring.

V. Dewan-e-Khas

The floor of this marble pavilion has stone mosaic decorations executed in geometrical and floral designs. The *mahtabi* (platform), located in the middle of Shah Jehan's Quadrangle, besides the pietradura work executed in the fountain, has also marble intarsia ornamentation, like the floor of *Dewan-e-Khas*, and the main veranda of Shish Mahal.

VI. The Royal Mosque

This mosque is located to the SE of the forecourt of Shish Mahal. It was built by Shah Jehan for the royal family. The floor of this mosque is beautifully embellished with stone mosaic work in geometrical pattern, traces of which still exist in some places. Besides, the Bakhsh terrace of Shalimar garden at Lahore also possesses similar inlaid motifs.

VII. Shish Mahal

The beautiful specimen of tessellated work or stone intarsia, is found in the main hall of Shish Mahal. The remarkably finished pavements in this attractive mirror palace have greatly enhanced its position among the best-ranked monuments of the entire world.

It is interesting to point out that the shafts of the pillars of the main veranda are twelve sided, each side being separated by a vertical inlaid line. At the inner side of Shish Mahal, one of the dadoes of the room has zigzag motif decoration in stone mosaic technique.

The floor of the courtyard of the Shish Mahal has tessellated decoration in different styles, showing both geometrical and floral designs.

There is a beautiful *mahtabi* located at the centre of Shish Mahal courtyard. This was reserved for the court musicians where they used to sit for singing especially during the full moon night. The *mahtabi* has floral inlay decoration and cusped arched panels running horizontally around it. These cusped panels are beautifully inlaid in stone mosaic technique.

The cascade located at the southern portion has chevron decoration in stone mosaic technique, while the water channels leading to the *inahtabi*, located to its east, west and south sides have also inlay ornamentation.

Vifi. Shah Burj Gate

The alcove of this gate has inlay work in geometrical pattern. Here, black and white marble are used very delicately.

Some of the important motifs executed in the Lahore fort in the *Opas sectile* technique are star shape, rectangles, cusped arched patterns, chevrons, and different types of floral decoration, such as sun flower and lotus flower. The different stones used for ornamentation for *Sang-e-Badal*, *Sang-e-Khattu*, *Sang-e-Abri*, *Sang-e-Musa*. and *Sang-e-marmar*.

The parapets of Moti Masjid, Dewan-e-Khas and Naulaka pavilion are inlaid with semiprecious stone in pietradura technique. It is generally believed that the above mentioned parapets are executed in marble intarsia work. However, it is pertinent to state here that pietradura work is very minute and delicate as compared to marble intarsia. Another important feature of pietradura is the use of semiprecious stone pieces whereas in the marble intarsia, marble pieces or mosaics are inlaid. Keeping in view the above points it can be concluded that the parapets of Moti Masjid, Dewan-e-Khas and Naulaka pavilion are wrought in pietradura technique where different coloured semiprecious stones are laid.

It is interesting to state here that Ernst Kuhnel in his book, "Islamic Art & Architecture" mentioned his opinion about the origin of Lingeih design. In this regard, he stated that this motif was originated in China. The Mongols have taken it from China and introduced it in Persia. Moreover, Mughals the descendants of Mongols introduced it in the subcontinent (19). In this process it may be suggested here that the bead and reel pattern was a common design either engraved in the Gandharan panels or depicted on the plastered surface. Furthermore, in the Mughal art floral chain (*gul-e-nau*) or star chain patterns were very commonly executed as a border decoration. In this connection it may be suggested here that

the idea of *guie-nau* is seemed to be taken from bead and reel design perhaps the real motif was further elaborated, thus became star or floral pattern, whereas the bead has taken the form of chain. Thus the *gul-e-nau* motif is seemed to be derived from the bead and reel motif of Gandharan tradition dated to Kushana reign. Thus this stylized motif was also very elegantly inlaid in the various Mughal period monuments at Lahore such as, at Lahore Fort, Jehangir's tomb, Noor Jehan's tomb, Badshahi Mosque etc.

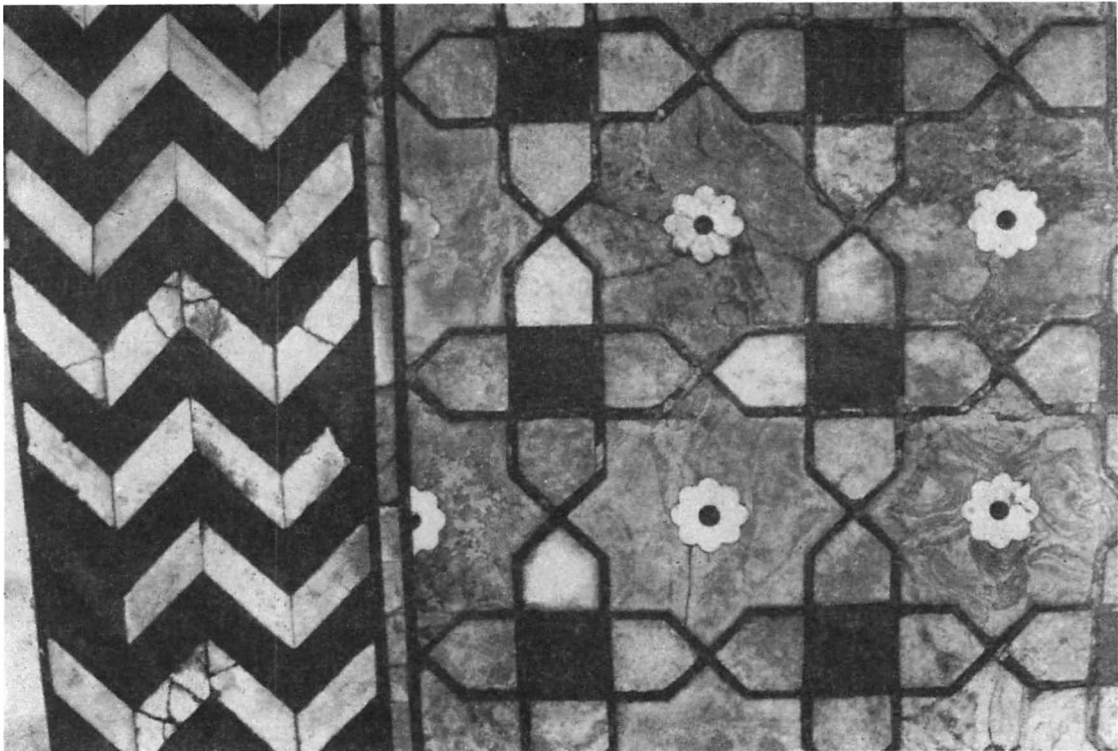
E. CONCLUSION

From the above discussion, it becomes fairly clear that the building activities were commenced by the Turks or Slave Dynasty who came to the subcontinent from Afghanistan in the 12th century AD. It was, in fact, the beginning of the art and architecture fully exhibited in the construction of mosques, palaces and tombs of the Subcontinent, followed by the Khiljis, Tughluqs, Sayyids Lodhis, Mughals and for a short time by the Suris. In the marble inlay work the important patterns used in the Lahore fort are *gul-e-nau*, chevron designs, star shaped motifs, linear work. cusped shape designs, lotus and sunflowers. Such designs are also used in the monuments at Delhi, Agra, not only in the marble inlay work but also depicted in the paintings, tile mosaic, stucco work, pietradura etc. Beside the floral vases or ornamental floral plants, these motifs are also noticed in the pietradural work executed in the Naulaka pavilion, which are derived from Persian miniature paintings. The art of subcontinent is also influenced by European and Central Asian motifs.

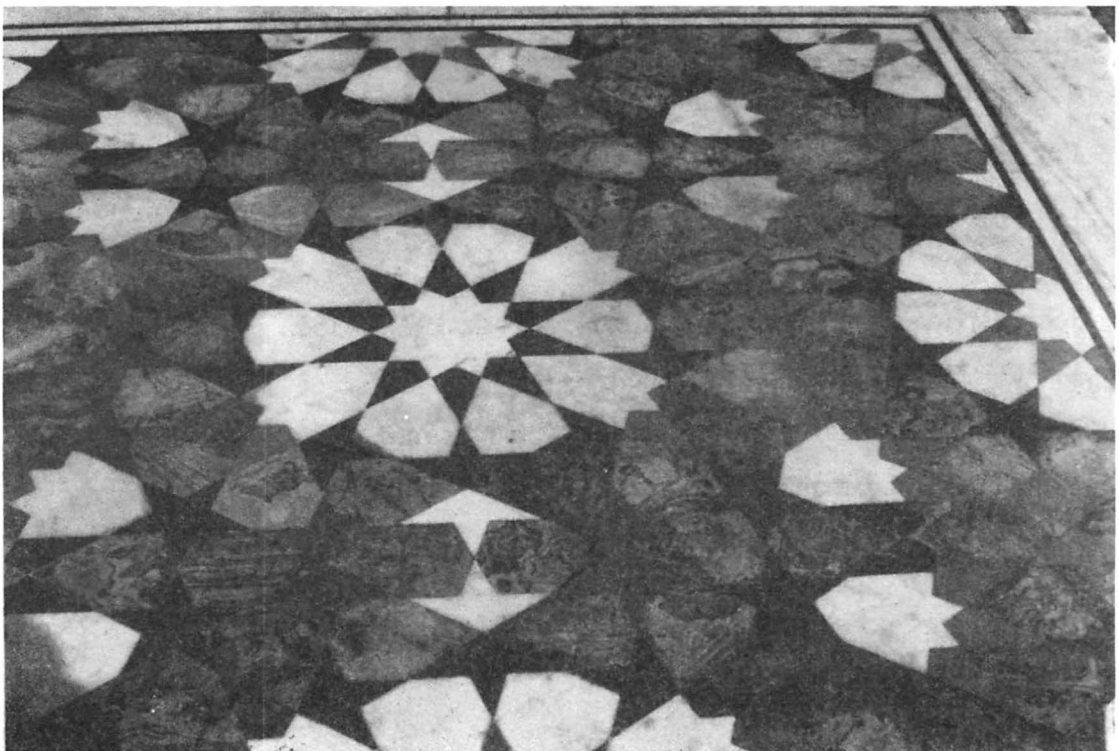
To conclude this chapter it is interesting to note here that in the Muslim world the Arabs were the first who introduced it during the 9th, 10th centuries AD. while deriving the idea of this art from the west world. Thus its technique seems to be disceminated from the Arab world to Central Asia and later on to the Subcontinent. Furthermore, it reached to the finest peak in the times of Mughal. In this connection the above-mentioned buildings in Lahore Fort are the best examples garnished with inlay work.

REFERENCES

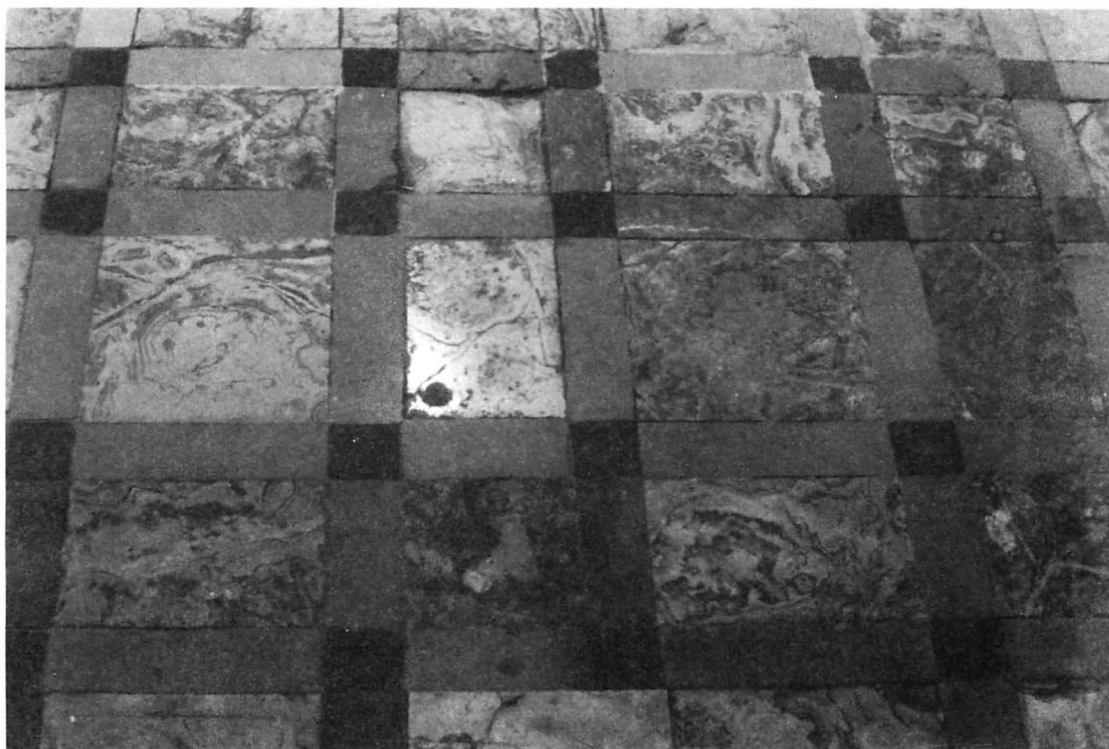
1. R. Nath, History of Sultanate Architecture, New Delhi, 1978, pp.26-28.
2. Ernst Kuhnel, Islamic Art and Architecture, London 1966, p.42.
3. Ibid, p.91.
4. Taj Ali, Qutab Minar its History Architecture And Origin, "Journal of the Faculty of Islamic Studies and Arabic, University of Peshawar", Vol.1. No.1, Peshawar, 1993, p.2.
5. Ibid, p.67.
6. Percy Brown, Indian Architecture (Islamic Period) Bombay, 1941, p. 104.
7. H. Stierlin, Op.cit, P.74.
8. Ibid. p.76.
9. Muhammad Naeem Qazi, "Pietra-dura work in the Lahore Fort", *Lahore Museum Bulletin*. Vol.VH, No.1 & 2, Lahore, 1994, p.263. H. Stierlin. Op.cit. p.80. Percy Brown, Op.cit, p.109.
10. Muhammad Naeem Qazi, Op.cit., p.263.
11. Ibid.
12. Ebba Koch, Mughal Architecture, Munich, 1991, p.104.
13. M.Wali Ullah Khan, Lahore and its Important Monuments, Lahore, 1961. pp.44-59.
14. Ibid, p.63.
15. H.Stierlin, Op.cit., pp.82-84. R. Nath, Taj Mahal and its Incarnation. Jaipur, 1985, p.51.
16. John, D. Hoag, Islamic Architecture, New York, 1977, p.368.
17. M. Wali Ullah Khan, Op.cit., pp.66-68.
18. Muhammad Bahadar, "Mughal Garden Wah", *Journal of Central Asia*. Vol.XI, No.2, Islamabad, 1988, p.152.
19. Ernst Kuhnel, Op.cit., p. 106.



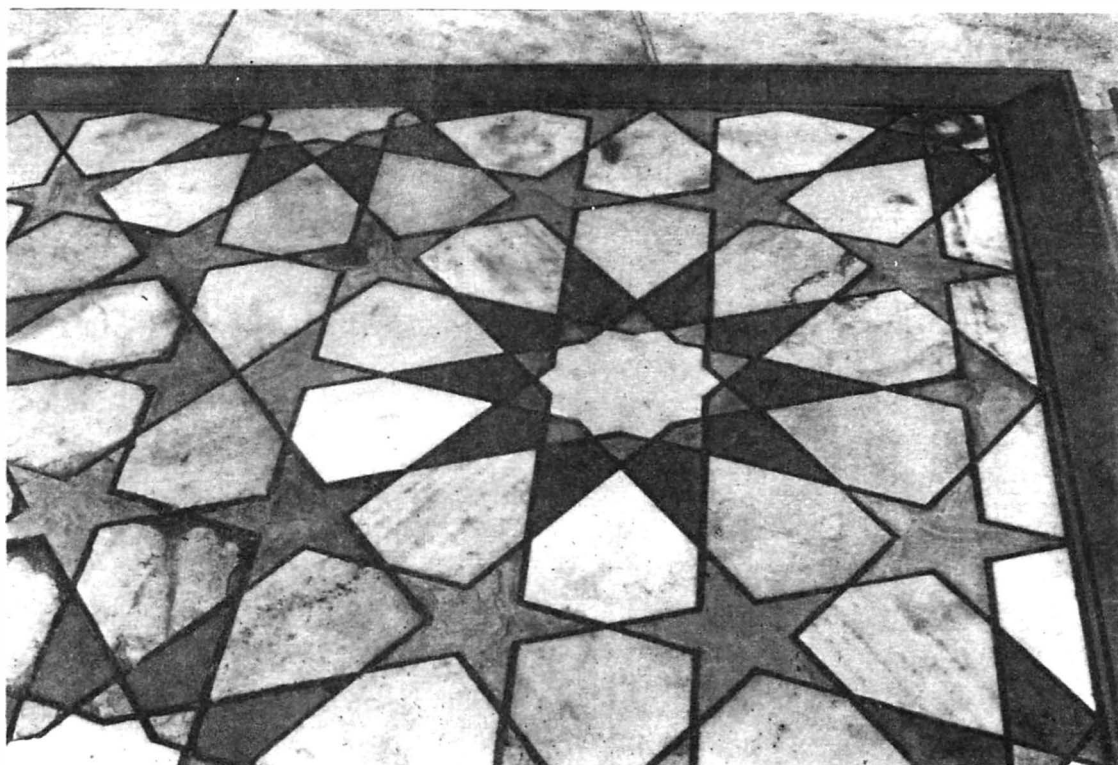
Pl.1: Lahore Fort, Shish Mahal, Courtyard,
a panel Showing inlay decoration



Pl.2: Lahore Fort, Shish Mahal, Mahtabi (Platform)
in the courtyard, inlay work depicting floral
designs.



PI.3: Lahore Fort, Shish Mahal, courtyard, inlay work showing geometrical design.



PI.4: Lahore Fort, Shah Jehan's Quadrangle, platform Showing Stone mosaic work.