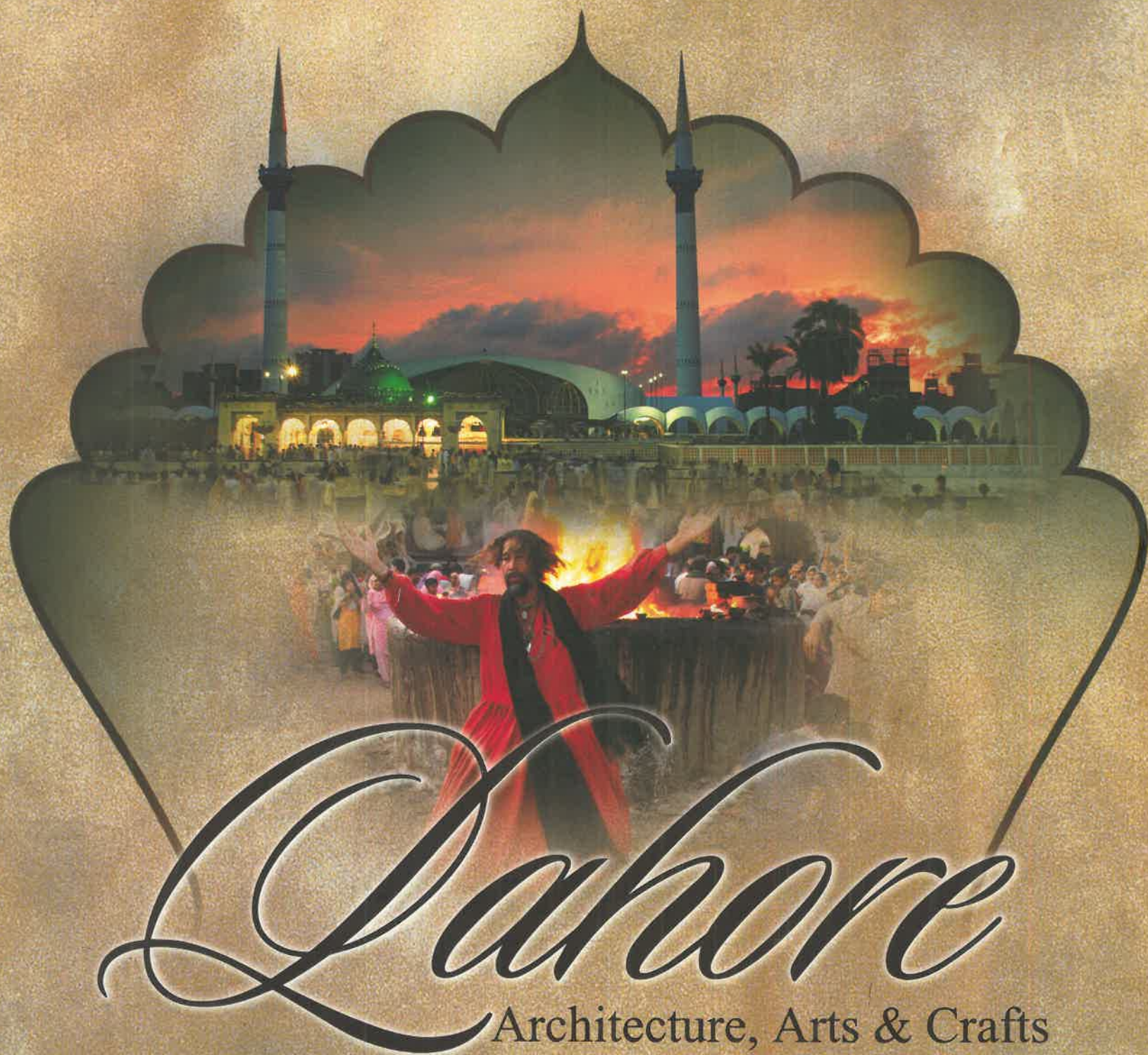




Punjab Small Industries Corporation, Lahore, 2017

Crafts and Craftsmen of Punjab

Crafts of Lahore

Architecture, Arts and Crafts

Vol. II



Directorate of Creative & Cultural Industries
Punjab Small Industries Corporation Lahore, 2017

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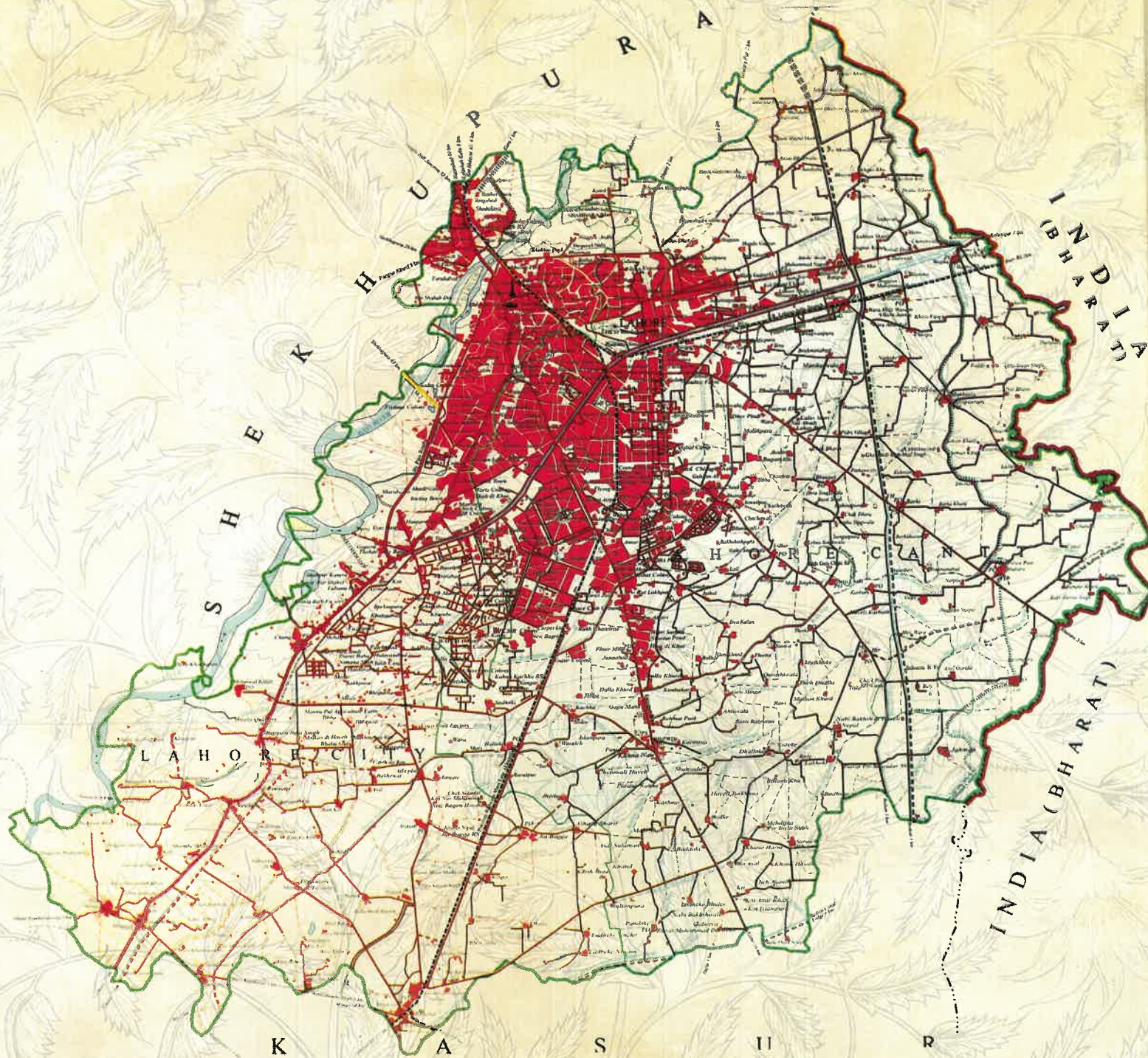
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Crafts of Lahore
Architecture, Arts and Crafts
Vol. II



NANKANA SAHIB

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Message from Managing Director, Punjab Small Industries Corporation

The Punjab Small Industries Corporation (PSIC) in pursuit of Government of Punjab vision for industrial development and growth is committed to patronize and support the small, MSME's and creative & cultural industries for their sustainable growth and development by providing access to developed infrastructure, capital advisory services, marketing channels and common facilities.

PSIC by virtue of its new approach of cluster diagnosis and intervening in the clusters for providing the requisite support is engaged in working on new schemes and projects in the industrial sector as well as in the creative & cultural sector. PSIC gives significance to research on crafts to document our rich cultural heritage and to provide an opportunity to the planners to develop rational plans for preservation of the dying crafts and to provide requisite support for sustainable growth of the crafts clusters. PSIC research and publication initiative in the crafts sector is a unique endeavour under government of Punjab patronage that has been acknowledged by the stakeholders and public at large. PSIC has published a series of valuable books on crafts ranging from crafts of Murree Hills to Cholistan. Further, PSIC is in a process of reprinting its out of stock books to benefit the researchers, academia and public at large.

Recently, PSIC has accomplished crafts and cultural heritage focused research on another five districts of Punjab and published it in an attractive series of coffee table books. This fresh series of books includes Crafts of

Lahore Vol:II, Crafts of Gujranwala, Crafts of Gujrat, Crafts of Shiekhupura and Crafts of Chakwal. I am sanguine that this new series of books will be a valuable addition to PSIC treasure of books on crafts.

Here I would like to acknowledge the efforts of Mr. Ahmad Farooq, Director (Creative & Cultural Industries) and his team who jointly with School of Art, Architecture and Design of Imperial College of Business Studies, Lahore, made a zealous effort to produce such a remarkable work. I expect that this research and publication work by PSIC on crafts will keep on going by setting up high standards among the publications of its kind.

Bilal Ahmad Butt
Managing Director

Message from the Chairman, ICBS, Lahore.

Punjab Small Industries Corporation (PSIC) has significantly contributed in promoting and patronizing handicrafts. It is not only reviewed the dying crafts by locating and supporting the artisans but also managed to document the crafts of Punjab. PSIC in furtherance endeavoured to give new dimensions in crafts through product development based on research work.

PSIC contribution in research & publication work on handicrafts is distinctive among its other valuable performances. These profusely Coffee Table books have been produced with intensive as well as extensive research by expert writer, photographers and historians. These valuable books have highlighted not only the artisanal research of the artisans but have brought the aesthetic value of the products to the forefront. Under this program, the Imperial College of Business Studies (ICBS), Lahore has contributed in compiling five such books pertaining to districts of

- Lahore (Vol: II)
- Sheikhpura
- Gujranwala
- Gujrat
- Chakwal

As the Chairman, ICBS, Lahore, I have keenly associated myself with this challenging task. I have taken utmost care to make these books not only a piece of art but also treatises of research. This assignment has been completed as a national service.

I have entrusted the entire project to Mr. Nazir Ahmed (*Tamgha-e-Imtiaz*) who is instilled with a vast experience in the field of art & crafts, research and

publications. Nazir already has five coffee table books in his credit as Director of the Project.

- Crafts of Lahore (Vol. 1)
- Crafts of Sargodha
- Crafts of Chiniot
- Crafts of Cholistan
- Crafts of D.G. Khan.

Script was done by renowned Prof. Dr. Shaukat Mahmood (*Sitara-e-Imtiaz*), College of Art & Design, University of Punjab Lahore. The logistics of the project was looked after by Nelophar Kaleem Director School of Art, Architecture and Design. Last but not the least I appreciate the services rendered by Mr. Muhammad Saleem during this project.

These set of publications will boost the morale of the artisans and will prove to be an asset.

I am sure this humble effort will bring laurels to Imperial College as well as the Punjab Small Industries Corporation. Insha Allah!

Munawar Ahmad

Preface

Punjab Small Industries Corporation (PSIC) is a pioneer organization that is engaged in documenting the cultural heritage of Punjab in a form of series of valuable books that speaks meticulously about the history, archaeology, folklores, land & people, handicrafts, life of the artisans and other culturally significant subjects. These PSIC books on handicrafts is a part of its initiative and mandate that has been determined in PSIC Act 1973. The Government of Punjab is keenly supporting the PSIC through ADPs in executing such marvellous treatises on handicrafts that has proven its efficacy in promoting the cause of the artisans and introducing and promoting the handicrafts sector of Punjab.

The PSIC published ten valuable books on crafts starting from crafts of Murree Hills, Bhera, Multan, DG Khan & Rajanpur, Cholistan, Sargodha, Chiniot, Lahore (Vol-I), Khewra and Taxila. PSIC is also in a process of reprinting its out of stock books to benefit the researchers, academia and public at large. PSIC considers the importance of research for development and therefore this activity is kept going to uplift the socio-economic conditions of the artisans and developing and promoting the crafts clusters by documenting them in a series of books to disseminate our cultural heritage and proud legacies of the past to the next generations to keep it alive and to determine our identity among the comity of nations.

Recently, PSIC has accomplished crafts and cultural heritage focused research on another five districts of Punjab and published it in an attractive series of coffee table books with the collaboration of Imperial University, Lahore. This fresh series of books includes Crafts of Lahore Vol:II, Crafts of Gujranwala, Crafts of Gujrat, Crafts of Shiekhupura and Crafts of Chakwal. This series of books is a wonderful addition in the PSIC treasure of books on crafts.

This task has been accomplished by consistent pursuance and interest of Mr. Bilal Ahmad Butt, Managing Director, PSIC, his candid guidance and facilitating role for the Directorate of Creative & Cultural Industries PSIC at every stage helped to produce such a splendid series of research books. Mr. Nazir Ahmad (TI), Former, Director PSIC and Mst. Nelofar of School of Art, Architecture & Design, Imperial University, Lahore contributed their efforts with zeal & vigour to make this historic task a success. Professor Dr. Shaukat Mahmood, a renowned author and respected personality burnt his midnight oil to produce these books in a limited time framework. The support of Mr. Kahalid Ur Reman, Joint Director (Admn), PSIC and Mr. Khuda Baksh, Storekeeper, PSIC, Head Office was always there at the hour of need. Last but not the least the contribution of Mr Amir Ali, designer and photographer is praiseworthy for capturing such remarkable pictures and designing these books in the most attractive manner. I hope this endeavour of PSIC will prove useful in satisfying the hunger of the readers, researchers and academicians in updating their knowledge about the pride of Pakistani crafts and artisans.

Ahmad Farooq

Director (Creative & Cultural Industries)
PSIC

Introduction

The first volume on Lahore published some five year or more ago made a good survey of Lahore's architectural heritage and the arts and crafts was an admirable focus on royal monuments and vernacular or folk arts and crafts. This volume is second volume on Lahore and covers architectural heritage which is neither imperial nor royal on the other hand some crafts which are included are of imperial nature. One such art is the art of pietr-dura which is the main decorative element of Shish Mahal and Naulakh, the two most outstanding monuments of Lahore. The other royal craft of Lahore Fort is the shishakari (mirror-decoration) of the Shish Mahal.

Pietra dura or pietre dure also called parchin-kari or parchinkari is a term for the inlay technique of using cut and fitted highly polished colored stones to create images. It is considered a decorative art. The stonework, after the work is assembled loosely, is glued stone-by-stone to a substrate after having previously been sliced and cut in different shape sections; and then assembled together so precisely that the contact between each section was practically invisible. Stability was achieved by grooving the undersides of the stones so that they interlocked, rather like a jigsaw puzzle, with everything held tautly in place by an encircling 'frame'. Many different colored stones, particularly marbles, were used, along with semi-precious and even precious stones. A detailed study of the precious stones is included in this volume which will be a matter of interest particularly for those who love stones.

Shisha-kari or shishakari or mirror-work is another imperial craft conspicuously visible in Shish Mahal of Lahore Fort. Shish Mahal is called so because of the

profuse use of shisha (mirrors) for decorative elements of the building. A detailed study of this art or craft is also included in this volume.

While counting the built heritage we have not focused on royal buildings instead our focus is public, civic and educational building. Thus this volume sheds light on GPO, Lahore Museum, Punjab University, Bhangian Wali Tope (Zamzama Cannon), Punjab Exhibition Hall (Tollinton Market), Government College, Railway Station and buildings like this. There is a special focus on the heritage of Padhana, Jahman, Chahal and Haier. These are the places our readers will never find them in any book on architecture or on the environs of Lahore.

A special chapter deals with the Ceramic pottery and the educational facilities associated with it. This is followed by information on Ivory craft. Both the Greek and Roman civilizations practiced ivory carving to make large quantities of high value works of art, precious religious objects, and decorative boxes for costly objects. Ivory was often used to form the white of the eyes of statues. Ivory is a hard, white material from the tusks (traditionally elephant's) and teeth of animals, that can be used in art or manufacturing. Since true ivory is too expensive and hard to obtain as a raw material its substitutes have emerged like plastic and bones of the camels. Both these elements are being used by our craftsmen to produce a variety of items.

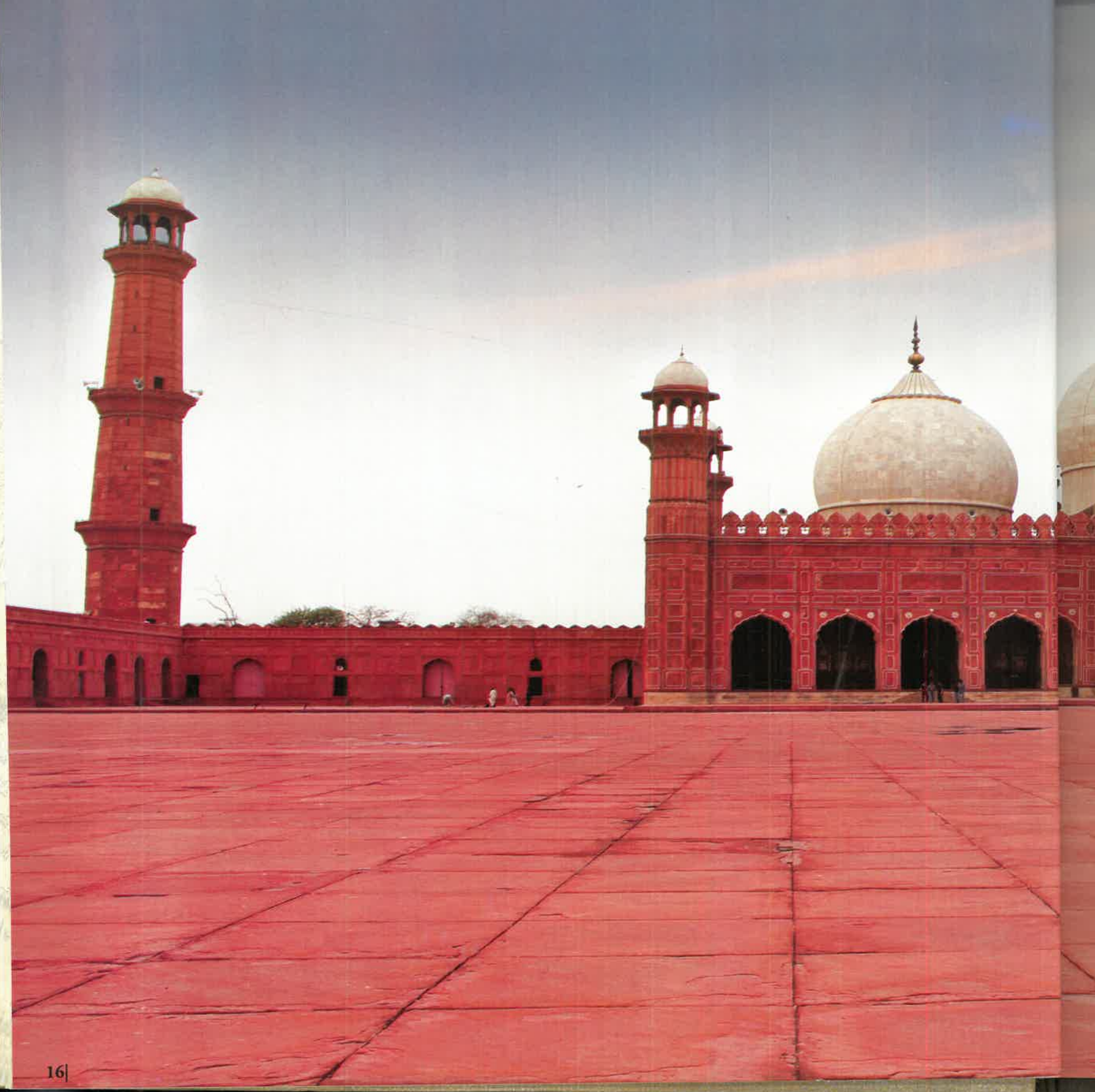
When the Ghaznavids were ruling this part of the subcontinent (1010-1187) they were so pleased with the culture, gardens and environs of Lahore they called this city Ghazn-i Khurd (small Ghazni) or Ghazni al-Thani. At that time Lahore was indeed a small (khurd) city but today it has grown into a metropolis

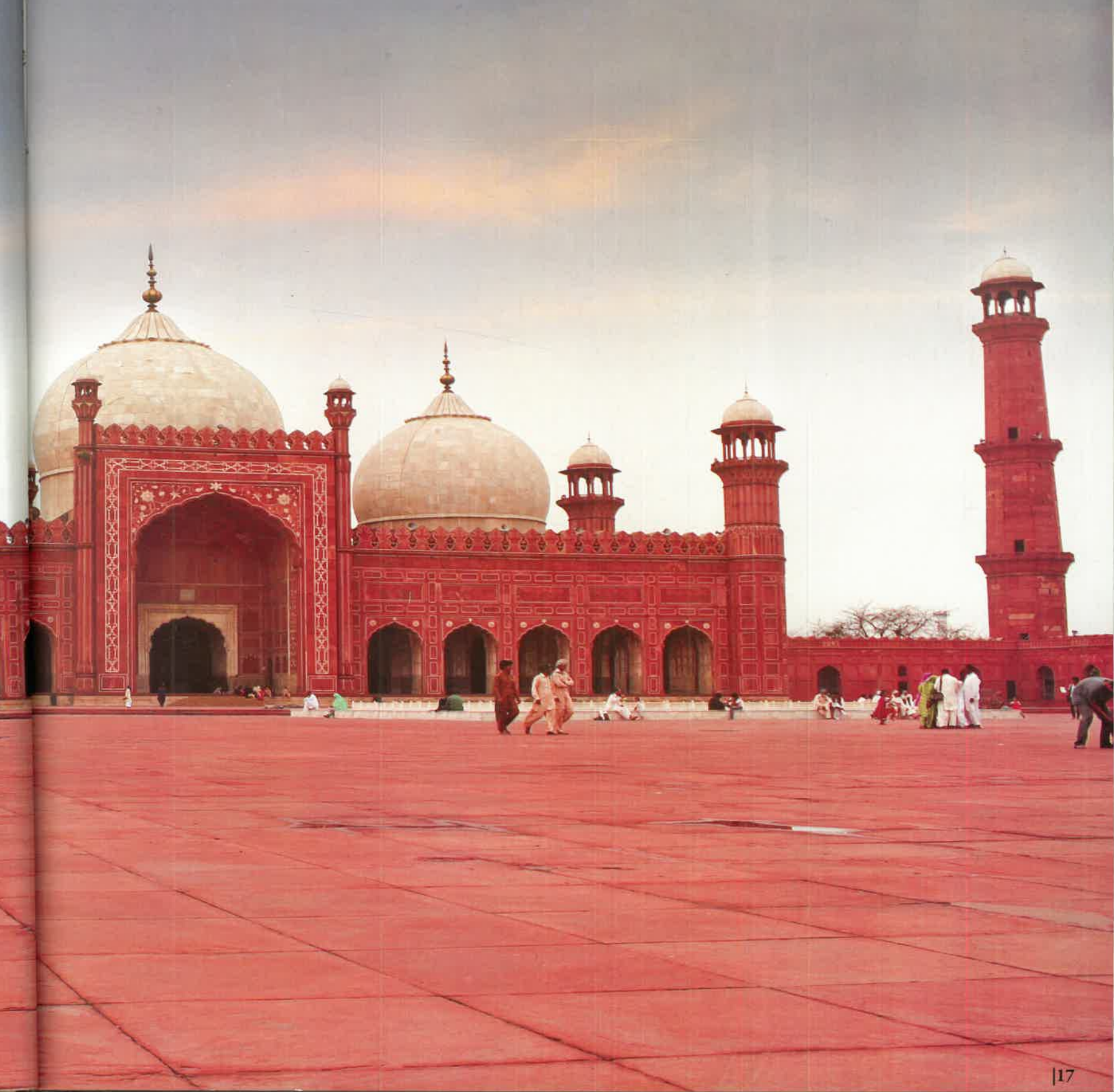
and has unlimited landmarks, variety of monuments, arts and crafts, markets, cuisine and name anything. We believe there will be a third volume, also, on Lahore inshaAllah.

This volume on Lahore is the result of a humble effort by a small team comprising Madam Nilofer Sikander, Mr. Nazir Ahmad, Muhammad Saleem sahib, Mehwish Nazir and Aamir Ali beside myself. Some tangible help also came from Mr. Sajid Saleem an assistant in the Research Centre of the College of Art & Design, Punjab University. I feel greatly indebted to all my team members. May Allah bless them all, may Allah bless us all.

Prof. Dr. Shaukat Mahmood

President Medal for Pride of Performance
Sitara-i Imtiaz.





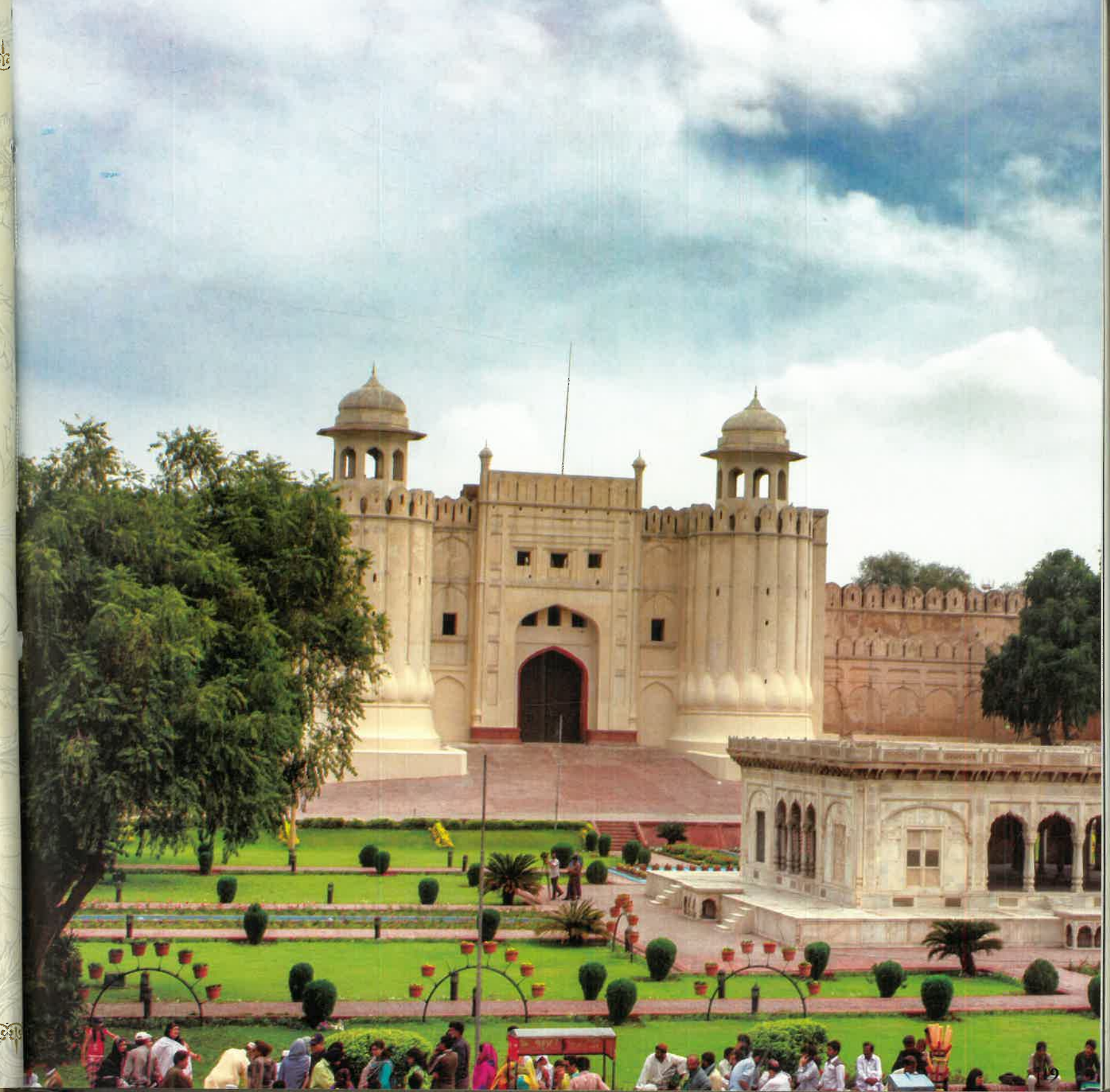
LAHORE

HISTORY

No Indian or Pakistani city can boast of having been the seat of so many imperial dynasties as Lahore. To this day its lofty houses, gilded minarets and bulbous domes, visible from afar, give it an imposing appearance. Since the monuments of Lahore form the largest single body of material in this report, it may help to see them in their context if the early history of Lahore, especially Islamic Lahore, is recounted in some detail.

Lahore is situated in a region famous in history as a camping ground of early Aryan migrations and the associated civilizations. The Pnnjab, whose capital has been Lahore from time immemorial, was later the home of Northern Buddhism, which having received a fresh impulse from the Graeco-Bactrian kingdoms and having converted the Scythians to its faith flourished here. Alexander's invasion brought Greek forms to sculptural art in the Khyber Pakhtunkhawa (former NWFP) and north of the Punjab in Pakistan. It has therefore been the cradle of many people and Lahore is from a political point of view in a crucial position in the Indo-Pakistan sub-







A model showing old walled city of Lahore.

continent. It guarded the approaches of the sub-continent and from early times has served as a bulwark against foreign aggressions. The Panjab, whose capital it has always remained, served also as one of the major recruiting grounds of armies in the East. It is a soldier's land.

Lahore has successively been the seat of ancient Hindu and Muslim monarchies, and was for two centuries the focus of struggle between Hinduism and Islam at the time of Sabuktigin and Mahmud of Ghazna and thereafter. More recently Lahore was the capital of the kingdom founded by Ranjit Singh, the so-called Lion of the Panjab, who is remembered in history as the desecrator of Muslim monuments in Lahore and the purloiner of the famous Kuh-i-Nur diamond. Since then many a ruler – good, bad or indifferent – has been given the title of Shir-i-Panjab, i.e. “the lion of the Panjab”.



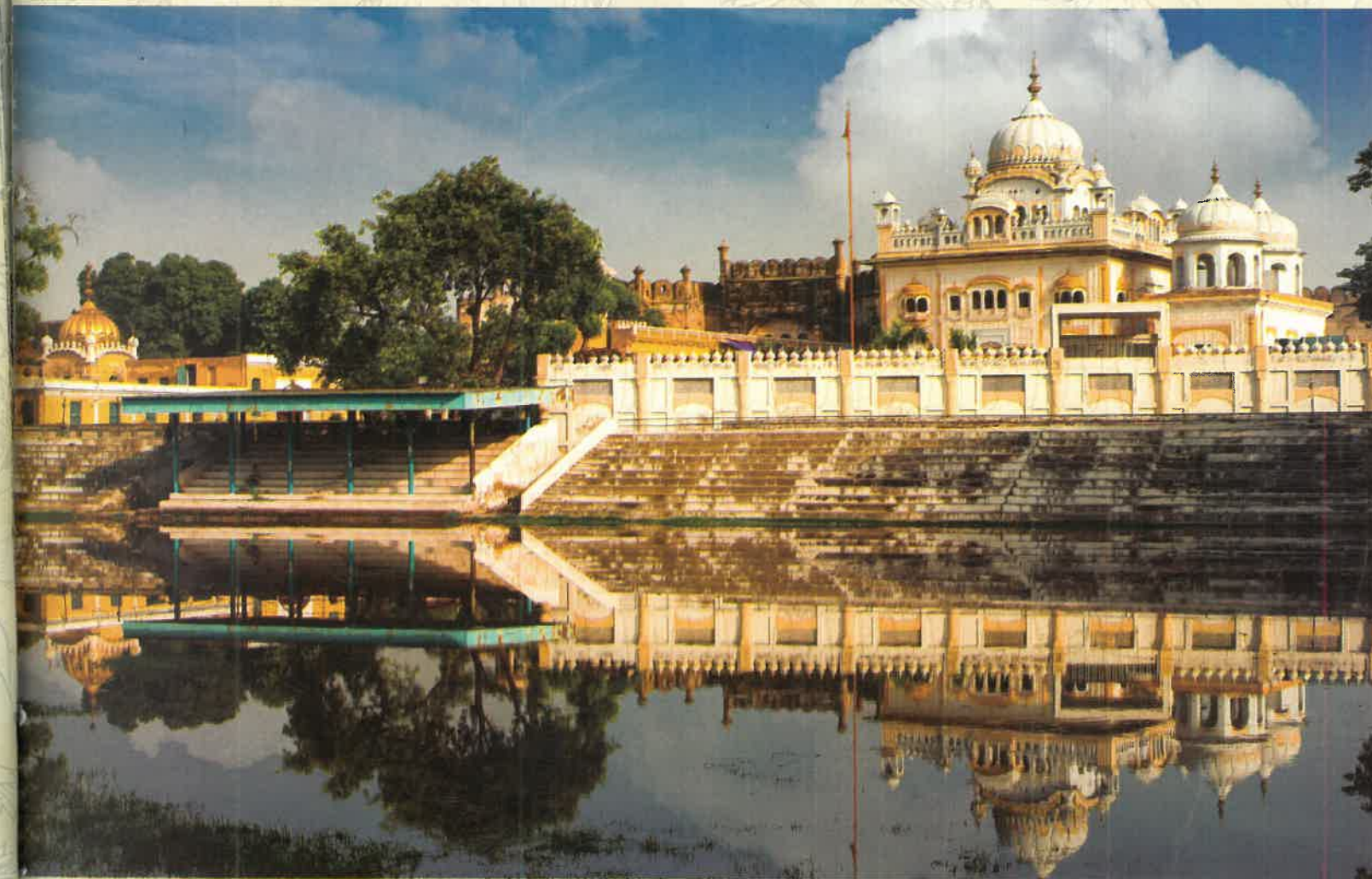
Lov's Mandir in Lahore Fort.

Little has been written on the history of the architecture of Lahore. In 1873 T.H. Thornton published *A Brief Account of the History and Antiquities of Lahore*. This book was revised in 1876 by J.L. Kipling; it was a work of great merit but incomplete. A more comprehensive book about the history of Lahore was published in 1892, *Lahore: Its history, architectural remains and antiquities*. Despite the turbulent past of this city and the destruction meted out over the centuries to so many of its monuments, a number of medieval and Mughal buildings still survive. Chronicles which were being published in Lahore at the end of the last century also included intermittently accounts of Lahore. Among them were *Tarikh-i-Mujaddadiyah*, and *Tuhfat al-Wasilin* by Shaikh Ahmad Zanjani, and *Khulasat al-Tawarikh* by Sultan Ra'i. General histories of India also give accounts of this great city; among them are *Tabaqat-i-Akbari* and *Muntakhib al-Tawarikh*.

*Wazir Khan Mosque as painted by
a British painter.*



There are quite a few Hindu traditions about the beginning of the city of Lahore. The mythical founder of Lohawar (Lahore) was Lov or Loh, one of the two sons of Rama. The first Muslim incursions into India were made in Sind in the time of the early Caliphs. One of the earliest Arabic chronicles, al-Baladhuri's *Futhuh al-Buldan*, gives an account of the first conquest of the Arabs in Sindh (Pakistan). In this account Lahore is called by the name of A'lahwar. Ahmad b. Yahya al-Baladhuri lived at the court of Baghdad c.850 A.D. under al-Muctamid Bi'llah. He narrates that in the year 44/664, in the days of the Caliph Mu-awiyah, Muhallab b. Abu Safra made war on the infidels of Hind and advanced as far as Banna and Alahwar. The great traveler al-Idrisi of Morocco in his work *Nuzhat al-Mushtaq fi Iftikhar al-Afaq*, written in the 9th century, calls it Lohawar. 'Awar' is a termination and a corruption



of the Sanskrit word *awarna* meaning a “fort”. This is affixed to the names of many a town in this region – like Peshawar, Hinduwar, Jadrawar and so on.

Samadh of Ranjit Singh.

Abu Rihan al-Biruni in his celebrated work, the *Qanun*, speaking about this country at the time of Mahmud’s conquest at the end of the 10th century,



Maharaja Ranjit Singh.



Jean-François Allard.

mentions in his description of the Himalayas that they can be seen from Tacas and Lahawar. Abu'l-Fadl al-Baihaqi in his *Tarikh-i Subuktagin* observes that Ziy a' al-Din Barni always wrote it Lohur and in the *Farhang-i Jahangiri* it is spelt as Lanhaur, Lohawur and Lahawar, as well as Lohur. Ironmongers and blacksmiths are called Lohar and Lauhar and it is possible that this word could be a source for the city's name.

Amir Khusraw, of Delhi, writing in the latter part of the 13th century, calls it Lahanur. "In his well-known work *Qiran al-Sadain*, he says: (Tr:) From the confines of Samaniya to Lahanur, There is no walled (city) but Qasur.

Alexander's general Ptolemy mentions a city called Labokla, situated on the route between the Indus and Palibothra or Pataliputra in a tract of country called Kasperia, Which is described as extending along the rivers Bidastes, Sandabal and Adris. This place (Labokla) is identified as Lahore. Labo is believed to be cognate with Lov, though it is not clear in which language.

Cunningham in his *Ancient Geography of India* writes "In January, 1848, during a day's halt at the village of Lahore, which is exactly four miles to the north-east of Ohind, I procured several Greek and Indo-Scythian coins, from which it may be inferred, with some certainty, that the place is at least as old as the time of Panini himself or about B.C. 350."

The celebrated Chinese pilgrim Hiuen Tsang came to the Panjab in 630 A.D. but he makes no mention of Lahore in his memoirs. He does however allude to one 'great city'. On the assumption that the great city alluded to by Chinese pilgrim in his travels was Lahore, Thornton fixes the approximate date of the foundation of Lahore c. 100 A.D.



Main entrance to the Ranjit Singh's Samadh, Lahore.



Jean-Baptiste Ventura.



General Paolo Crescenzo Martino Avitabile.

The history of ancient Lahore, then, may briefly be recapitulated thus; the Lahore, Lovpur and Lōhkōt of the Hindus; the Lohawar, Lohar and Lahanur of the Muslims; and possibly the Labokla of Ptolemy all refer to a single city which was founded towards the end of the first or the beginning of the second century.

Lahore seems to have risen to greater importance in the eighth or ninth century when it became the capital of the ruling family of the Brahmans, who in the tenth century were attacked by Subuktagin and his son Mahmud. The seat of government was moved to Lahore by Mahmud, who, having rebuilt the city, established a garrison in a fort he had built. The dynasty of the Ghaznavids ruled Lahore and almost the whole of northern India till 1186. Shortly after, Sultan Shihab al-Din took over power in 1203 the Ghakkars, a wild tribe inhabiting the hills north of the Panjab, availing them of the Sultan's absence, over the Panjab and even captured Lahore. But Shihab al-Din (later Muizz al-Din Ghuri), with the assistance of Qutb al-Din, not only recovered Lahore and the province but also induced the Ghakkars to embrace Islam. After the death of Shihab al-Din, Qutb al-Din mounted the throne at Lahore on July 24, 1206. Qutb al-Din died at Lahore in 607/1210 and Iltutmish became the sovereign in 1217 after a short period of rule by Aram Shah, Qutb al-Din's son. Iltutmish's son Nasir al-Din's was appointed governor of Lahore. In 1218 Jalal al-Din Mahmud was appointed governor of Lahore. In 1218 Jalal al-Din Khwarazm Shah, having hurried through Transoxiana and Iran pursued by the Mongols, conquered Lahore. According to one source, "several thousand horsemen under Tutra'i, the general of Genghis Khan, crossed Sindh in pursuit of Jalal al-Din, and from thence went to Multan and ravaged that country and Lohawar." During the reign of Sultana Radiyah Begum, who succeeded her brother Rukn al-Din Firuz Shah, the son of Iltutmish, Malik Ayyaz al-Din Kabir Khan, who was governor of Lahore, broke out in revolt (1236). The Sultanah led her army



Chauburji, Lahore.

from Delhi to Lahore and captured Lahore (1239). She was succeeded by her brother Sultan Muizz al-Din Bairam Shah. Lahore was captured by the Mongols in 1241. The Mongols left Lahore after plundering the city and the governorship of Lahore went to Sher Khan, a relation of Ghiyyah al-Din Balban, the able wazir of Nasir al-Din Mahmud, himself a younger son of Illutmish. He died in 1270, and was succeeded by Prince Muhammad, who held his court at Mutlan as he had to look after Sindh as well. Amir Khusraw, the poet laureate, often hailed as the “father of Urdu”, attended his court. During this period Sultan Balban ordered the rebuilding of the Lahore fort. “He repopled the towns and villages of Lahore which had been devastated by the Mongols and appointed architects and superintendents to restore them”.

During the Khilji and Tughlaq dynasties (1288-1414) Lahore played a minor role in political history. The Mongols continued to ravage its surroundings and on one occasion they reached as far as Delhi before being defeated by Zafar Khan, a general of Sultan Ala’ al-Din, in 1298. Outside Lahore the Mongols made a number of settlements now called Mongolpura and Mughalpura. Ghazi Khan, the brave governor of Lahore under Ala’ al-Din, put an end to the recurring attacks of the Mongols and pushed them back as far back as Kabul and Ghazna. Ghazi Khan was the son of a Turkish slave of Ghiyyath al-Din Balban. He ascended the throne of northern India under the title of Ghiyyath al-Din Tughlaq in 1321. He was the founder of Tughlaq dynasty which ruled India from 1321 to 1414 A.D.

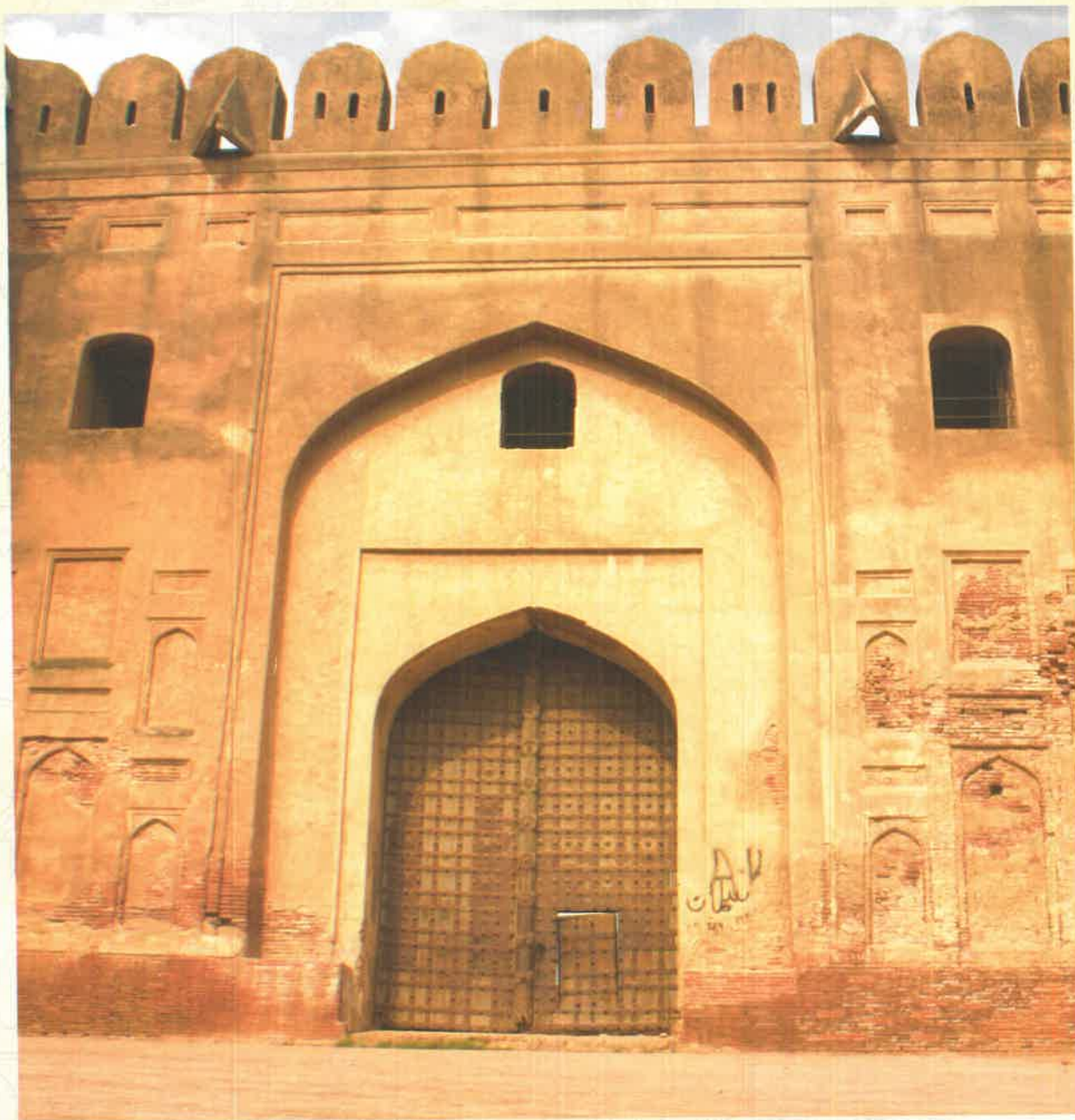
In 1398 Timur crossed the Indus and pillaged Lahore and Multan. A timely submission by its governor Malik Shaikha Khokhar however saved the city from total destruction. During the rule of the Sayyids (1412-78) Lahore was not prominent at all.

The power of the Afghan dynasty known as the line of Lōdhis was originally established in the Panjab. The power of the Lōdhi family in the Panjab excited the jealousy of the reigning sovereigns of Delhi who drove them into the hills. But when Bahalul, a Lōdhi prince, grew up he recaptured the whole of the Panjab.

At this time the future emperor Zahir al-Din Babur was in Kabul. The empire of Delhi was in utter disorder. The Panjab was held by Daulat Khan Lōdhi and his sons, Ghazi Khan and Dilawar Khan. Daulat Khan was not happy with Sultan Ibrahim, the central power, who had appointed Daulat Khan as the governor of the Panab. Daulat Khan revolted, and Sultan Ibrahim sent an army from Delhi to dislodge him. Finding himself unable to resist this force, Daulat Khan offered his allegiance to Babur and invited him to march to India. Babur gladly accepted the invitation.

Thus began the Mughal Empire. Babur crossed the Indus and marched through the country of Ghakkars past the Jhelum and Chenab rivers and approached Lahore. A little resistance was offered by those who coveted the crown; these included Bihar Khan Lōdhi and Mubarak Khan Lōdhi and some other princes. Their armies were mercilessly slaughtered by Babur. Lahore was plundered and its streets burnt. Babur stayed at Lahore for four days and then moved to Dipalpur where the slaughter of Lahore was repeated. Daulat Khan was given a jagir. Babur then crossed Satluj and marched on to Sirhind. Daulat Khan, dissatisfied with the size of his jagir, revolted. When Babur rushed back Daulat Khan fled to the hills, but his son Dilawar Khan reconciled himself with Babur and received the title of Khan-i Khanan.

Babur, after giving Dipalpur to Sultan Ala' al-Din Lodhi, Sialkot to Khusraw Kukaltash, and Kalanur to Muhammad Ali Tajik, withdrew to Kabul. Mir Abd al-Aziz, a near relative, was put in-charge of Lahore while a veteran Mughal

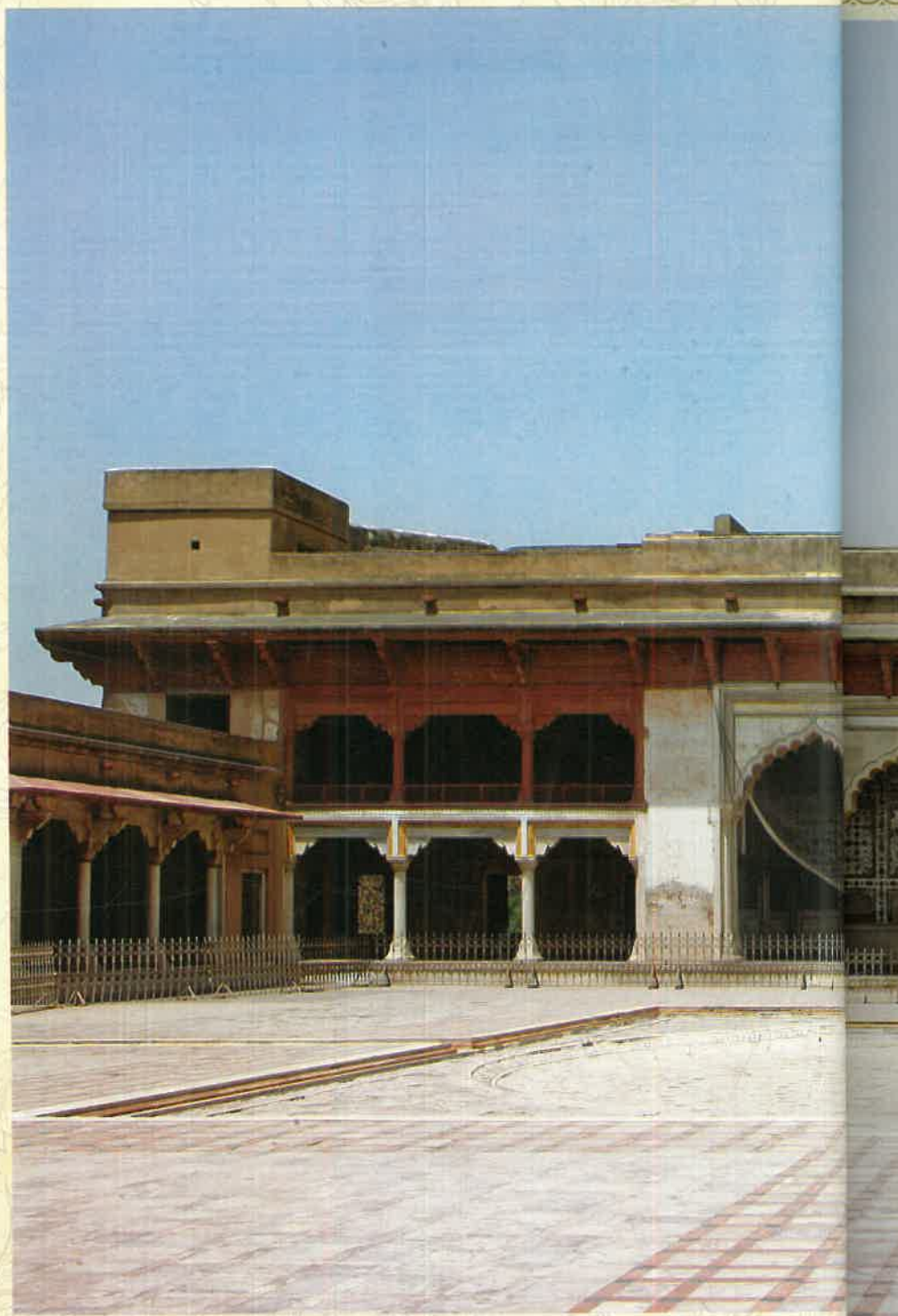


Masti Gate of Lahore Fort.

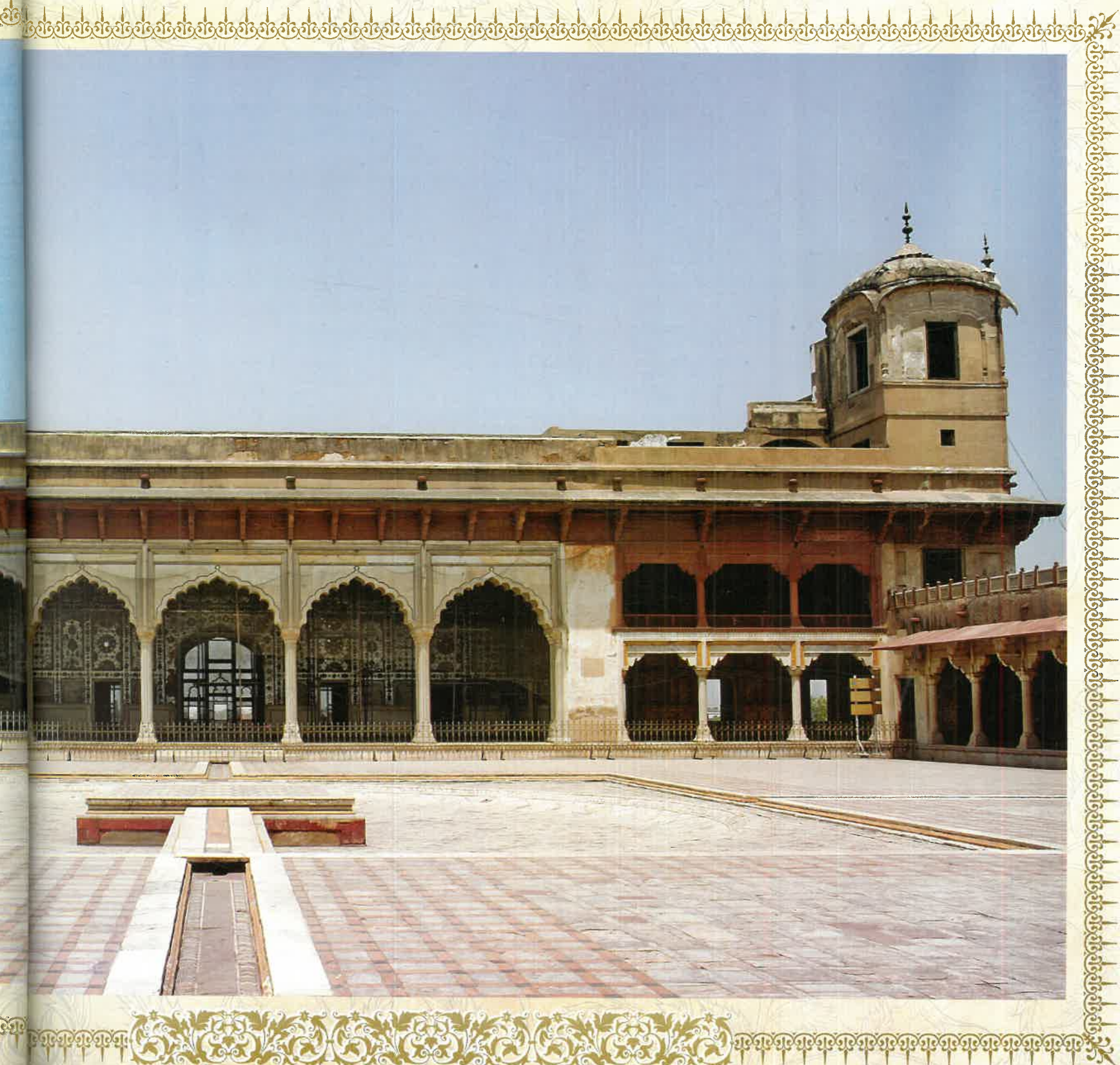
*Alamgiri Gate of Lahore Fort and
Baradari of Ranjit Singh.*



officer, Babur Khushka, was appointed to watch the proceedings of Sultan Ala' al-Din. Scarcely had Babur crossed the Indus when Daulat Khan re-emerged from the mountains and advanced to Dipalpur and began to threaten the appointees of Babur. He defeated Ala' al-Din. Hearing of these developments, Babur again arrived at the scene and encamped on the banks of the Ravi. Daulat Khan's force, on hearing of the arrival of Babur, ran off helter skelter without fighting. Babur thereupon marched toward Delhi without entering Lahore. This was Babur's final expedition to India and the battle of Panipat fought on April 29, 1526 decided the fate of the empire for the foundations of the Mughal dynasty in India.



Shish Mahal, Lahore Fort.



LAHORE UNDER THE MUGHALS



Zahir Al-Din Babur.

ZAHIR AL-DIN BABUR

Before Babur won the battle of Panipat in 1526 he had invaded Lahore at least four times on one pretext or another. The battle of Panipat was his fifth attempt to defeat an Indian ruler and it was after this victory that he decided to stay for good in India, thus laying the foundations of Mughal rule there. Before this battle, as Latif puts it. “the followers of Babur contemplated with dismay the prospect of a prolonged stay in the inhospitable regions of India. The happy recollections of the Vale of Farghana and its neighbouring mountains made them anxious to return home”. But Babur impressed upon them the incalculable advantages of staying. His words had the desired effect.

The first town of importance that benefited by the establishment of the Mughal empire in the Panjab was naturally Lahore. Indeed, the early period of the Mughals can doubtless be regarded as the golden age of the history of Lahore. Once again it became the seat of a royal residence. The Mughals proved to be the most enlightened patrons of literature and fine arts and Lahore became a seat of learning under poets, authors, orators, and men versed in science and technology gathered at Lahore. Fine gardens were laid out, canals were dug, spacious mosques were built, caravansara's were constructed and palaces, domes and minarets were erected. In short a powerful impetus was given to architecture.

Babur was one of the most dynamic personalities in the history of Asia and it was his artistic ideals that laid the foundations of the style which was



Shalimar Garden, Lahore.



Kamran Baradari, Lahore.

to follow. In his memoirs he notes that a considerable amount of building construction was undertaken, chiefly in the form of ornamental gardens. Unfortunately not much evidence of his building activity survives. There are however two mosques which have survived, one in the Kabuli Bagh Panipat and the other a Jamia mosque at Sambhal. Both these mosques were built in 1526. Of a third mosque which he appears to have built within the old Lōdhi fort at Agra. Babur himself complains that “it is not well done, it is in the Hindustani fashion”.

NASIR AL-DIN HUMAYUN

Humayun, three days after the death of Babur, ascended the throne in the city of Agra on December 29th 1530 A.D. His brother at that time held Kabul and Qandahar. In order to seize power he rushed to Lahore and after political manoeuvring entered the city with a strong force and took possession of the whole of the Panjab. Humayun was a person of mild disposition; he confirmed the rule of his brother in the Panjab beside Kabul and Qandahar. Kamran laid a beautiful garden and constructed a *baradari* (summer-house) on the right bank of the river Ravi outside Lahore. The garden has disappeared but the *baradari* survives – partially – in mid-stream.

When the trouble between Humayun and Sher Shah broke out, Humayun sought refuge at Lahore but Kamran made a truce with Sher Shah by ceding the Panjab to him. This compelled Humayun to quit Lahore along with his family. Sher Shah attempted to force Humayun into a military confrontation but Humayun fled to Sindh in November 1540, and from there he went to Iran.

Sher Shah was a magnificent monarch and with his command over great mercantile cities like Peshawar and Lahore he developed trade with the countries of Central Asia and northern China. He connected the cities of Lahore and Multan by road and planted orchards on the way to refresh the weary travelers. He unfortunately died long before his time, on May 22nd 1545 A.D. Sher Shah on his deathbed regretted that he had not razed the city of Lahore to the ground, for according to him, “Such a large city should



Jalal Al-Din Muhammad Akbar.

not exist on the very road of an invader, who immediately after capturing it on his arrival, could collect his supplies, and organize his resources there”.

Humayun, after on exile of nearly fifteen year, crossed the Indus unopposed on 2nd January 1555 and marched to Lahore which was abandoned on his approach. He entered the city on 24th February and then proceeded to Delhi. In July Humayun re-entered Delhi but he ascended the throne only to die. He died of an accident after falling down some steps in the Din-i Panah on January 25, 1556.

While a fugitive from India at the court of Shah Tahmasp, Humayun learnt a lot about Persian traditions. This enabled him to bring into India various Iranian architectural traditions. These traditions however matured only after his death.

JALAL AL-DIN MUHAMMAD AKBAR

Lahore was a place of great importance in Akbar’s time. Abu’l-Fadl speaking of Lahore writes, “Lahore is a large city. In size and population it is among the first. During the present reign the fortifications and citadel have been strengthened with brick masonry and many splendid buildings have been erected.” Akbar founded a royal mint, as well as a carpet manufactory. Skilful gardeners from Persia were invited to lay out gardens at Lahore.

Akbar constructed two buildings outside Lahore for feeding poor Hindus and Muslims. One of them was called Dharmapura and the other Khairpura. As a large number of *jogis* (saints) also flocked to these houses a third house was built and was called Jogipura.

Akbar built the Lahore fort a new; a number of buildings were added within it and the whole complex was provided with a high bastioned wall. The





Exterior wall of the Lahore Fort.



Nur Al-Din Muhammad Jahangir.

architecture of Akbar which survives in this fort is very similar to the architecture of Agra fort. No reference to this fort would be complete without attention being drawn to the remarkable display of tile decoration which is so overwhelmingly displayed over the wall facing west. It extends from the present main entrance to the extreme north. The tile decoration and mosaic work cover an approximate area of 432 x 15.30m.

NUR AL-DIN MUHAMMAD JAHANGIR

Jahangir was fond of Lahore and on his way to Kabul and Kashmir held his court at Lahore. Under Jahangir Kalir Khan was the first governor of Lahore. In the fifth year of his reign he was replaced by Murtada Khan. Murtada Khan built a *muhalla* (colony) at Lahore bearing his name, as well as a large bath and a chowk (square). The garden of Dilawiz across the river Ravi and the garden of Mirza Kamran were in high favour with the king who passed many festive days there in the company of his *harem* and *umara*'.

During his rule a new block was built in the palace of Lahore (Lahore Fort). This construction was carried out under the supervision of Mamur Khan. Jahangir writes in his memoirs that these buildings were finished handsomely by the exertions of Mamur Khan, "without exaggeration, charming residences and soul exciting sitting places had been erected in great beauty and delicacy". Yamin al-Daulah (Asif Khan) was the ablest of the governors of Lahore appointed by Jahangir. He had a special taste for architecture and embellished the town and the citadel (i.e. Lahore Fort).





Tomb of Jahangir.

Jahangir's last days were embittered by the treason of Nur Jahan, his beloved consort, who planned to usurp power for her son-in-law Shahryar at the expense of Shahjahan, the rightful heir. Jahangir fell ill in Kashmir and was on his way to Lahore when he died at Rajauri in 1628, in the twenty-second year of his reign. His body was sent to Lahore, and according to the will of the emperor was interred in the garden of his once beloved wife, Nurjahan (Nur Mahal) on the right bank of the river Ravi on the outskirts of Lahore.

SHIHAB AL-DIN MUHAMMAD SHAHJAHAN

Shahjahan was born at Lahore in 1000/1592. He received the title of Shahjahan (King of the World) from his father in 1616 when he was nominated successor. When Jahangir died Nurjahan wished to make Shahryar the successor. She had married her daughter from Sher Afgan to Shahryar. Shahryar was nicknamed *Nashudni* ("good for nothing"). Encouraged by Nurjahan and instigated by his intriguing wife, he proclaimed himself emperor at Lahore. Royal troops were sent by Shahjahan, and Shahryar was defeated in a short battle which took place outside Lahore.

Shahjahan was particularly attached to Lahore because it was his birthplace. The *Padshanama* by Abd al-Hamid Lahauri gives a very detailed account of the Emperor's court at Lahore. He also refers to Wazir Khan as the viceroy of the Panjab who built the famous Wazir Khan Mosque at Lahore. According to Abd al-Hamid the Emperor entertained much respect for *fakirs* (saints) and paid a visit to *Hadrat Miyan Mir*, whose tomb is also situated in Lahore.

As the building of the Daulat Khana ("fort" or "royal residence") had been neglected for a long time, the Emperor ordered the reconstruction of various parts of it, such as the *ghusalkhana* (bath room) and *khwabgah* (sleeping chambers). The restoration work was planned and carried out under the supervision of skilful engineers. The *Shahburj* (the royal tower)

Naulakha, Lahore Fort.





had been built by Jahangir; this failed to impress Shahjahan and he ordered its demolition. A new tower was raised in its place under the supervision of Yamin al-Daulah Asif Khan who had already displayed much tact and judgement in the embellishment of imperial buildings. After the completion of the block the Emperor stayed in it for three days.

At Hiran Minar (Sheikhupura), too, the Emperor did not think the buildings constructed by Jahangir sufficiently impressive. A new building was therefore ordered. Following the pattern set by the emperor many of the high officials decorated the city with beautiful edifices. Muhammad Saleh Lahauri in his excellent work *Amal-i Saleh* mentions among others the names of Wazir Khan and Allama Afdal Khan who each constructed spacious edifices at Lahore.

In 1631, Ali Mardan Khan was made viceroy of Lahore. He was famous as a great canal engineer. He planned and dug a canal from the river Ravi to the famous Shalimar garden, and this supplied water to the garden for all its needs. The Shalimar Garden was laid in 1634. Fruit trees for this garden were brought from Kabul and Qandahar.

In the same year (1634) Yamin al-Daulah Asif Khan, brother of Nurjahan and father in law of the Emperor, died. By the orders of Shahjahan his remains were interred in the land west of the mausoleum of Jahangir. A grand dome was ordered to be built over the grave.

In the following year (1635) Nurjahan also died. She was buried in a mausoleum which she had herself built close to the tomb of her brother Asif Khan. Shahjahan died at 74 in 1666 in captivity.

Shahjahan's strong interest in architecture extended to the designs and plans

of the buildings. His first and most famous building was the Taj Mahal at Agra which was intended to contain the tomb of his wife.

“Augustus’s boast that he found Rome of brick and left it of marble has its counterpart in the building reproductions of Shahjahan, who founded the Mughal cities of sandstone and left them of marble”. There is no doubt that Shahjahan demolished many structures of red sandstone built by his predecessors and in their place built marble palaces.

MUHAMMAD MUHYIYY AL-DIN AURANGZIB

ALAMGIR

Owing to the prosecution of protracted wars in the Deccan, Aurangzib had less time to hold his court at Lahore than his predecessors. But Lahore remained the *dar al-saltanat* (capital). His first visit to Lahore was in 1659 when he stayed in the garden of Fayd Baksh and paid a brief visit to the *Daulat Khana* (the Fort). He also went to the Masjid-i Wazir Khan and offered prayers there.

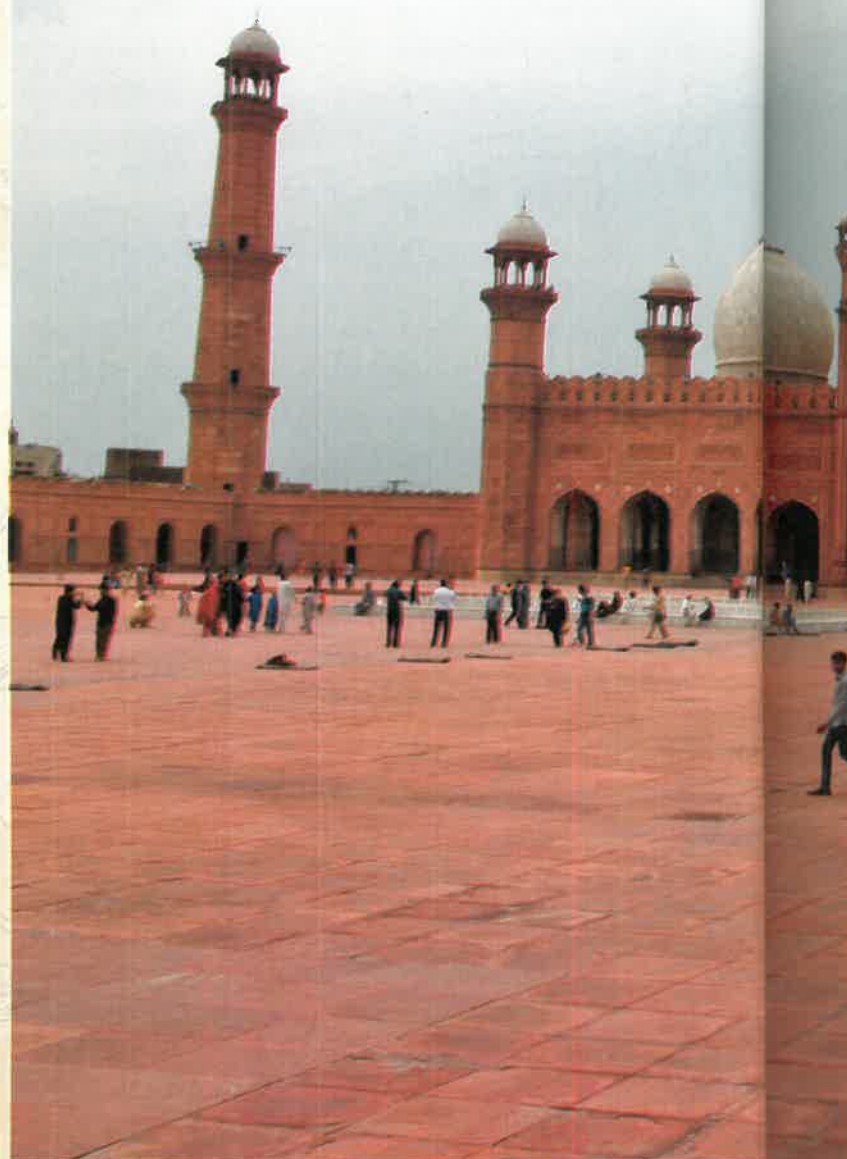
Even though he spent little time at Lahore, Aurangzib did not neglect it entirely. Thus in the year 1662 he ordered a protective embankment to save Lahore from deluges. This was about 6.5 km in length. Flights of steps were made at intervals for people to bathe. The Badshahi Mosque, a far more ambitious project, was completed in the year 1673. It is a magnificent structure and the finest architectural achievement of Aurangzib. He also modified the main gate of Lahore Fort; this is still called -Alamgiri Darwaza after him.

The architectural productions of the Mughal during the later half of the 17th century were less numerous and of lower standard than those executed under the previous rulers of the same dynasty. A characteristic example of this dwindling interest in architecture is the mausoleum of Aurangzib’s

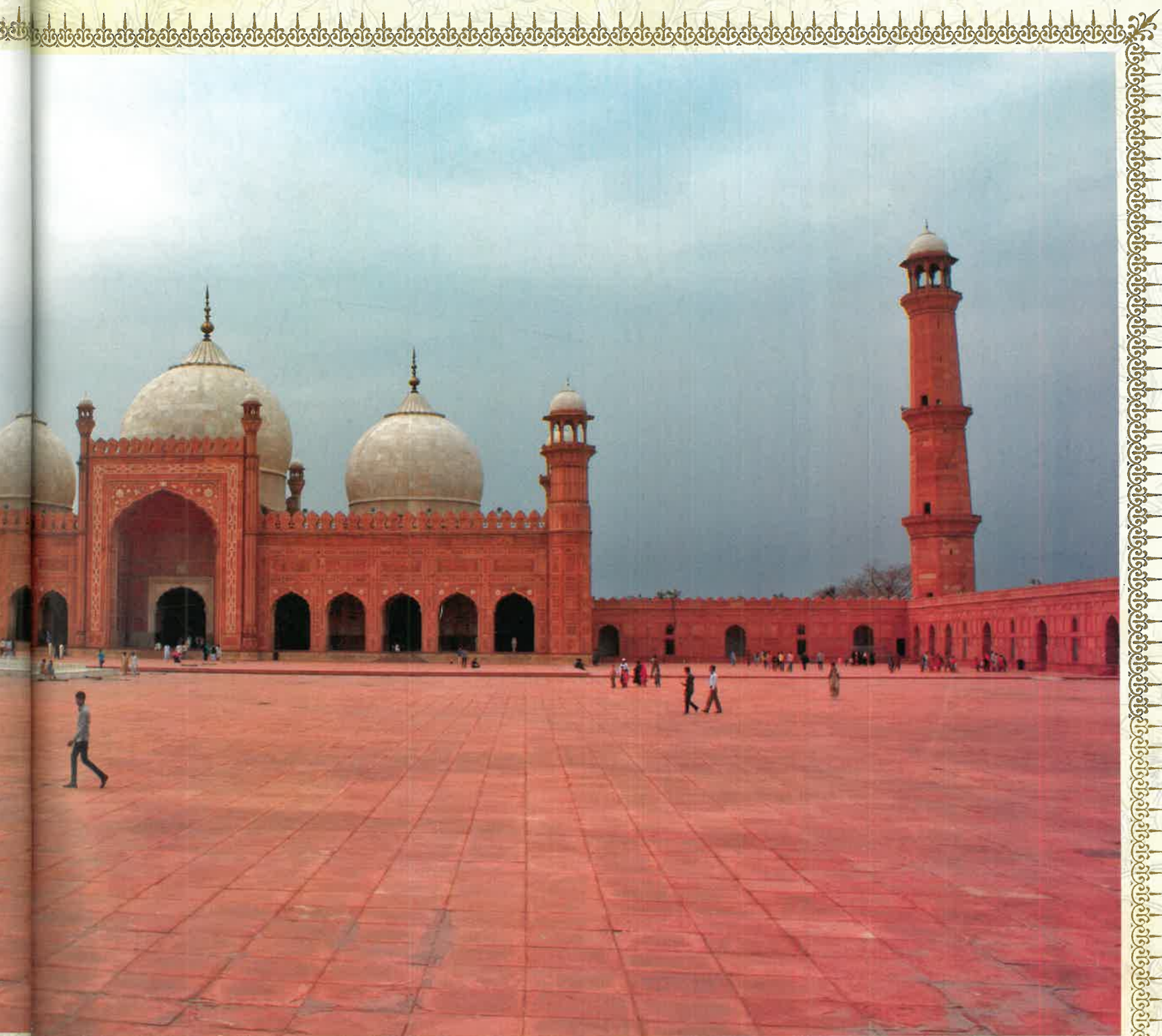
wife, Rabiah Durrani, at Auranghabad. Badshahi Mosque of Lahore is the only monument which reaches the highest standards of Mughal architecture. After the death of Aurangzib in 1707 the collapse of the empire was only a matter of time, and the few buildings in the Mughal style that were erected after their date and a melancholy proof of the decadent architecture that ensued.

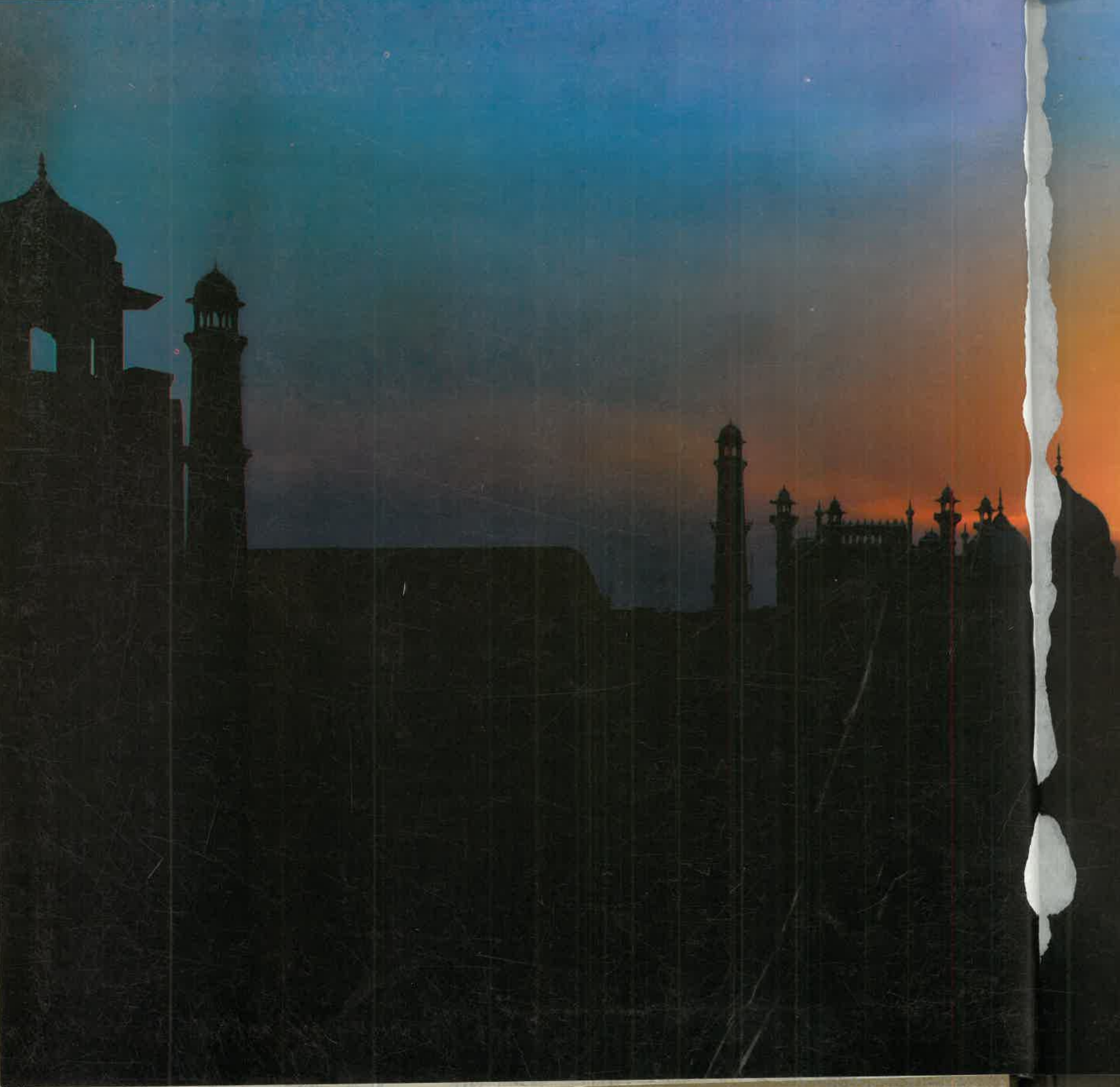
Dara Shikōh, the elder brother of Aurangzib, who was put to death in 1659, was a great lover of monuments just like his father and he possessed fine literary taste. He was fond of Lahore where he was extremely popular and he fixed his residence there. He adorned the city with beautiful buildings and market places. The Sultan Sara'i and Chowk Dara Shikōh were built by him. This chowk had four gates on each side, decorated with *kansi* work and in shape and style resembling the gateway of Wazir Khan's Mosque. Dara was a faithful disciple of Hadrat-i Miyan Mir and he had planned a grand mausoleum for the saint but his life did not allow him to do that. His wife Nadirah is also buried close to the mausoleum of Hadrat-i Miyan Mir.

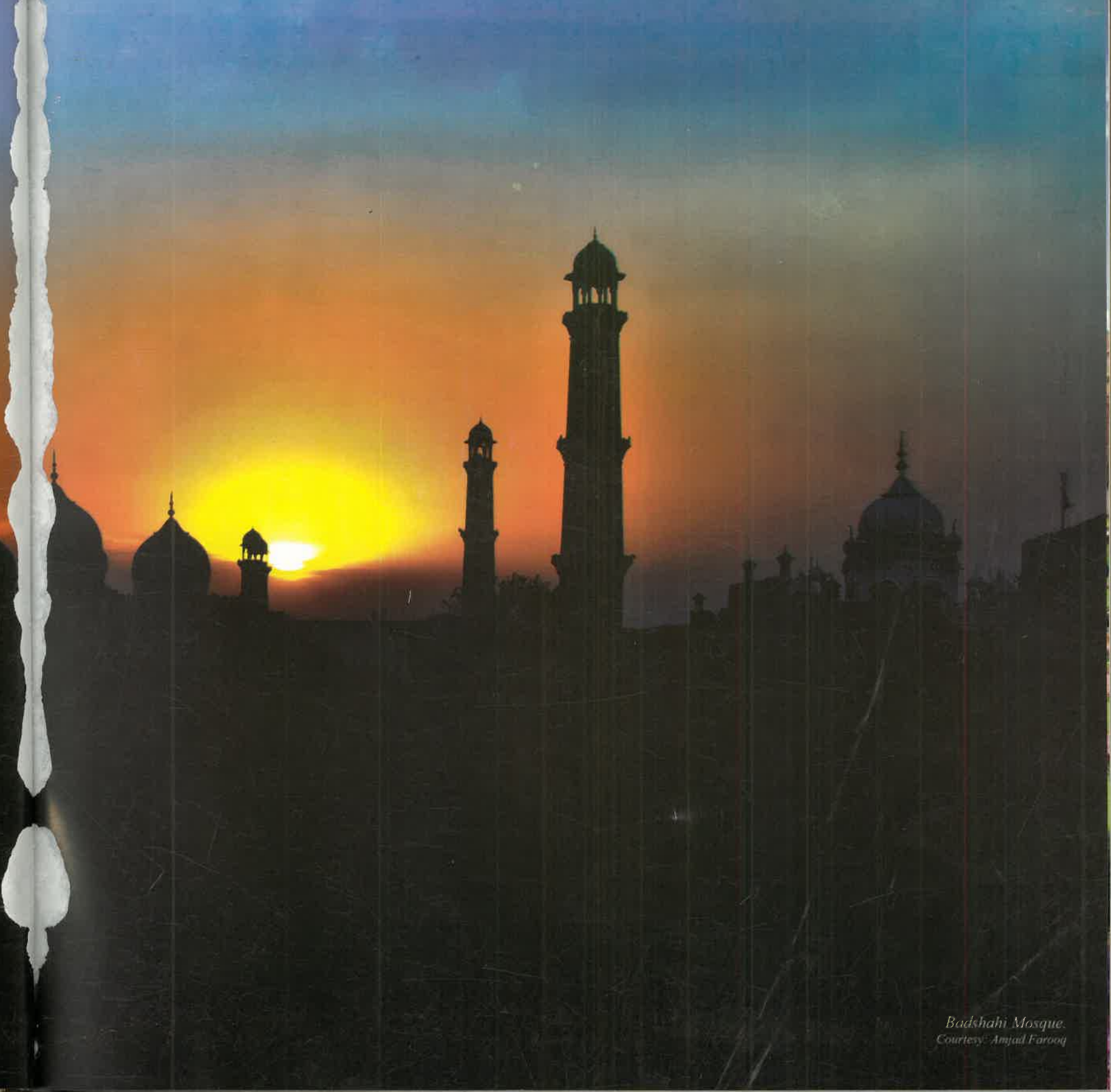
Lahore was the first city in Pakistan to receive the attention of the sons of Timur and it was also the first to fall into decay. Practically no monument of imperial quality of status was added to this city after Aurangzib.



Badshahi Mosque.







*Badshahi Mosque.
Courtesy: Amjad Farooq*

LAHORE FORT

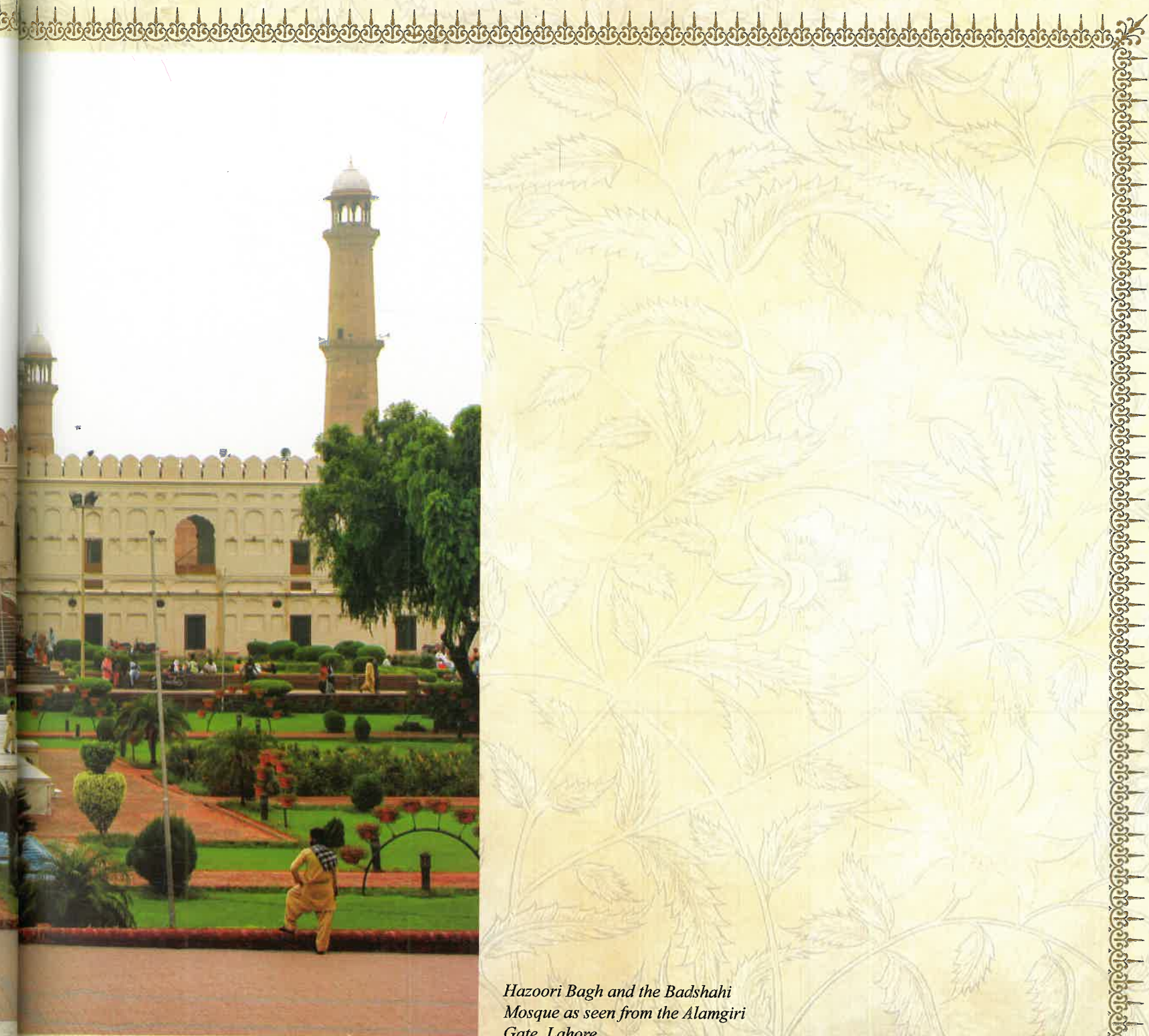
The origin of Lahore Fort is shrouded in obscurity but we find it mentioned in the history of the invasions of Muhammad Ghūri. These invasions took place in the years 576/1180, 580/1184 and 582/1186. The Fort was ruined by the Mongols in 639/1241, and was rebuilt by Ghiyath al-Din Balban in 666/1267. It was again destroyed in 801/1398; this time by the armies of Timūr. It was again rebuilt, in sun-dried bricks, by Sultan Mubarak Shah in



Once glorious monuments now a recreational treat for the visitors.







Hazoori Bagh and the Badshahi Mosque as seen from the Alamgiri Gate, Lahore.



A Sikh monument at Lahore Fort.

825/1421. Mention of the fort is also made in connection with the arrival of Mirza Kamran from Kabul in the first year of Humayun's reign. Humayun's successor Akbar demolished the old mud fort and rebuilt a new structure of brick and solid masonry; the work is thus referred to in the *A'in*: "Lahore is a large city in the Bari Doab. In size and population it had few rivals. In old books it is called Lohawar. It lies in longitude $109^{\circ} 22'E$, and latitude $31^{\circ} 50'N$. In this everlasting reign the fort and palace have been built of burnt bricks. As it was for some time the seat of Government, lofty edifices were erected, and delightful gardens added to its beauty".

This fort is also mentioned in connection with Mirza Muhammad Hakim's rebellion in 974/1566. Akbar built the fort at Lahore simultaneously with the one at Agra, according to Brown.

A section of Mural Wall, Lahore Fort.





Naqqarkhana, Lahore Fort.

PLAN

In plan the fort is a huge rectangle or a parallelogram measuring 365m by 320m, and contained within an immense boundary wall. Inside, the whole area has been divided in to two approximately equal rectangles. The northern rectangle had the private houses of the royal family, arranged almost at right angles to each other. The other area was for public use and contained buildings which were accessible to the public for official and service requirements. In between these two areas there was an alignment of buildings acting as a barrier. This area included buildings like the *Mōti Masjid*, or the *Makatib Khana* (library), quarters for the guards and gardeners.



A Sikh monument, Lahore Fort.



Kala Burj, Lahore Fort.

The southern part of the plan comprises stables, houses for the cooks, *tusha khanas* and a camping ground in the east. To its west is the quadrangle of Jahangir. This comprises a *Khwabgah*, a garden with a water reservoir in the middle and another *Khwabgah* opposite. Further west are some chambers, a marble *baradari* and a garden followed by another *Khwabgah*. This portion and the portion described after this belongs to the period of Shahjahan. The *Khwabgah* is situated just inside the northern *fasil*, while a chamber called *Arzghah* projects out of the *fasil*. The next rectangular block contained a row of *hammams* and an open court in front on the northern side, with a marble pavilion close to the *fasil*. All this area is called *khilatkana*. To the west of the *khilatkana* is a well and a small mosque. To the south of the *khilatkana* is the most decorative and grand part of the palace comprising a large marble paved courtyard with a water tank and fountain in the middle and canals



Diwan-i-Khas, Lahore Fort.

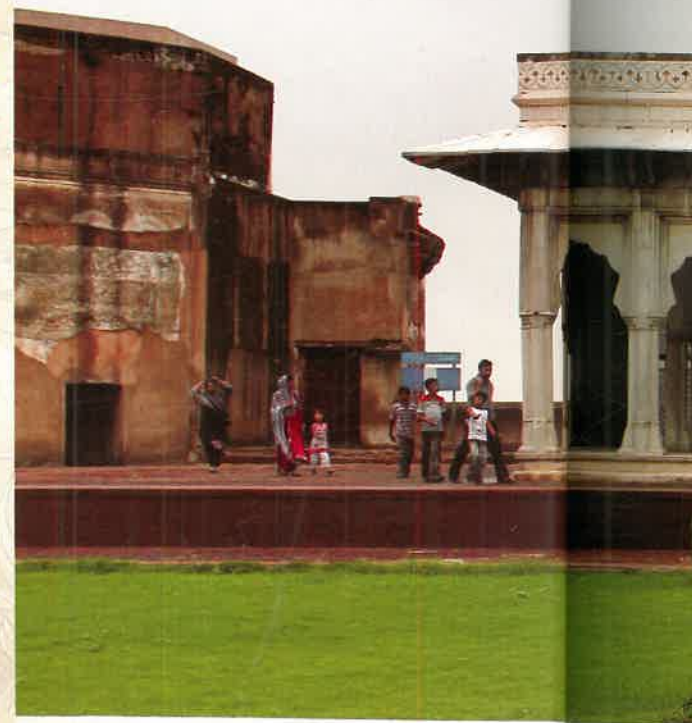


Sikh period fasil, Lahore Fort.



Jahangiri Palace, Lahore Fort.

View from Diwan-e-Khas quadrangle.



Entrance to Shish Mahal for

Diwan-e-Khas at Lahore Fort.



*A deteriorated artwork in
Shish Mahal.*



leading to the pavilions on all four sides of the quadrangle. The eastern part has rooms used as bathing chambers for the queen and other ladies of the royal family. The north is housed with the Shish Mahalor 'palace of mirrors'. To the west is the Naulakha, meaning nine lakhs. Probably this small marble pavilion was built at a cost of that amount; hence its name. South of the courtyard is a row of chambers.

The fort is so built that though internally everything is at one level, externally the surrounding ground is much lower, particularly on the north-western side. As we move from the Akbari Mahal and camping ground to the Naulakha the building seems to gain tremendous height externally. Internally, the level remains uniform. The overall height of the great platform under the fort thus rises from six to seventeen meters. The platform with the exception



*A dado in Shahjahani
Khwabgah, Lahore Fort.*

of wells and a few lower chambers is just a solid mass of earth and debris.

In order to align the massive eastern gateway with the entrance of the Badshahi Mosque the eastern *fasil* is crooked in form, but to a visitor this does not seem so as the gateway, the *Hazuri Bagh* in front of it and then the Badshahi Mosque are built on rectangles whose parallels are analogous to that of the main gate of the fort. This gate is apart from the *Hathhi Pol* which is further north of it.

A variety of materials has been used for various parts of the fort. The buildings erected by Akbar are mostly in brick and red sandstone and the architecture of this period is mostly a combination of beam and bracket as its principal structural system. Brick, red sandstone and marble are the



Detail of pietra-dura, Naulakha, Lahore Fort.

building materials in the structures which belong to the period of Jahangir. Some of his brick buildings, like *Khwabgah*, are brick built but wholly covered with plaster. The buildings of Shahjahan show a considerable use of marble and *abri* stone beside brick and *chunnan* work. These buildings are lavishly decorated with inlay (*pietra-dura*) work, stone carvings and reflective mirrors inlaid in plaster bases. The only monument which belongs to Aurangzib's period is the Pearl or Mōti Mosque which is a petite structure of the purest white marble.

DECORATION

The buildings of the Akbar period show carvings in the bases and capitals of columns in the *Diwan-i Aam* and also on the seat of the emperor and its decorative balcony reached by a flight of steps provided in the private area just behind the northern end of the *diwan*. Jahangir's buildings have similar decoration and more in the form of mural decoration in the *bari* and *chhōti* (large and small) *Khwabgahs*. But the most exquisite decoration belongs to the period of Shahjahan. The double columns of the Shish Mahal are elaborately carved. Its walls are decorated with plaster work and inlaid mirrors. The walls and attached columns of the Naulakha have the most refined type of *pietra-dura* work. The marble floors, with a floral pattern made of black marble inlay, are superb. The marble grilles of the Naulakha and other parapets are the finest examples of decoration consisting of stone cutting and carving.

A rare type of decoration is found on the western wall. This consists of a great mural made of glazed tile-work extending from the *Hathi Pōl* (Elephant Gate) to the extreme north corner of the wall, a surface 15.5m high and nearly 44m long. The whole surface is divided into various rectangles and squares and within them *mihrahi* niches, all adorned with *chini* work depicting floral motifs, animals, human figures and geometric patterns.



Naulakha, Lahore Fort.



General view of the Shish Mahal, Lahore Fort.



Hathi Pul, internal view, Lahore Fort.



Daulatkhana, Lahore Fort.

PIETRA-DURA

The Technique

Pietra-dura seen in the Mughal monuments, belonging to Jahangir and Shahjahan's periods is a technique which is more than its original shape evolved by the Italians. *Pietra* (stone) and *dura* (durable) thus the technique rested wholly on the use and application of hard stones often precious and semi-precious. This is also known as *Commesso* (or *commisso*) mosaic work, an art that flourished in Florence particularly in the late 16th and 17th centuries and involved the fashioning of highly illusionistic pictures out of cut-to-shape pieces of coloured stones. The resulting decorative mosaics were used primarily for table tops and small wall decorations.



View of Nag Mandir from Diwan-e-Khas quadrangle.



A pietra-dura, Naulakha, Lahore Fort.



Intricately done lattice work, Naulakha, Lahore Fort.

Typical motifs as cupids, acanthus, shells, and boldly drawn scrolls were used for further enriching chairs and stools and even teapots, cups and ladies' shoes.

During the rule of Jahangir, we see this art form coming to India. During his rule the technique remained in a very rudimentary shape though Nurjahan exploited this technique extremely well when she built the tomb of her father I'timad al-Daulah at Agra and the tomb of her husband Jahangir at Lahore. The *pietra-dura* embellishment of the cenotaph of Jahangir makes it the second most precious cenotaph in the world after that of Arjumand Bano Begum, the lady of Taj Mahal.. However when Shahjahan came into power, being a connoisseur of art and architecture he took special interest in this technique and took it the highest stage which has never been paralleled. The art of inlay work called *pietra-dura* played an important role in not only



Pietra-dura on the bases of columns of Shish Mahal.



Pietra-dura panels.

shaping but also in enlivening the structures erected by the Mughals in India. This is evident in its most dominant form in the Shish Mahal(Lahore Fort); Naulakha (Lahore Fort); Cenotaph of Jahangir, Jahangir's Tomb, Lahore; Tomb of I'timad al-Daula, Agra; Shahjahan's Palace in Red Fort (Agra) and incomparable Taj Mahal. The crown of Mughal architectural activity, the Taj Mahal, constructed between 1630 and 1653 by a workforce of more than twenty thousand for more than twenty years, is one of the Seven Wonders of the mediaeval world. These most beautiful specimens of mankind's cultural heritage remain unsurpassed and there is very likelihood that this kind of feat cannot be performed again. There are several stupid stories attached to the aftermath of the completion of the construction of Taj Mahal. One such story says that after the completion of Taj Mahal, Shahjahan ordered that hands of all the craftsmen should be amputated so that they can never build such a building again. Another ridiculous myth says that the entire worker were blinded immediately after the construction of Taj Mahal. These are allegations against a person who was a true Muslim, soft hearted and kind to his subordinates. The art and technique has remained a guarded secret of a few and a particular clan. So particular has the clan been about keeping the art limited to only a small number of people that they have not even taught it to their sisters and daughters, lest they pass it on to their husbands.

The method or technique of creating inlaid pictures from shaped coloured stones is tedious and time consuming. First the drawing was made on paper, cloth or parchment it was then traced on the chaste white marble, the drawn shapes were thereafter cut and gouged out. Bigger the motif deeper was the cut but the motifs were seldom too big as we can see from the *pietra-duras* of Naulakha. Shapes of stones to be imbedded were cut and shaped exactly like the cavities made earlier. The precision was always super accurate. The inlaying or imbedding was always so meticulous that if you close your eyes and move your fingers on the *pietra-*

dura you will not feel any change in surface. At one place in Naulakha in a small frame of 2 inches x 1½ inches there are imbedded as many as 97 stones of at least seven colours. Sometimes the motifs are as thin as hair. In such cases the cavities are not very deep. Naulakha and Shish Mahalof Lahore Fort are the famous examples of *pietra-dura* decoration. It is believed that Shahjahan had ordered precious and semi precious stones to be inlaid in white marble, in order to commission *pietra-dura* decoration. These two buildings i.e., the Naulakha and Shish Mahalcarry this unexcelled elegance of *pietra-dura* decoration. For inlay work 28 kind of rare precious and semi precious stones were used. The stone used for the purpose included turquoise, jade, agate, coral, lapis lazuli, onyx, bloodstone, cornelian, jasper, garnet to name a few. However, today much is left to the imagination of the visitors as most of the precious stones have been destroyed or plundered. Still the monuments of *Muthamman Burj* are the everlasting mementos of beauty of the most impressive *pietra-dura* architectural design ever created. In Persian poetry flowers are often described as springing from the waters of Paradise itself. Although geometric motifs are also used in the Shish Mahalcomplex, floral designs are predominant. Flowers and geometric shapes are inlaid in the white marble, and floral tendrils meander over every surface. Symbolic of the bounty promised to the Muslim faithful, floral designs are the hallmark of Mughal decorative style. Art historian Milo Beach says, "The inlaying of many different kinds of coloured stones in intricate patterns that depict flowers is something that was developed late in the reign of Shahjahan's father, Jahangir, and came into maturity under Shahjahan himself."

It is also possible that Shahjahan may have invited European craftsmen to his court to teach the *pietra-dura* technique to his artisans. A lot of floral designs that one sees at Naulakha and Shish Mahalare of individual plants, isolated like specimen plants, sometimes with the roots exposed, or growing out of a



Diwan-i-Aam, Lahore Fort.





A section of Naubatkhana, Lahore Fort.



Ath-Darra, Lahore Fort.

little flowerpot. This treatment comes directly out of European books.

That came to India with the traders and missionaries. The Mughals became interested in them because they were interested in ways to depict plants, and they adapted some of them and developed a new vocabulary which is the vocabulary of plants created in the *pietra-duras* of Shahjahan.

Let us look at some of the stones used in these *pietra-duras* and their history, quality, colours, shades, strength, value etc.

TURQUOISE

One of the oldest known minerals, turquoise stones date back to 5500 B.C. or earlier. In fact the oldest known source of the turquoise gem stone is the Sinai Peninsula in Egypt along with the Alimersai Mountain in modern-day Iran (formerly Persia). The finest turquoise came from Persia and, therefore, Persian Turquoise meant quality.

But around the time of the turn of the 20th Century, miners rediscovered turquoise stones in the southwestern U.S. These gems, once used by ancient American Indians, were an equal or even greater class of turquoise gem stone than the Persian. As a result, the title Persian Turquoise now describes the quality rather than origin of the stone.

JADE

A selection of antique, hand-crafted Chinese jade (jadeite) buttons Jade is an ornamental stone. The term jade is applied to two different rocks that are made up of different silicate minerals. Nephrite jade consists of the calcium- and magnesium-rich amphibole mineral actinolite (aggregates of which also make up one form of asbestos). The rock called jadeitite consists



Column with brackets.

almost entirely of jadeite, a sodium- and aluminium-rich pyroxene. The trade name Jadite [sic] is sometimes applied to translucent/opaque green glass. The English word 'jade' is derived from the Spanish term *piedra de ijada* (first recorded in 1565) or 'loin stone', from its reputed efficacy in curing ailments of the loins and kidneys. 'Nephrite' is derived from *lapis nephriticus*, the Latin version of the Spanish *piedra de ijada*.

Nephrite and jadeite were used by people from the prehistoric period for similar purposes. Both are about the same hardness as quartz, and they are exceptionally tough. They are beautifully coloured and can be delicately shaped. Thus it was not until the 19th century that a French mineralogist determined that "jade" was in fact two different materials. Among the earliest known jade artifacts excavated from prehistoric sites are simple ornaments with bead, button, and tubular shapes. Additionally, jade

was used for axe heads, knives, and other weapons. As metal-working technologies became available, the beauty of jade made it valuable for ornaments.

AGATE

is a microcrystalline variety of quartz (silica), chiefly chalcedony, characterised by its fineness of grain and brightness of colour. Although agates may be found in various kinds of rock, they are classically associated with volcanic rocks but can be common in certain metamorphic rocks.

Colourful agates and other chalcedonies were obtained over 3,000 years ago from the Achates River, now called Dirillo, in Sicily.

The stone was given its name by Theophrastus, a Greek philosopher and naturalist, who discovered the stone along the shore line of the river Achates sometime between the 4th and 3rd centuries BC. Coral Traditionally, quarried coral and coquina stone is found in ocean communities such as Barbados and along the coast of Florida. These stones offer rich textures and unique visual appeal when used in architecture. Coquina stone, known as Florida's Native Stone, is composed of small shells and shell fragments embedded in sand and natural cemented with calcite. The only known quarries are in Florida, and resources are diminishing rapidly. Coral stone suffers from a similar fate. Actually comprised of the fossilized skeletons of coral, as opposed to living coral, only a few quarries remain in Florida and only one remains in Barbados.

Fossil stone offers a similarly unique appeal, both texturally and visually. The fossil imprints and roughness contrast well with turned, cut and carved shapes, while the ancient origins of the fossil imprints create a timeless appeal.



A portion of fresco work.

LAPIS LAZULI

Sometimes abbreviated to lapis, is a semi-precious stone prized since antiquity for its intense blue colour. Lapis lazuli has been mined in the Badakhshan province of Afghanistan for 6,500 years, and trade in the stone is ancient enough for lapis jewelry to have been found at Predynastic Egyptian sites, and lapis beads at neolithic burials in Mehrgarh, the Caucasus, and even as far from Afghanistan as Mauritania. Rough and polished Lapis lazuli. Lapis is a rock, not a mineral, because it is made up from various other minerals. To be a mineral it can only have one constituent. The main component of lapis lazuli is lazurite (25% to 40%), a feldspathoid silicate mineral composed of sodium, aluminium, silicon, oxygen, sulfur, and chloride. Most lapis lazuli also contains calcite (white), sodalite (blue) and pyrite (metallic yellow). Other possible constituents are augite, diopside, enstatite, mica, hauynite, hornblende and nosean. Some contain trace amounts of the sulfur rich

lollingite variety geyerite. Lapis lazuli usually occurs in crystalline marble as a result of contact metamorphism. The finest colour is intense blue, lightly dusted with small flecks of golden pyrite. There should be no white calcite veins and the pyrite inclusions should be small. Stones that contain too much calcite or pyrite are not as valuable. Patches of pyrite are an important help in identifying the stone as genuine and do not detract from its value. Often, inferior lapis is dyed to improve its colour, but this is often a very dark blue with a noticeable grey cast.

ONYX

Is a cryptocrystalline form of quartz. The colours of its bands range from white to almost every colour (save some shades, such as Purple or Blue.) Commonly, specimens of onyx available contain bands of colours of white, tan, and brown. Sardonyx is a variant in which the coloured bands are sard (shades of red) rather than black. Pure black Onyx is common, and perhaps the most famous variety, but not as common as Onyx with banded colours. It is usually cut as a cabochon, or into beads, and is also used for intaglios and cameos, where the bands make the image contrast with the ground. Some onyx is natural but much is produced by the staining of agate.

CARNELIAN

reflects various shades of orange and often a hint of red when the light hits it just right. The colours in carnelian can be of different shades, some appearing very dark from one angle, and light from another. Carnelian stones are found and used in various sizes and shapes. Some are oval, but many are round in shape. Carnelian represents the month of July and is a lucky charm for those under the Virgo astrological sign.

JASPER

Jasper is an opaque form of quartz that forms in a variety of colours, but most

commonly brown, yellow, or red. Jasper beads may be dyed to enhance or alter the colours. Jasper is a smooth stone that can be highly polished to bring out its features.

GARNET

Is a group of minerals that have been used since the Bronze Age as gemstones and abrasives. Garnets are most often seen in red, but are available in a wide variety of colours spanning the entire spectrum. The name “garnet” comes from the Latin *granatus* (“grain”), possibly a reference to the *Punica granatum* (“pomegranate”), a plant with red seeds similar in shape, size, and colour to some garnet crystals. Six common species of garnet are recognized based on their chemical composition. They are pyrope, almandine, spessartite, grossular (varieties of which are hessonite or cinnamon-stone and tsavorite), uvarovite and andradite. The garnets make up two solid solution series; 1. Pyrope-almandine-spessartite and 2. Uvarovite-grossular-andradite.

Inventory of Zoomorphic Elements in Lahore Fort

Element: Elephants

Material: Red sandstone

Location: Eastern flank of Jahangiri Palace

Element: Peacocks

Material: Red sandstone

Location: Eastern flank of Jahangiri Palace

Element: Lions

Material: Red sandstone

Location: Eastern flank of Jahangiri Mahal

Element: Lions
Material: Red sandstone
Location: Western flank of Jahangiri Mahal

Element: Peacocks
Material: Red sandstone
Location: Western flank of Jahangiri Mahal

Element: Elephants
Material: Red sandstone
Location: Western flank of Jahangiri Mahal

Element: Dragon flies
Material: Marble
Location: Ath Darah

Element: Parrots
Material: Marble
Location: Ath Darah

Element: Butterflies
Material: Fresco
Location: Eastern mezzanine, Shish Mahal

Element: Peacocks
Material: Fresco
Location: Eastern mezzanine, Shish Mahal

Element: Nightingales
Material: Fresco
Location: Easter mezzanine, Shish Mahal

Element: Robins

Material: Fresco

Location: Eastern mezzanine, Shish Mahal

Element: Parrots

Material: Fresco

Location: Eastern mezzanine, Shish Mahal

Element: Unidentifiable bird

Material: Fresco

Location: Eastern mezzanine, Shish Mahal

Element: Tiger head (head of a fountain-head)

Material: Marble

Location: Bath tub, Shish Mahal

Element: Peacocks

Material: Fresco

Location: Eastern chamber, Shish Mahal

Element: Pigeons

Material: Fresco

Location: Eastern chamber, Shish Mahal

Element: Storks

Material: Fresco

Location: Eastern chamber, Shish Mahal

Element: Parrots

Material: Mirror-work

Location: Right wall of vestibule, Shish Mahal

Element: Parrots

Material: Mirror-work

Location: Left wall of vestibule,
Shish Mahal

Element: Elephants

Material: Faience mosaic

Location: Mural wall

Element: Horses

Material: Faience mosaic

Location: Mural wall

Element: Camels

Material: Faience mosaic

Location: Mural wall

Element: Lions

Material: Faience mosaic

Location: Mural wall

Element: Dogs

Material: Faience mosaic

Location: Mural wall

Element: Swans

Material: Faience mosaic

Location: Mural wall

Element: Storks

Material: Faience mosaic

Location: Mural wall

Element: Bulls

Material: Faience mosaic

Location: Mural wall

Element: Serpents

Material: Faience mosaic

Location: Mural wall

Element: Dragons

Material: Faience mosaic

Location: Mural wall

Element: Elephants

Material: Fresco (miniature style)

Location: Vestibule of Shish Mahal

Element: Horses

Material: Fresco (miniature style)

Location: Vestibule of Shish Mahal

Element: Deer

Material: Fresco (miniature style)

Location: Vestibule of Shish Mahal

Element: Bulls

Material: Fresco (miniature style)

Location: Vestibule of Shish Mahal

Element: Dogs

Material: Fresco (miniature style)



A water chute, opposite Shish Mahal.

Location: Vestibule of Shish Mahal

Element: Cows

Material: Fresco (miniature style)

Location: Vestibule of Shish Mahal

Element: Falcons

Material: Fresco (miniature style)

Location: Vestibule of Shish Mahal

Element: Baby elephants

Material: Fresco (miniature style)

Location: Vestibule of Shish Mahal

Elements like lions, elephants and peacocks in red sandstone, in the Jahangiri Palace (also called Jahangiri Quadrangle) is a restored work, They are crude and at places unrecognizable.

Fresco-work in the mezzanine of the Shish Mahal, belongs to the Sikh period and lacks proper craftsmanship. The butterflies in particular are very poorly drawn. Same applies to the frescos of the eastern chamber of the Shish Mahal.

All fresco-work miniature style is in the multi-foil arched recessed panels in the vestibule of the Shish Mahal. This work also belongs to the Sikh period. Condition of the frescos is poor and many elements are unrecognizable. Rendering of the elephants, baby elephants and horses is excellent.

The Great Mural Wall of the Fort is some 55 feet high and 1200 feet long and comprises uncountable pictures. This biggest mural of the world was prepared during the rules of Jahangir and Shahjahan.



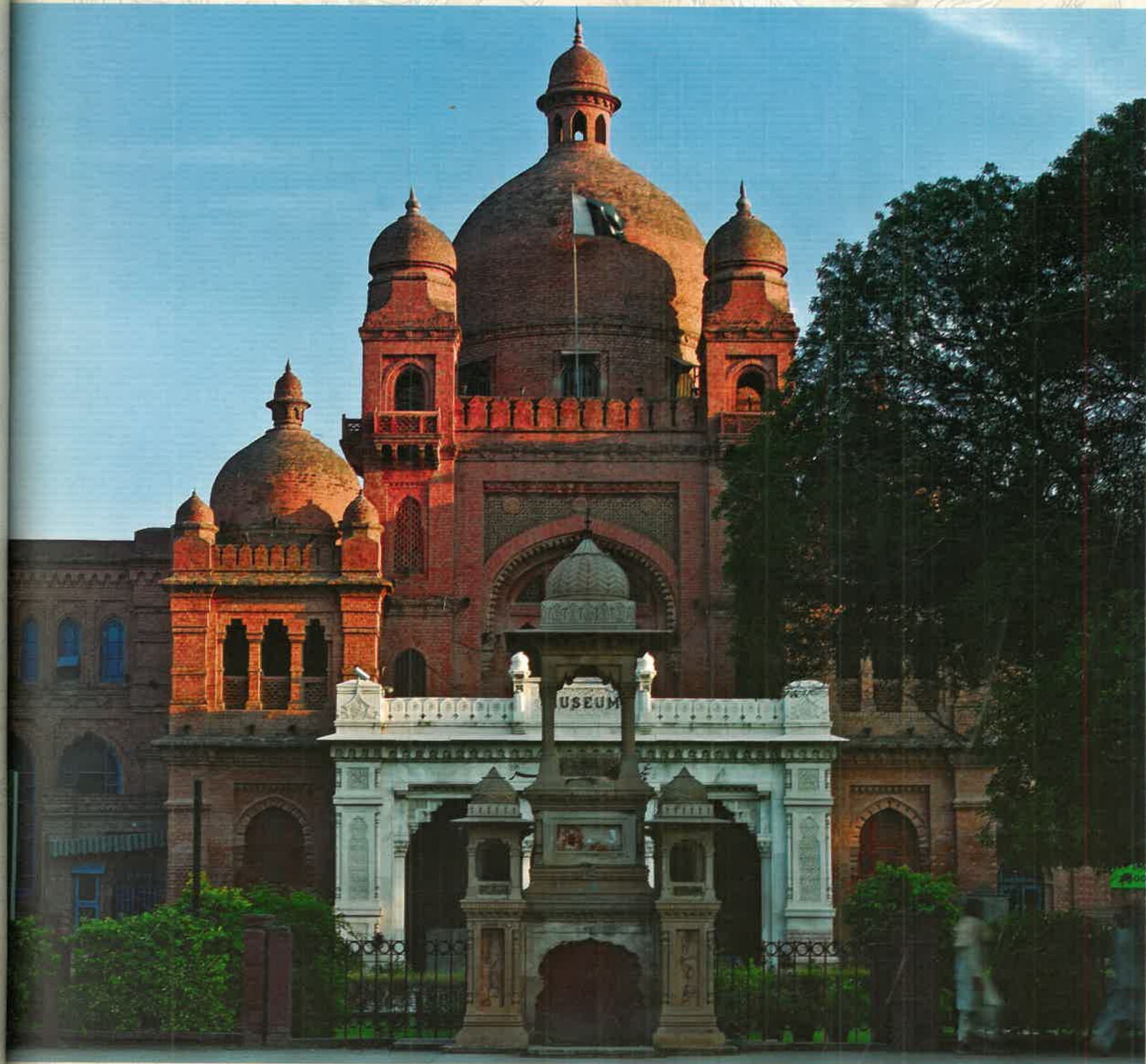


A section of Mural Wall.

OTHER LANDMARKS OF LAHORE

LAHORE MUSEUM

Architecture is one of the basic human needs. Various categorization are seen in architecture, because architecture is based on the concept of form and function. It is the process and the product of planning, designing, and constructing buildings and other physical structures. Architectural works, in the material form of buildings, are often perceived as cultural symbols and as works of art. Historical civilizations are often identified with their surviving architectural achievements. Architecture also depicts the specific area or nation beliefs and through these structures the behavior of the nation can also be analyzed. Buildings impact upon the environment at several levels, including the city and region, the estate and the neighborhood, the individual building, and in relation to the materials, components, and systems of which buildings are made. An architectural style is characterized by the features



that make a building or other structure notable and historically identifiable. A style may include such elements as form, method of construction, building materials, and regional character. According to classification of the architecture one important aspect in Islamic art is form and function in that the structure is designed according to the need and purpose. In these constructions one important architecture is museum that is an institution that conserves a collection of artifacts and other objects of artistic, cultural, historical, or scientific importance and makes them available for public viewing through exhibits that may be permanent or temporary. Through museums the area and historical background is analyzed through viewing the artifacts and these artifacts also introduce to the coming generation with their culture and heritage that is very important for any nation.

MUSEUM

Lahore, one of the historical cities of Pakistan has remained capital and cultural hub for almost all the Muslim kingdoms of sub-continent for over a millennium. Lahore has a lot of architectural heritage that also influences the architectural style of this era. In Lahore, Mall is prominent place due to glorious historical architectural constructions on that. Lahore museum's majestic red brick building stands on Shahrah-i Quaid-i Azam, previously known as the Mall, opposite the 100 years old campus of south Asia's famous the Punjab University. Lahore Museum's architecture blended with the old tradition of Mughal architecture. Museum building was built during the British supremacy (1849-1947).

The beginning of the Lahore museum can be traced to march 1855 when F.D. McLeod, the Finance Commissioner of the Punjab issued a circular proposing the establishment of museum at district level. Named the Lahore Central Museum, it was until April of that year a site close to the Wazir Khan *Baradari* was selected for the museum. Today the Museum is standing in



Inside Lahore Museum.

the complex of Punjab Public Library, the offices of Irrigation and Works and Communication Departments, the National College of Arts etc. The site was also known as Nakhli-i Wazir Khan (Oasis of Wazir Khan) once upon a time.

Initially the museum was managed by a regular committee, until it came under the curatorship of T.H. Thornton. He set up a geological department

and a section on ethnographic casts, arranged eight cases in the two octagonal rooms on the either side of the entrance of the *Baradari*.

After some time it was realized that the space of Wazir Khan Baradari had become inadequate for ever- increasing exhibitions in Museum. So that's why the Punjab Exhibition of 1864 was held in new hall. The Museum continued to be known as 'Lahore Central Museum' and later its status was raised to that of Provincial Museum.

The present building was constructed as a memorial of the Golden Jubilee of Queen Victoria held in 1887. The present building, designed by Lockwood Kipling and Bhai Ram Singh, became the first structure especially designed as a museum, allowing cool northern light to filter into the museum galleries. Bhai Ram Singh, Vice Principal of Mayo school designed the fountain in front of the building, and with students of Mayo School of Art was deeply involved in the design and execution of internal decorative feature of the Museum.

The building was set back from the Mall with a red sandstone drinking fountain placed in the center of well-manicured lawn, which now abuts the edge of the Mall due to the widening of the road. The visitor's access was through white marble entranceway leading to a veranda which had a deodar wooden ceiling, laid in a geometric pattern, and a marble floor. The choice of white marble entrance set against the brick-faced building drew attention to the imposing building. Beneath the dome, was a lobby, 20 feet by 20 feet and 70 feet high, with floral and geometric patterned 'paintings in oil' on the walls, wooden *Pinjra* work railings at the upper levels and pendants in *Munnabatkari* (stucco tracery) work. The Museum at that time had three display areas, the entrance hall, 98 feet by 40 feet. The general plan of the building resembles a letter E with the entrance porch in the centre of back face.



An artefact on display

Lahore Museum is one of the most remarkable museum building in Pakistan. Its grand entrance, framed by white marble portico provides the accent to this picturesque Anglo-Mughal ensemble. Although its building is not as decorative as Aitchison College's main building but its refined and delicate brick and stucco detailing, the massing of the composition is exceedingly impressive. This architectural edifice expresses geometric purity in its formation of square corner cube-like towers surmounted by hemispherical domes, providing an interesting interplay of light and shade in the strong sun of Punjab. The contrast of deeply shaded voids against solid elements present a dramatic view; and the slightly projecting portico in white Nowshera marble successfully highlights a crescendo of domes and cupolas of red-brick structure. Although built more than a decade later, the museum building strives at compatibility with Mayo School of Arts through

a similar treatment of repetitive lancet arches on its side wings which are ornamented with cut-brickwork.

The brick-faced building is rich in detail and highly-textured, with a composition of copulas surrounding the 70 feet high dome; the ends of the building are accentuated through the use of *chattris* and cornices; the parapet, and window sill are highlighted through use of ornamental and molded bricks. The carefully worked out details of the exterior through use of ornamental and molded bricks echoes the detailing of carpentry. The Museum building's accentuated feature is *Munnabatkari* in that floral and geometrical patterns are used. Above in the gallery the entrance peacock in pride is composed in the center position.

The Museum is accessed through portico of triplet entrances embellished with the brackets. These brackets with engraved arabesques adorn the structure. The pendant which was used as a decorative element in ancient architecture also embellishes the brackets. The medallion is also a dominant feature of this architecture through which harmony is created. The entrance portal pillars capitals are designed with *muqarnas*. The facade frame is ornamented with arabesques in that the concept of rhythm, continuity and gentle movement can be seen. On the top of the central entrance there is a square slab carved with floral designs. Behind the white portal area the building is constructed with red brick and geometrical design lattice work is used in the arches. Some ornamental features are inspired from the *Ala'i Darwaza* that was constructed during the rule of Ala'al-Din Khilji Sultan of Delhi in 1311 AD and this is the first building in India to employ Islamic architecture principles in its construction and ornamentation. In Museum facade especially the pendant that decorates the arch rim and latticed screen with geometrical design are inspired from *Ala'i Darwaza* arch and screens. Behind the entrance way frame, a vestibule roof is constructed with domes,



Statue of Queen Victoria.

the central dome is larger in size. Outside the domes have balconies that are supported by decorative brackets. These balconies are enclosed through geometrical screens. On the right side of the entrance hall is a square room and the first floor of this area is a balcony with a roof embellished with domes and merlons. Same sequence of domes on the roof is repeated on the side balconies. Hindu and Jain galleries' prominent features are arch-windows, red plaster and recesses. In pre and proto historic gallery are three lancet-arch shaped windows and recesses.

The interior of the vestibule is adorned with *muqarnas* that is three dimensional geometrical shapes of stucco. The dome construction is supported with

pendentives. The central gallery floor is designed with geometric design and arch-shaped windows that are source of light and ventilation. The Museum's Islamic and General Gallery is same in construction. From the Central Gallery, Miniature Painting Gallery a straight path leads toward the Jaina Gallery and the right side of the Jaina is Ethnological Gallery. The Jaina Gallery entrance is decorated with glazed floral arabesque tiles and cursive calligraphy. The Ethnological Gallery's dominant features are horse-shoe arches constructed with a point at top. The horse-shoe arch wall surface is textured with quatrefoil design. The pointed arch springing-line is adorned with three rectangular shapes in which latticed geometrical screen used. Flower-tracery also enhances the springing line. Above the springing-line three arch shape windows with latticed screen are used and spandrels of the arch is also embellished with floral stuccos. Arms Gallery unique feature is a column that supports the construction.

On Museum façade's opposite side is a fountain that was designed with chevron pattern with lines incised. This structure stands on a plinth and symmetrical in plan. Multifoil arches and square recesses are used in construction. The fountain central area is large in size and constructed on a pedestal. The domes are constructed on a square platform.

The library of the museum is an important place because of the great religious and cultural value. The library has rare documents from which any antiquary can benefit. (Courtesy: Anoshia Mukhtar).



Buddha meditating.

GENERAL POST OFFICE (G.P.O)

The magnificent building of the central post office that is also called GPO is ideally located at the crossing of the McLeod road and the Mall, Lahore. The General Post Office building has Nabha Road on its one flank also. The GPO is constructed on the corner where the old Nabha road meets the Mall at sharp angle. The building shape is triangle with an open base and a flattened top. This piece of architecture was constructed in 1887 to commemorate Queen Victoria's Golden Jubilee and replaced telegraph office of Anarkali Bazar. One of the leading Architect Engineer of that time Sir Ganga Ram designed and built this architecture. Its plan is unusual trapezoidal 'v' form. It is significant not only because of architecture but also depict the relation of form and function in architecture. The Punjab Gazetteer of 1916 mentions 1905 as the year of its construction. The GPO structure is surmounted by a clock Tower and four corner towers and is of the Indo-Saracenic order of architecture. It was completed in 1906 and was occupied by the post office department in the same year. This was the first British-period building in Lahore to be restored, GPO underscored the necessity of documentation and conservation of historic architecture in the city's downtown area. In construction rhythm of repetitive Roman arches are used in arcade while the lower section of the ground floor arches have deep grooves dividing the masonry into sections.

The corners and ends of the building are defined by octagonal towers which rise above two stories linear wings and are capped by cupolas. The main tower is located at the junction of the two wings and rise well above the corner towers as an enormous battered elements. The tower is crowned by a large hemispherical dome, defined by buttress like elements, it carries clocks on four sides. Architecture of the British rule comprises red brick and wooden structures especially the roofs and floors. To adorn the building they also used the red cut brickwork.

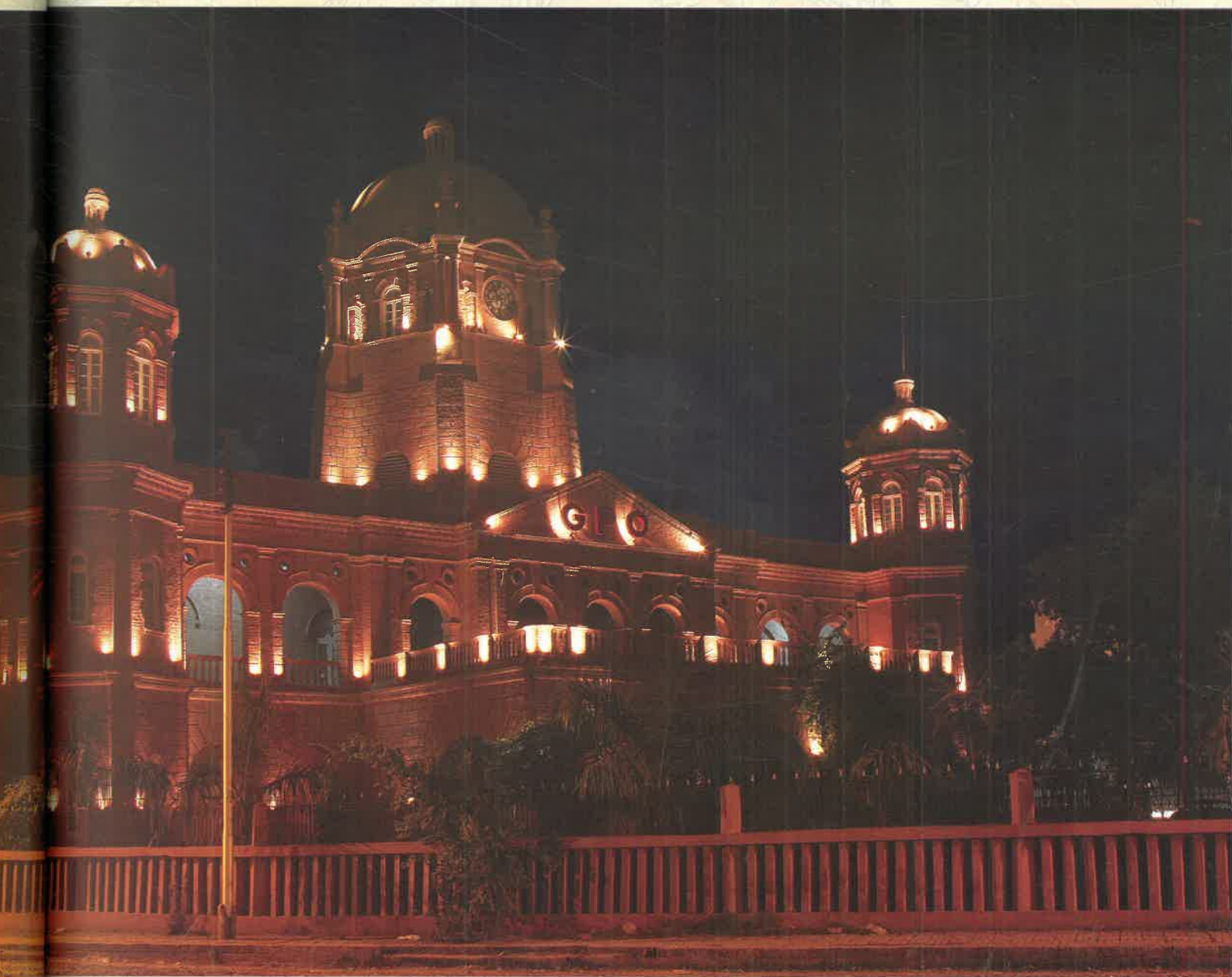




The architecture of GPO building is of eclectic type, as it is fusion of Islamic, Indian and Victorian style. It was the first British era building to be conserved in the city. The work was carried out by Yasmeen Lari and Associates. The building consists of two main halls. The entranceway consists of semi-circular arches that lead to the hall. The eastern side of the building comprises arcade which is important component in Islamic architecture. In arcade semicircular arches are used that show influence of Roman architecture. Voussoirs in Eastern Romanesque and Arab architecture are often in alternating colours, usually red and white but in this building the voussoirs are of same colour. On the ground floor wedge shaped bricks are used in construction of arches while the first floor arcade arches are built with the previous concept in that keystone is an important element for arch construction and on the spandrels circular ventilators are constructed. On façade's tympanum is a border adorned with cut brickwork and GPO's monogram placed within. The corridor roof is designed with the barrel vault like structure and exterior of the whole building is beautifully divided into sections, by the stepped cornices. The running cornice on the exterior of the architecture interlaced with design and gives the facade harmonious look. The ground floor hall of the building is not decorative, that is built with wooden roof and marble floor. Wooden cabins are made for the office employees, plastic seats are arranged with the wall of the hall for the visitors. On the ground floor one room is transformed into a small museum. The upper story of the building has rooms for the high rank employees, the rooms are quite big and have high wooden roofs, the interior is simple. In construction small pieces of brick are combined to make a shape of one single large brick, the arrangement of this kind creating a narrow deep lines in the building that is giving it a linear pattern.

The upper storey has terrace as well that is enclosed with the railing. In facade the three arches are larger in size on ground floor and are more prominent.

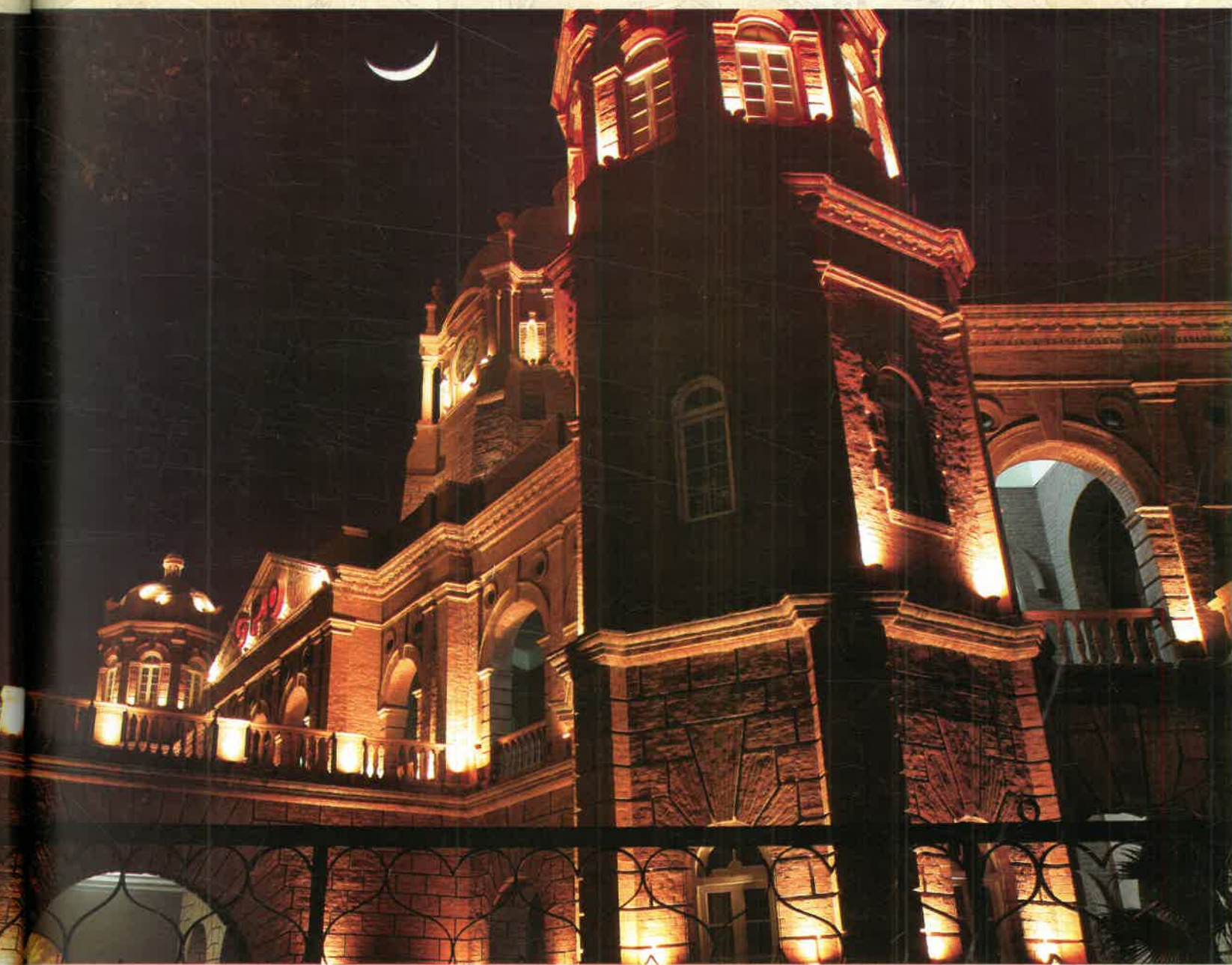




Same sequence follows in the upper storey but the size of central arches are comparatively small and constructed in a frame. Pilaster is dominant feature in this architectural construction. The upper floor arches show inspiration from the Mannerist architects of the 16th century who often designed with the enlarged and slightly dropped keystone. In facade tympanum is built that is inspired from the Roman Pantheon architecture and the stairs that lead towards the first floor are constructed in a hexagonal structure that is covered with an hemispherical dome. The tower contains three portions and on the top of the tower crown is built with concave moulding. In these towers each part of design is different, in the first part wedge shaped bricks are used. In construction the bricks are set with symmetry that create deep narrow lines. While on the second part of tower semicircular arch shape windows are built and outside the windows a decorative border with brick work adorns the structure. The third part of the tower design is same that is seen in the second floor arcades and pilasters are dominant features in tower construction. On the top of the tower a huge cupola is constructed.

The main part of this architecture is clock tower that is constructed on the junction point of building. To support the tower structure buttresses are built. Buttresses have been used in construction since ancient times and especially associated with the Gothic period. Circular ventilators are constructed with voussoirs on the tower. In tower construction Indo-saracenic feature are prominent. The Indo-Saracenic was an architectural movement initiated by British in the late 19th century in British India. The entire structure is made with bricks and the brick style achieved considerable success in the Saljuqs in 11th and 12th centuries and spread into the Subcontinent. The main thing in interlace design on the facade is the perfect interaction between construction technique and the ornamental pattern. The entire structure is rich with ornamental elements but the later construction that were done in GPO are entirely different. They do not lend any grace to the historic building. (Courtesy: Anoshia Mukhtar).





University of the Punjab (Old Campus)

The historic environment characterizes the information of our past and helps us to investigate the importance of our present and it gives us the learning about common assets that have existed through the time. Notable components oftentimes give significance of custom and society, which is regularly and firmly identified with human movement previously. The Old structures give a significant history of our conventions and society, by contemplating and finding out about our past. We see all the more about the world we live in. Lahore is the fundamental focus and heart of Pakistan likewise verifiable structures are the fascination of the viewers. Lahore is the capital city of the Pakistani province of Punjab. Lahore is also known as Pakistan's educational capital, with a larger number of universities and colleges. Lahore is the best producer of the experts in the fields of science development, IT, designing, medicine, atomic sciences, pharmacology, telecom, biotechnology and microelectronics. The part of the old building characterizes mixed bag and uniqueness of old time. The architectural heritage of Lahore needs no description and the works style describe the rich manipulation of colours, textures, materials, intellectual application of vigorous intricate formal patterns and spiritual essence at once allure the art lovers. The beginning of a modern system of education in the Punjab highlights the significance of academic files and depicts the main objective of universities in the general public. This essay explores the history and architectural features of Punjab University Old Campus, which is located opposite

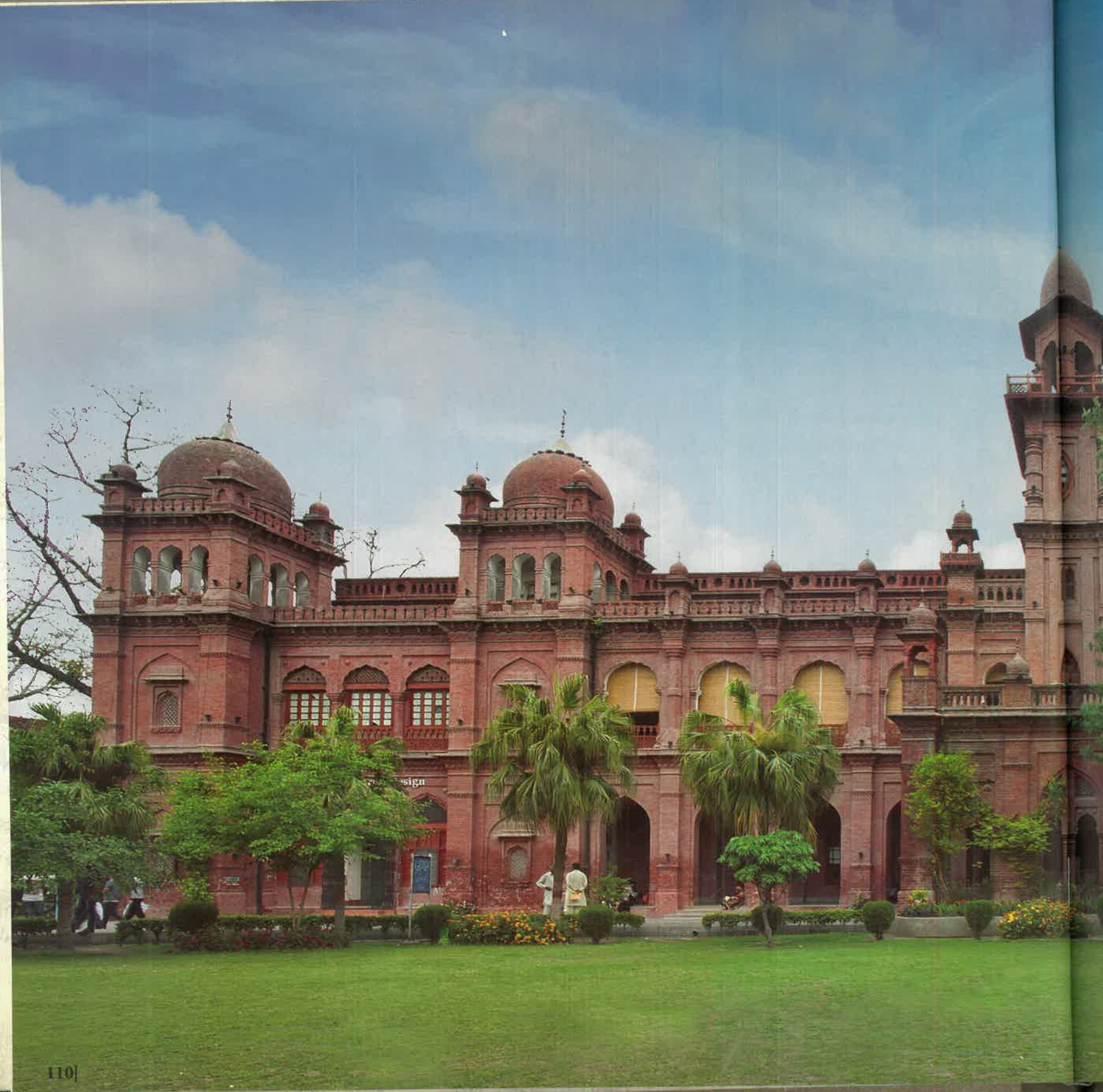


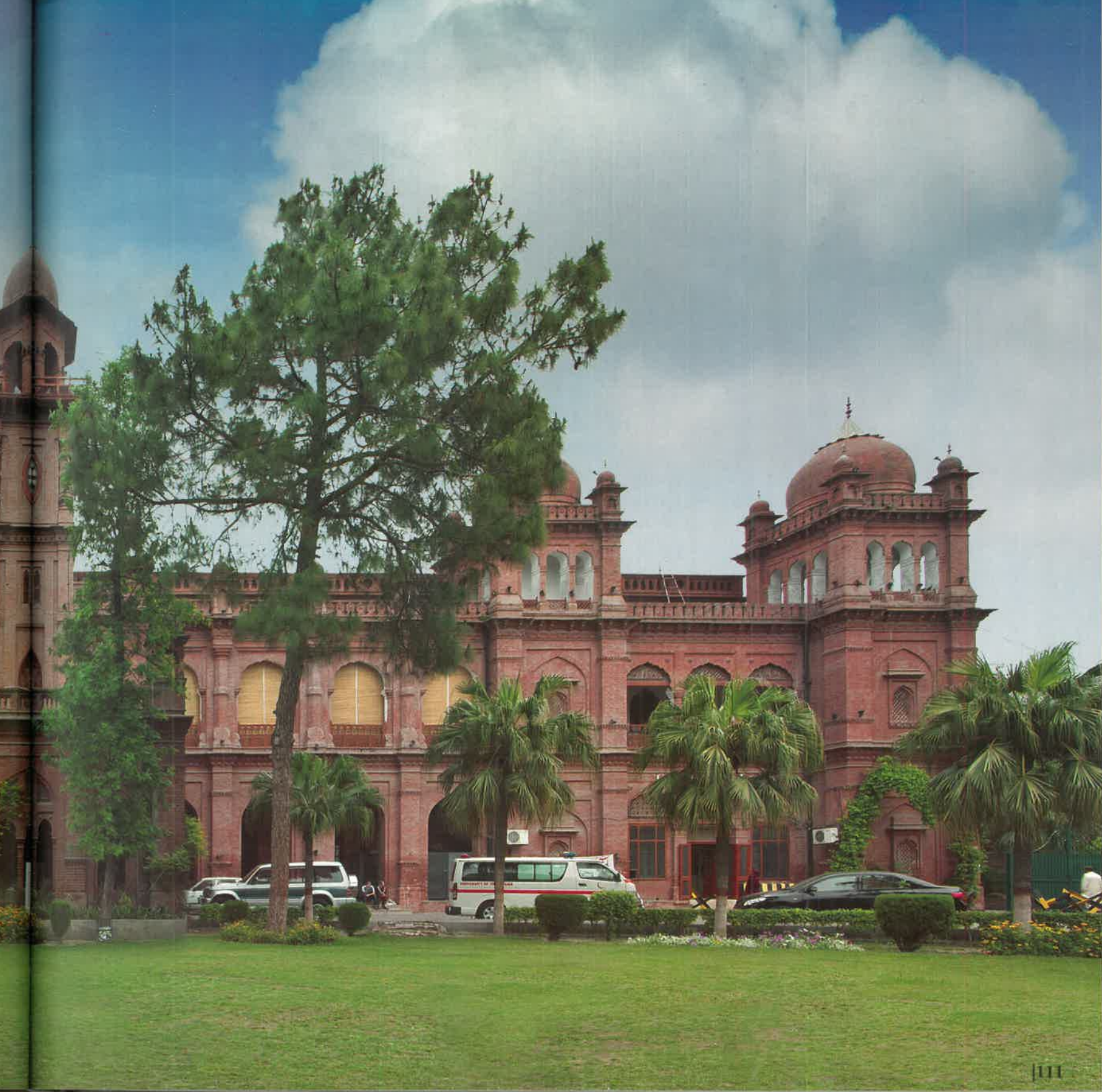
*Alfred Woolner, Vice Chancellor of Punjab University,
Lahore (1928-1936).*

to the Lahore Museum across the Mall Road, Lahore. The establishment of an education system in the Punjab was made very quickly after the arrival of the Raj in 1849. The first three universities were established by the British rulers at their initial strongholds of Bombay, Madras and Calcutta. It was the fourth University to be set up by the British government on the Indian sub-continent. The University of the Punjab came into existence as a result of a long drawn struggle of the people of Punjab after the war of Independence in 1857. Sir Donald McLeod was a Lieutenant Governor of British Punjab and Dr. G. W. Leitner was principal of Government College and registrar of the Punjab University. They both played huge part to establish the university. The development had been started in 1865 for set up of this university, which should provide primary oriental learning by instruction through the vernacular languages of the province. The main objective of Oriental School at Lahore was the restoration of ancient oriental languages, promote industry, discuss literary and scientific question.

The government of India on 8 December, 1869 sanctioned the establishment of the University College at Lahore and published its first statutes. The Punjab University College was authorised, to promote the diffusion of European sciences, vernacular languages, enlightened the study of eastern classical languages and literature. Throughout the approximately first thirteen years of the life of Punjab University College was a very modest institution. In the first year almost 88 candidates appeared for the entrance and 41 passed while 30 appeared in the proficiency in art examination and 25 gained certificate also the same year 81 appeared in the various oriental examination and 32 were awarded various certificates.

At the end of the year 1879 the aim of fifteen years persistent effort seemed within sight of achievement, The Secretary of State for India having at last sanctioned the preparation of a bill to convert Punjab University College into a complete University The old campus of Punjab University was completely





established in 1882. In opposition to the three beforehand settled colleges, which were just analyzing organizations, the University of the Punjab was both teaching as well as examining body right from the beginning. The Punjab University is the largest and the most established seat of higher learning in Pakistan. It was the first to be built up in the sub-continent in Muslim majority area. Two Nobel laureates Dr. Abdus Salam and Har Gobind Khorana are from this University speak volumes for its academic and research excellence. This University has assumed a main part in advanced education in the nation. The University accomplishments give a positive situation for the objective of the scholastic exercises, because of its quality degrees, pleasant environment and low educational cost. The University of the Punjab served the educational needs of the whole region of pre-independence Punjab and northern India. In 1903, the Lieutenant Governor Sir Charles Rivaz approved to the university the land hitherto used by the Robert's. In 1905 when the university Hall was constructed, its presence on the Mall road turned into a legible reality and it accomplished its complete physical magnificence.

The building was designed by Bhai Ram Singh, who later in 1911 also designed the University Library. The university hall viewpoint shows up the Anglo-Mughal style and the entrance gate is directly opposite to Lahore Museum. Anglo-Mughal style was an architectural style movement introduced by British architects. The structure of the Punjab University hall is impressively built in the late-Anglo-Mughal style. Its foundation stone was laid 1905, the building structure designed with lancet arches or pointed head arch and a series of vaults in varying sizes look attractive and eye-catching. The Punjab university hall is situated on a piece of land which is about 3 acres along the Mall. It was located with a large set back from the main road, with two main entrances. This two-storey building, now known as the College of Art and Design, Punjab University, is designed in line with the Raj structures, which is including a deep arcaded verandah in front. The external area of the hall is for landscape and parking for the faculty.

A clock tower placed above the projecting porch dominates the center, as it rises well above the focal structure and corner towers. The height of clock tower is 65 feet above the vestibule highlights the entrance. It enhances the magnificence of the building and also this structure portrays the individual identification of the University. The square portion of the tower displays large clocks on its three sides, while its last stage is made out of an octagonal structure and the capped by a dome with a finial. The emphasis on the outer boundaries of the building is provided by corner towers, which carry similar domes. Each cove of the verandah is covered with decorative columns terminating above the parapet as towers are capped by small domes. The frontage of the building is about 225 feet and approximately 95 feet on the side, the main hall being near 150 feet by 60 feet wide and the height 38 feet. The double-storied veranda is 10 feet wide and 17 feet in height, which runs along the four sides of the building. Therefore the total ground area is around 24000 square feet. Later approximately in 1935 the two wings were attached to the eastern and western sides, now the present view of the building is U-shape. The purpose of the hall was to conduct examination and classes. Also there is balcony at the first floor level, which place is used now for art work of the students and before that for the women attending the convocation. The hall has wooden floor and vaulted ceiling. The corners were emphasized with an increase in height by placing spiral staircases at each corner of the veranda surrounding the building. Vaults and domes on the roof of the building catch the attraction of the viewers. The west and east wings have a rooms on the ground floor, these room are used for office of the university employers. The upper floor has library and class rooms.

Outside the University building placed is the statue of Alfred Woolner. He was born in May 1878 and died 7 January 1936; he was a renowned Sanskrit scholar, principal and registrar in 1903. From 1928 till 1936 he served as Vice Chancellor of the University of the Punjab. (Courtesy: Amina Shahzad Arif).

Zamzamah Cannon

The majestic canon, “Zamzamah” is large-bore cannon, having a huge historical significance. The name Zamzamah was given to it by its Afghan creators. The gun became a source of symbolic power for local princes and warlords and went through various nomenclatural transformations from the Zamzamah to *Bhangian di Tope* to Kim’s Gun. It was crafted in the city of Lahore in the mid-eighteenth century and currently stands firmly at the lower end of the Mall opposite the Lahore Museum, Punjab University old campus and the National College of Arts. The Gun has an amazing history which makes it a unique symbol. For the Hindu population that lived in Lahore before 1947, it was almost a deity that had to be pleased if one was to be ‘invincible.’ In English literature, it has been immortalized by Rudyard Kipling as Kim’s gun. It is perhaps the largest specimen of Indian cannon casting, and is celebrated in Sikh historical chronicles more as a marvel of ordnance than for its efficiency in the battlefield. Yet for its effectiveness it has been called “a fire raining dragon” and “a gun terrible as a dragon and huge as a mountain.”

The Gun is 14 feet 4.5 inches (4.382 meters) long with a bore aperture of 9.5 inches (24 centimeters). It could fire a shell weighing up to 80 pounds. It has the date of manufacture, names of the monarch and the technician along with verses in Persian molded with geometrical patterns all over the barrel. The front inscription reads:

“By order of the Emperor Durrani Dauran Shah Wali Khan, the Wazir made this gun, named Zamzamah, the capturer of strongholds. The work of Shah Nadir.”

The longer inscription at the back praises its bulk and invincibility: “A destroyer



Zamzamah to Bhangian di Tope to Kim's Gun.

even of the strongholds of the heaven.” Verses at the end of the inscription contain a chronogram:

“From reason I enquire of the year of its manufacture; Struck with terror it replied, ‘Wert thou willing to surrender thine life, I would unfold unto thee the secret.’ I agreed, and it said, laden with innuendo: – ‘What a cannon! Tis a mighty fire dispensing dragon!’”

The massive cannon came into being in all its grandeur in 1757, following the Afghan conquest of Lahore and its subsequent inclusion under the dynastic rule of Ahmad Shah Durrani, founder of the Durrani Empire, also called the last Afghan Empire. The empire was founded in 1747 with its capital at Kandahar, Afghanistan. The Durrani Empire at its maximum extent encompassed present-day Afghanistan, northeastern Iran, eastern Turkmenistan, most of Pakistan, and northwestern India, including the Kashmir region. In the second half of the 18th century, the Durrani Empire was the second-greatest Muslim empire, surpassed in size only by the Ottoman Empire.

The question that arises here is why would a man like Ahmad Shah wanted to get two massive, almost impossible to move, cannons made in the first place. He belonged to a military tradition where speed on horseback, expert small arm firing from the saddle and ruthless killing by the sword ensured success. The problem he faced in the subcontinent was that he confronted huge slow-moving armies with elephants as armour on the front, bows and arrows on the flanks, and smaller cavalry units as flank piercers. If the leader fell everyone scattered. Loyalty was to the ruler only. The Afghan tradition was increasingly at a disadvantage, unless he blew up the front spearhead of such formations.

In 1757, he ordered that the Hindu inhabitants of Lahore pay him *jaziyah* (a form of taxation levied by Muslim rulers upon non-Muslim subjects). Soldiers of the *Subaidar* of Lahore, Shah Wali Ullah, went door-to-door collecting

the largest copper or bronze utensils from every Hindu house. Once enough metal was secured a renowned metal smith of Lahore Shah Nadir who had worked under Mughal emperors set up a special furnace at Mughalpura, where Mughalpura, Railway Workshop stands now. Within three months two massive cannons were completed. While the Zamzamah survived the course of history, the sister gun was lost by Durrani's army during its transport across the river Chenab.

That was how one of the most famous cannons in the history of the subcontinent began. It was first used on the 14th of January, 1761, against the massive Maratha army in the Third Battle of Panipat. This battle saw the largest number of soldiers killed in a single battle in one day. One source claims that over 100,000 soldiers were killed of which "nearly 40,000 were blown up by two huge cannons after the battle". It was this crushing blow that gave rise to the mythical powers of the Zamzamah Gun. After this massive victory Shah Ahmad made his way back to Kabul via Lahore, where two huge under-carriages were ordered to carry the two cannons back across the mountains.

One was completed on time, while the other was delayed. It was this delay that saw the massive Zamzamah remain in Lahore. He left this gun in the care of the new Subaidar of Lahore, Khawajah Ubaid, who lived at Kot Abdul Malik, now a part of Lahore. The other huge cannon on its journey to Kabul fell in the River Chenab. The under-carriage had collapsed.

But Zamzamah was to see a lot of action yet. A year later in 1762, the ordnance depot of Khawajah Ubaid, in the outskirts of Lahore was attacked by the armies of Hari Singh Bhangi and the Zamzamah cannon was claimed in the loot. The new Sikh owners of the cannon renamed it to *Bhangian di Tope*, literally, Cannon of the Bhangis. He shifted it to the Lahore Fort, where for the next two years it remained in the Shah Burj. He then had to give it away as

a share in war spoils to another regional power-broker by the name of Charat Singh Shukerchakia for his military assistance during the siege of Lahore. The Bhangi brothers assumed that Shukercharkia would be unable to haul the weighty cannon back so they made him an offer. To their surprise he was able to cart the prize piece of artillery back to his fort in the city of Gujranwala with the help of 2,000 soldiers.

Zamzamah's fame was such that every tribal chief wanted it and a lot of fighting over it followed. The cannon were wrested from Shukercharkia by the Pashtun Chathah brothers of Ahmadnagar. Adding further to the mythology of the cannon, a dispute sparked up between the two brothers immediately after its repossession – who would keep the Zamzamah. In the ensuing battle, Gujjar Singh Bhangi, who aided one of the Chathah brothers were able to reclaim the famous Bhangi cannon. In 1772, the Chathahs recovered the cannon from its Bhangi owners and took it to the town of Rasulnagar. Less than a year later the cannon got a new owner following its capture by Jhanda Singh who took it to Amritsar.

In 1802, Maharajah Ranjit Singh, founder of the Dal Khalsah Sikh Empire conquered Amritsar and became the new master of the Zamzamah cannon. Ranjit Singh productively utilized the Zamzamah, employing it in five of his major military campaigns in Daska, Kasur, Sujanpur, Wazirabad, and Multan. Towards the end of this period the Zamzamah had become significantly damaged and battle worn. After failing to effectively discharge during the siege of Multan, the cannon was subsequently decommissioned and placed in front of the Delhi Gate in Lahore as a war monument commemorating the Sikh victory against the Afghans. The Zamzamah remained in its historical place in front of the Delhi Gate until 1860. By 1848, the Sikh Dal Khalsah army had already lost the first Anglo-Sikh war to the forces of the East India Company. With the fall of Lahore and the capture of Punjab by the British

Raj, the mythical cannon became the object of British curiosity – to give new meaning to the folk saying:

“Whoever holds Zamzamah controls Lahore”.

By 1870, the Zamzamah had come under the scrutiny of the archival gaze of the British. For the occasion of His Royal Highness, the Duke of Edinburgh’s visit to the newly fortified lands, the cannon was relocated to be positioned on the Mall Road, the main thoroughway of the city, in front of the newly constructed building of the Lahore Museum which was established as an extension of the first Punjab Exhibition held in 1864. The raised pedestal in front of the Lahore Museum’s main entrance has been the Zamzamah’s home for the past 150 years from where it bears testimony to the past.

At the turn of the 20th century, Rudyard Kipling’s novel *Kim* would open with the scene where the novel’s British central character is mounted atop the cannon: “He sat, in defiance of municipal orders, astride the gun Zamzamah on her brick platform opposite the old *Ajaib-Ghar* – the Wonder House, as the natives call the Lahore Museum. Who hold Zamzamah, that ‘fire-breathing dragon,’ hold the Punjab; for the great green-bronze piece is always first of the conqueror’s loot. There was some justification for Kim ... since the English held the Punjab and Kim was English.”

It might also be appropriate to note here that Kipling’s father Mr. Lockwood Kipling was the first curator of the newly constructed Lahore Museum. Following this literary epic the cannon has since been dubbed “Kim’s Gun.”

Over the course of its socio-historical trajectory the cannon has gone from a cutting-edge piece of military hardware to a symbolic piece of dominance repeatedly looted in an intractable power-struggle, to a monument of military valor, and finally to an archival museum object and historical landmark. (Courtesy: Naila Nasr).

LAHORE CITY HERITAGE MUSEUM (OLD TOLLINTON MARKET).

Tollinton Market was one of the first buildings to be built during the British Raj and remains one of the most well-known landmarks of Lahore. Tollinton Market is located on Lahore's famed Mall Road. It was designed by one of the Punjab's foremost architects Bhai Ram Singh.

The Exhibition of Arts and Industry was opened by Lieut. Governor Robert Montgomery on January 20, 1864. It was specifically designed to project the arts and crafts of the locals. A temporary building was hastily erected on The Mall to display the vast number of exhibits which had been received from all over the province.

The Exhibition Committee announced suitable prizes for which they selected four categories, i.e. raw produce, manufacturers' machinery and fine arts. The last named included photographs, specimens of written characters, paintings on ivory, modern paintings and engravings. Manufactured goods and handicrafts from all over the province and the rest of India were put on display. Over 1,000 people per day came to the building during the first month of the exhibition.

The display included manuscripts, art work, calligraphy and books. It also displayed the local craftsmen work that included jewelry and dresses, shawls and pashminas, carpets, a variety of implements and a wide range of weapons including jeweled scabbards, hand-woven fabrics of Multan, Batala, Lahore, Rawalpindi, Bhera and Khushab. Articles made from steel, silver and leather, *huqqah* and dishes were displayed there. Various metals, minerals of all kinds including precious and semi-precious stones,





Lahore City Heritage Museum (Old Tollinton Market).

all kinds of fauna, animals, birds and reptiles such as snakes and alligators' amphibians taxidermy displayed attractively in glass boxes. Even the big gun Zamzamah was displayed there.

The cost of the Exhibition (including the money spent on the building) was in the region of 100,000 rupees, but it proved to be the most memorable event of the decade. When the Exhibition closed in April 1864, it was generally felt that the more important exhibits should be retained in Lahore for permanent display. Already, a suggestion had been made that the museum be moved to the Exhibition building and the library transferred elsewhere. The proposal became practicable when a large number of arts and exhibits of the 1864 display were allowed to remain in the Exhibition building.

Originally intended as a temporary structure, the building remained in use, housing the Lahore Museum until 1890. In the 1870s 1880s the museum's curator was J. Lockwood Kipling, Rudyard Kipling's father. This building was the model for the *Ajaib Ghar*, house of Wonders.

After the transfer of the museum collection, the building was handed over to Lahore Municipal Committee. In the 1920s the building was remodeled as a market by the famous municipality engineer, Rai Bahadur Sir Ganga Ram, and became known as "Tollinton Market". For decades, it served the city as a market, accommodating small stalls stocking a variety of daily provisions.

The recent proposals for the building's rehabilitation and restoration have been welcomed by conservationists. In view of the images available from publications such as The Illustrated London News, it is altogether feasible to reconstruct the entire structure, and thus preserve these valuable footsteps of history. It has been recently restored and taken under Lahore Museum as "Lahore City Heritage Museum"

BRIEF AND STEP BY STEP HISTORY OF TOLLINTON MARKET: FROM A MUSEUM TO A MARKET:

The building was constructed in 1864 to host the Punjab Exhibition which was inaugurated by Lt. Governor Sir Robert Montgomery and showcased manufactured goods, antiques and paintings. Later that year, one wing of the building served as the Lahore Museum while the remainder was used as a hall for public meetings. A few decades later, probably in the late 1920, the building was converted into a market where one could buy fresh fruit and vegetables, groceries and poultry.

A MARKET EVOLVES

Over the years, the number of shops in the Market increased and included ones that sold ornaments, spices, tea, books and even birds, much like Empress Market in Karachi. Unfortunately, although during the Raj it was known to be “spanking clean” it fell prey to neglect and disrepair and ceased to be a shopping venue for the city’s elite.

COMING FULL CIRCLE

In 2006, the Market was closed down. The interior was renovated and the exterior restored, after which it was converted into a museum once again – the Lahore Heritage Museum. It comprises three halls, and so far the Museum has only been open to the public on a few occasions such as when seminars, photography and art exhibitions have been held there. Plans are underway to set up a ‘Hall of Fame’ in the Museum, where photographs of well-known residents of Lahore ranging from Sir Ganga Ram, Rudyard Kipling to Nur Jahan and Ustad Allah Baksh, will be displayed.

Government College, Lahore, (Now University)

Government College Lahore (Now University) or simply GCU is identified as one of the major monuments of Lahore. It is among the most famous of Lahore colleges, it is among the first educational institutions that were established in the Punjab. Generations of students have passed through its portals and attained renowned positions in all walks of life in Pakistan. Although the establishment of a Central College at Lahore was sanctioned in 1856 with the condition that the teachers should be graduates of Oxford, Cambridge, Dublin or Durham, it was not until January 1, 1864 that the college opened its doors in the palace called havéli of Dhian Singh, in Lahore's Walled City.

In April 1871 the college moved to a large bungalow near Anarkali. In 1873 its location was changed to another house called Rahim Khan's Kothi. It was in 1876 that the college moved into the present building. The construction had started almost in mid 1872 and was completed in 1877. Situated in the heart of the city, the site is surrounded by main business and administrative areas, schools, colleges and Punjab University's old Campus. Presently raised to the status of university, Government College University's (GCU) site is located at the junction of the Mall and the Lower Mall and occupies a focal point.

The first principal was the famous Dr. G. W. Leitner whose name is closely attached to the College.

When it was decided to move to more suitable premises, a site on an eminence north of the Soldier's Garden (Gol Bagh) was selected, and a 'picturesque building', with a large central clock tower was constructed. That Gothic



Government College, Lahore.

style that was chosen for the building is not surprising. Among the first major structures of Lahore, the missionary spirit frequently expressed by the Lawrence brothers (Henry and John Lawrence) no doubt had an impact on the architectural expression of the college. Government College is rare combination of Gothic features well entangled with many other foreign and vernacular influences.

The building was designed by W. Purdon, Superintendent Engineer, and constructed under the supervision of Executive Engineer Kannhaiya Lal. It was completed in 1877 at a cost of Rs. 320,000. A couple of years after its completion Viceroy Lord Lytton presided over the convocation of 'Punjab University College' (1879) held in its convocation hall with its enormous height "the great hall of the College, which was tastefully decorated and arranged for the occasion." Lytton papers recorded that the event was witnessed by "a large number of ladies and gentlemen, European and native."

From the main road, the main college building is seen above the landscaped terracing through the foliage of trees, presenting a picture postcard view. The Lahori brick is combined with sparing use of black Chiniot stone in the first floor columns as well as in the borders lining the openings. Pointed arches on the facade are accented with simple moldings, and the building is topped by a steeply sloping roof. According to Kannahiya Lal, the slate (stone) for the roof covering was acquired from Dalhousie Mountain hundreds of miles away.

Main Tower: The centre of the GCU main building is marked with an enormous entrance tower—a most impressive element representing the image of Government College. Placed on a 15' high podium, and accessible from the garden by a wide flight of stairs, the tower rises to a total height of 176'. Divided into four distinct storeys, it is terminated in the form of a spire. The battered sides of the octagonal tower carry quaint dormer windows, with its enormous clocks visible from great distances. The classrooms are accessed from a deep verandah which also provided the image of introvert construction. GCU tower was once a landmark of Lahore, which represented the grace of Gothic architecture.

The Main Building: The academic campus of any educational institute plays an important part in the upbringing of its students. It imparts a sense of belonging and pride to them. Built during the colonial era, the architectural style, known to be the celestial Gothic, best suited the academic building. Government College University (GCU) Lahore is considered to be one of the most majestic and gorgeous buildings in the sub-continent. Reflecting the neo Gothic tradition, the building imparts the grandeur and mannerism that adapts the climatic and environmental requirements in the form of its wide verandahs and high ceilings. Further scale and grandeur is added to the building by placing it on the highest level of its contoured site. Lawns combined with an intricate landscape are the integral parts of GCU's overall perception. Not only did the architect design a majestic building but also complement this grandeur with the openness of its grand lawn, the legendary "Oval Ground" of the University Campus. Oval Ground is the place where Ravians sit, relax, talk, study, discuss, analyze, ponder, and even muse and meditate. Here they make new contacts and explore new ways to go beyond dreams to reality. The Oval offers them with opportunities to display the dynamic talents they possess.

The Main Hall: The most prominent part of the building is the Main Hall (now called Dr. Abdus Salam Hall). It consists of a central nave and aisles running along the 4 sides. The nave has double height. The 4 aisles are double-storied and they form a gallery on the upper floor. The main entrance to the hall is through a porch on the West side. Another entrance on the South faces the Oval ground. This is an arched opening with grand and traditionally carved wooden door. After entering through this magical opening, a passage leads into the hall. Inside the hall, where the aisles cross each other at corners, big rooms have been provided. The hall is a wonderful example of composed mannerism that depicts harmony, symmetry and balance. The main conical-

type clock tower at the facade is square at the base. The first two stories are square and a squinch arch is placed to convert the square plan into octagon. The first two stories are followed by two stories of octagonal plan with arched openings and triangular projections.

New Postgraduate Block: Next to Bokhari Auditorium is the New Post-Graduate Block. This block was constructed to meet the needs of the increasing number of students. The foundation stone was laid in 1993 and the building was completed in June 1999. This building has 4 floors and includes a basement that houses the postgraduate library.

New Chemistry Block: New Chemistry Block and New Science Block are among the later additions. Both these buildings are situated to the East of the main building. New Chemistry Block is a true extension of GCU's main building. Gothic features and detailing have been incorporated in its exterior. The building rises to two floors only. Buttresses and four centered pointed arches are used to increase the verticality of the building. Detailed brickwork and ornamentation is similar to that of the main building that has always been the original source of inspiration.

New Science Block: The New Science Block is a much earlier addition than the New Chemistry Block and was constructed mainly for utility purpose. Apart from the brick facing the only element taken from the main building is the use of Gothic arches in the verandahs.

Government College Hostel: Bhai Ram Singh designed this building by placing the cubicles and dorms around a central courtyard with a verandah running along the courtyard. The front block and its parallel part at the rear was double-storied while the two remaining sides were designed as single storey structures so that the roof, accessed through an open staircase

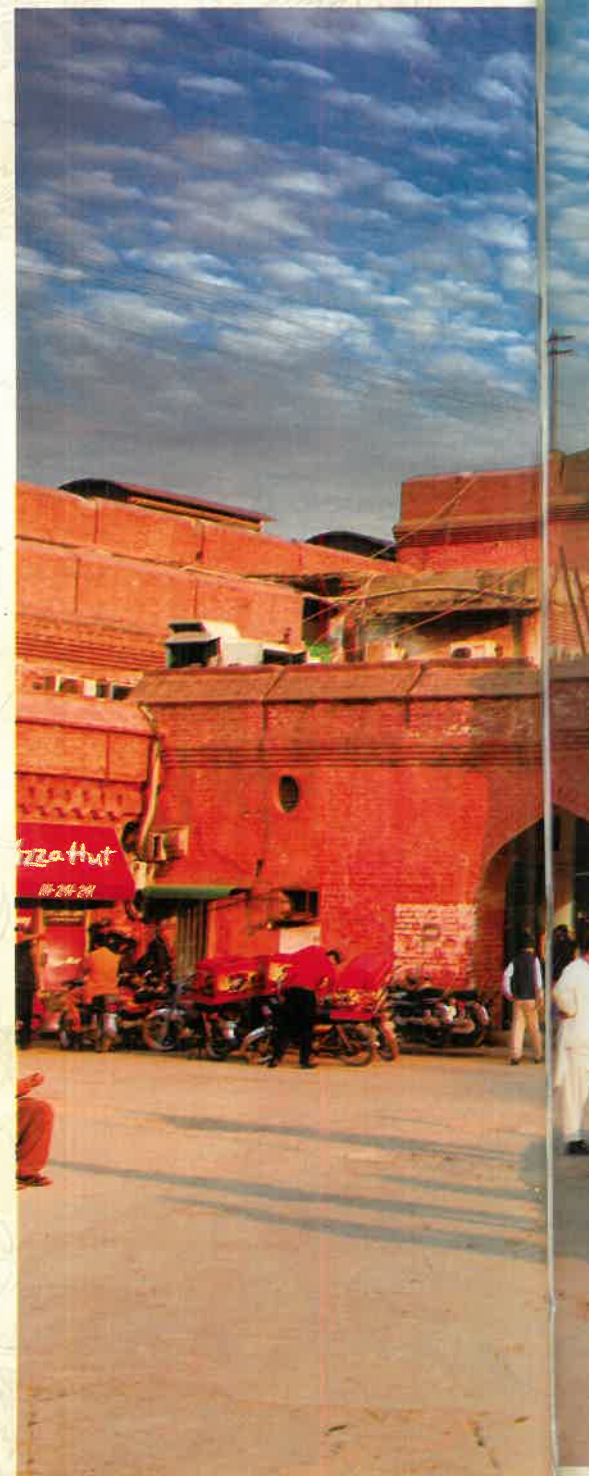
from the courtyard, could be used for the students to sleep outdoors during the summer months. A central double-height entrance was further enhanced through the use of ornamental brickwork and corners accentuated through increased heights. A balcony nestled at the upper level with terracotta jali work balustrade. The warden's quarters were placed on the upper floor.

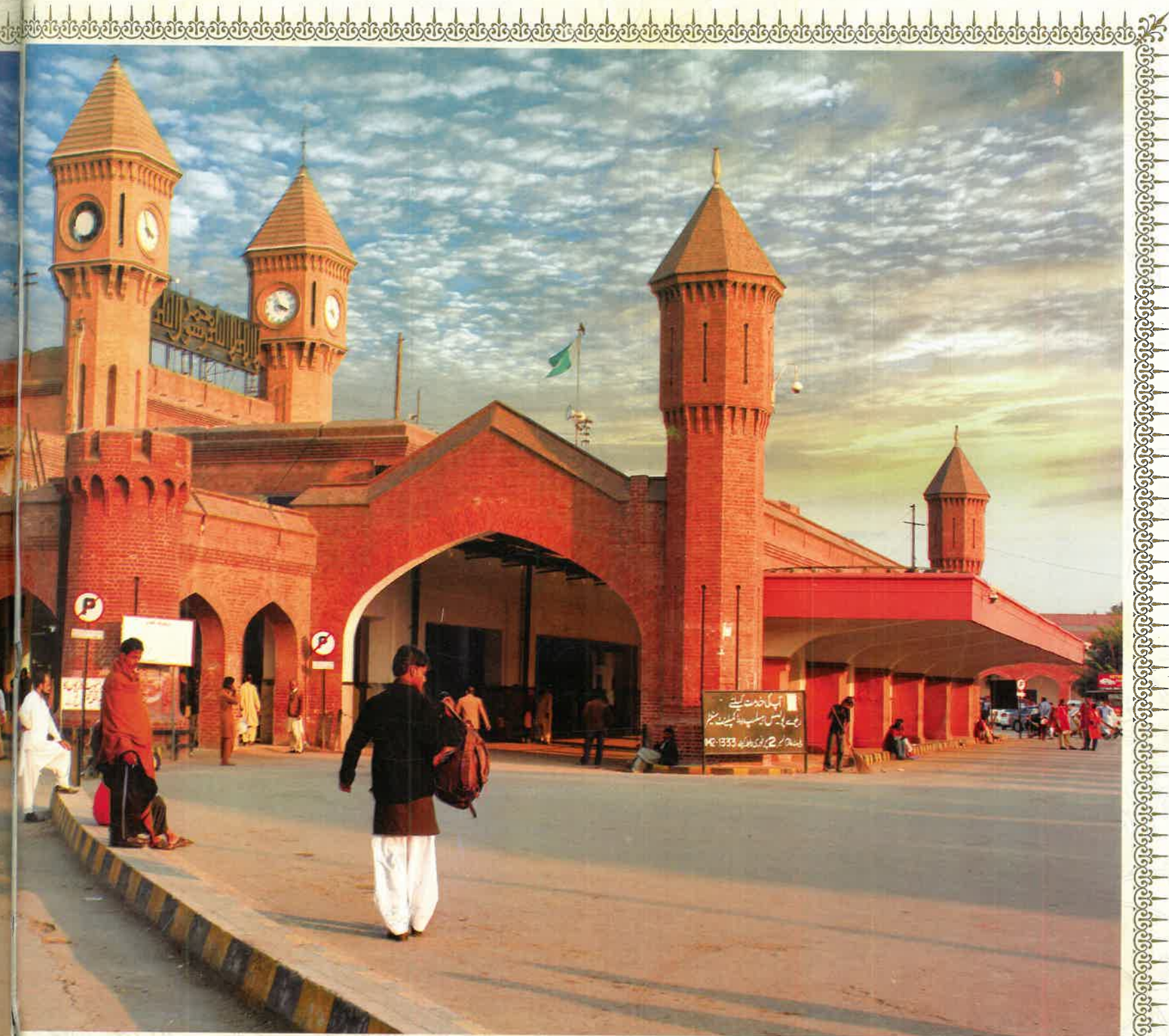
Clock Tower: The most charming clock tower of Lahore adorns the Government College University main building. One of the faces of the hexagonal attic of the tower adorns a period clock facing the college main gate. Very rarely now do the weather beaten hands of this clock move due to lack of maintenance of the clock work. The last time the clock hands moved was at the centenary celebrations of Government College in 1964 and now they remain stuck at 11.O'clock. The clock work can be reached through a staircase inside the tower shaft (about 50 steps) and on to the attic in which pigeons - hundreds of them nest and must have contributed to the damage to the clock movement. The beautiful clock tower, rising over the Gothic style main building of the college and keeping guard over the civil lines of Lahore is a grand architectural piece of the city.

Journey from College to University: The College was granted the status of university by the Pakistan Government in 2002; the word college is still retained in the name for historical reasons and also because of the wide recognition of the name Government College in Pakistan. The University offers bachelors, Master's, and Ph.D. degrees in a variety of disciplines. The University currently has more than 6000 students and 323 faculty members and is ranked at No.6 by HEC in General category. Alumni of Government College are called Ravians which is derived from the name of the magazine "Ravi", published by the administration of the University. Both these names have association with the river Ravi, which flows nearby in north. (Courtesy: Amna Anwar Awan).

Lahore Railway Station

The traditional historic architecture of Lahore represents its centuries old culture that still prevails in its interior and provides an inspiration for the modern architects and designers. The forts, gardens, tombs and *havelis* represents the glory of past but the architectural style that provided the base for the modern civilization is the colonial architecture under British rule in India. Colonial Era though considered as the crucial time period for the native people because of their suppressed rights and culture also has some positive aspects. This was the time period during which the Subcontinent was exposed to the modern technology and western culture. One of the biggest examples is the introduction of the railway network established by the British which is very widespread and is one of their lasting contributions to the culture and infrastructure of this region. Before railways, the traveling in the vast Subcontinent was very difficult and time consuming with remorse ways like bullocks, horses etc. it was the railway structure that actually connected the whole region, hence made the traveling, trade, communication and most essentially organizing such enormous land quite easy. It would not be wrong to say that during colonial Era, the whole Subcontinent became unified. This unification done by the lines had several junctions, used to interlink those lines. These junctions were the Railway stations; several of them were small and some were majestic in size and purpose. The Lahore Railway station is the example of majestic ones along with the railway station of Bombay, Delhi, and Calcutta. The Lahore railway station was built facing the areas of walled city. It is situated on the busy road accessed from various ways making the building of station as the focal point. The location at few yards from walled city was purposely made to guard and control the activity of Indian in case of upheaval as the city of Lahore was the most potential site for this kind of mishap.





Lahore Railway Station.

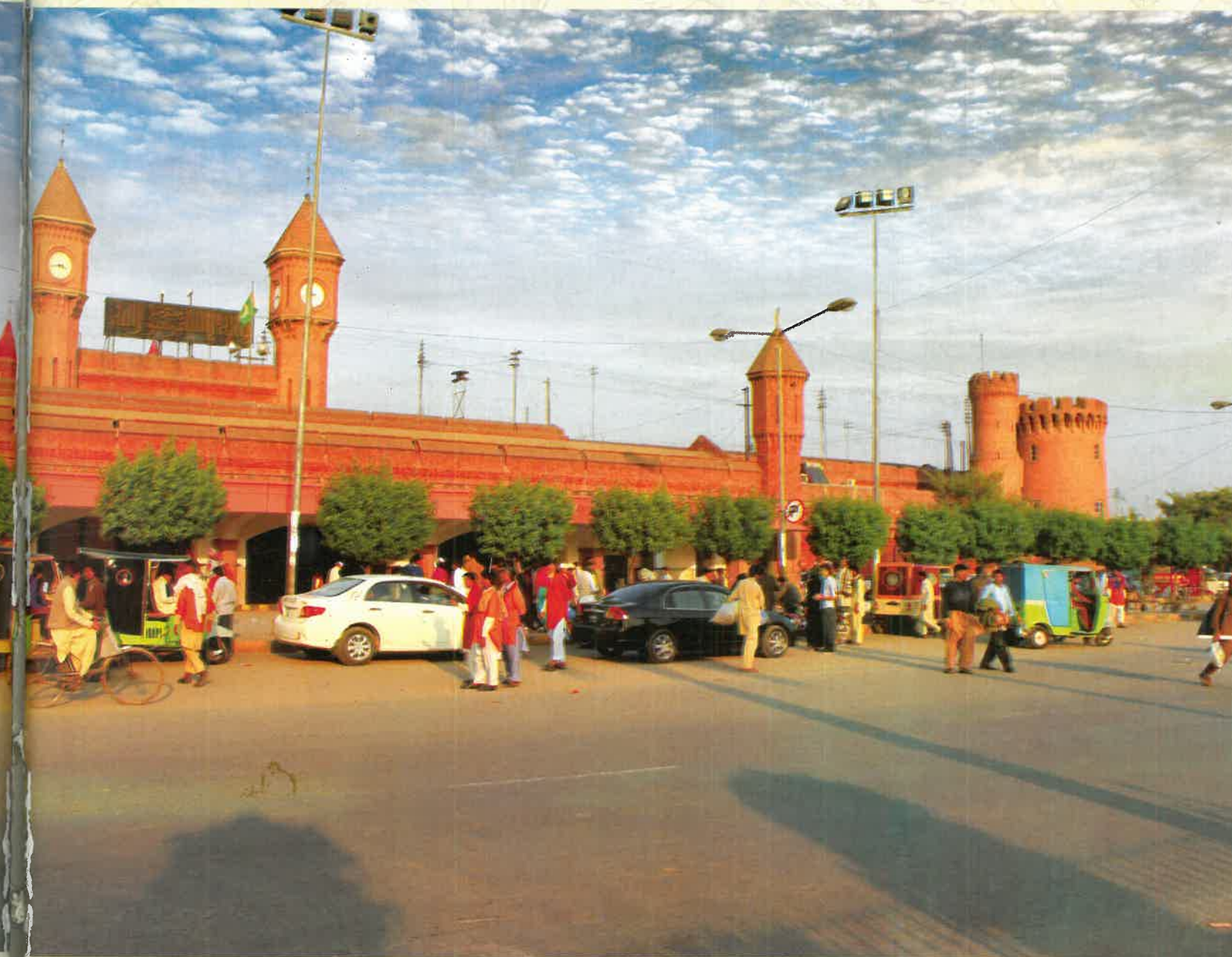
HISTORY

Lahore Railway Station initially named as “Great Indian Peninsular Railway Station” was the first purpose-built British building; its foundation stone was laid by John Lawrence in 1859, just after two years of the sack of Mughal Empire and revolt of 1857. At that time it cost half a million rupees to build. This was the time when several small and big railway junctions were built by the British but there were very few that had such big scale and elaborated style that is visible in Lahore railway station. Commissioned by the British Government, The railway station was first contracted to Mian Mohammad Sultan Chughtai, who was a former prince of the Mughal Empire. The front portion was disliked by the government and was afterward rebuilt by Sultan Mohammad. Its architect was not an Indian named William Brunton. According to a historical source

“He was quite pleased with the masonry, which he called ‘the best in the world’ and which he felt confident could survive even full-scale howitzer fire.” When Lord John Lawrence broke the earth on the future site of Lahore Railway Station in February 1859, the silver shovel he used bore the Latin motto ‘*tam bello quam pace*’ - better peace than war.

The first train ran to Amritsar in 1860 and with time other major cities were also linked including Delhi, Bombay, Calcutta and Peshawar. Of course, the small cities and interior of Punjab were also the major considerations as trains from Sialkot and other such cities were used to run on daily basis for the transportation of workers and officers. This train was named as “Babu” train. The Lahore railway station also became significant as from there the wheat from Punjab’s canal colonies were transported to Karachi making it largest exporter. Due to its geographical state Lahore railway station served some great transportations; During the Second Anglo-Afghan War in 1878, it played a key role by facilitating the passage of 75 trains every





Lahore Railway Station.

24 hours to carry troops and provisions to the war destination. Later, during the partition it helped in human history's biggest migration when thousands of people traveled both from India and Pakistan. Due to its roles a lot of tragic events are also attributed to this building.

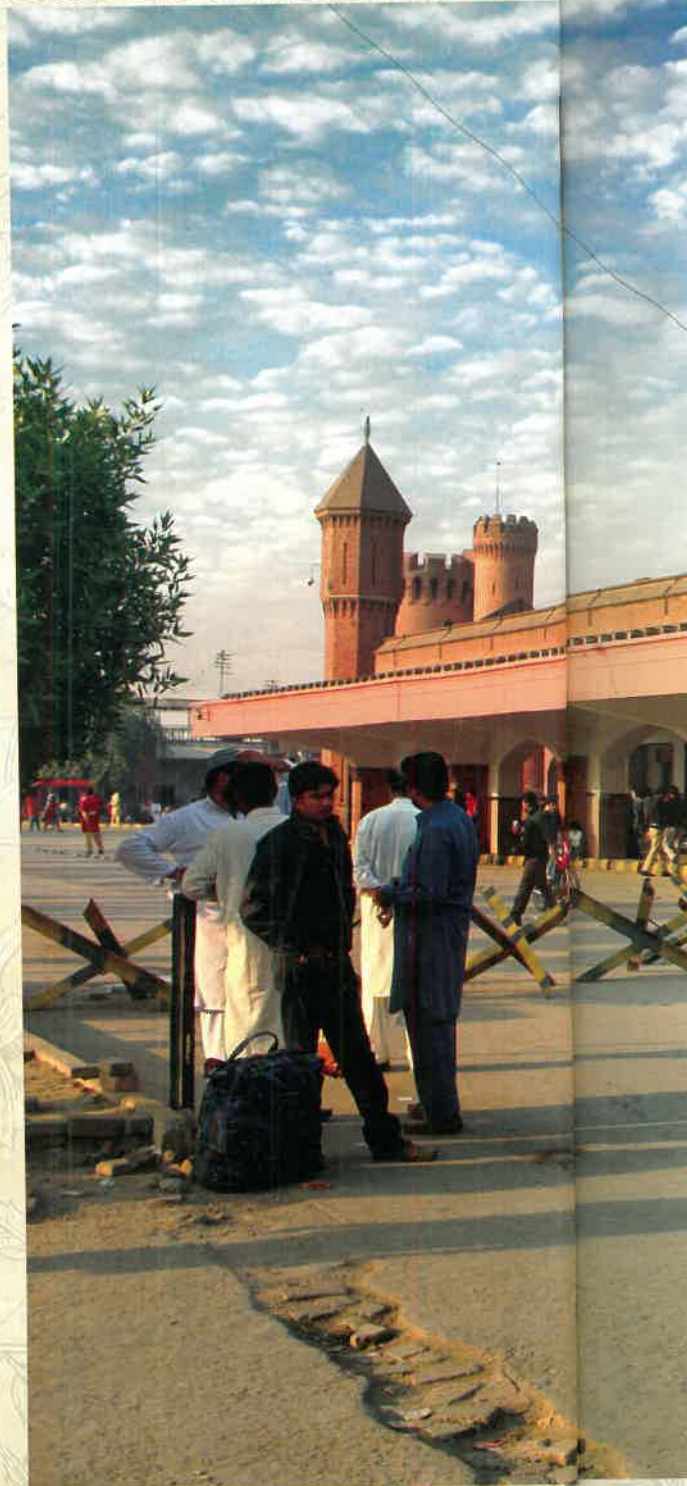
PRESENT STATUS

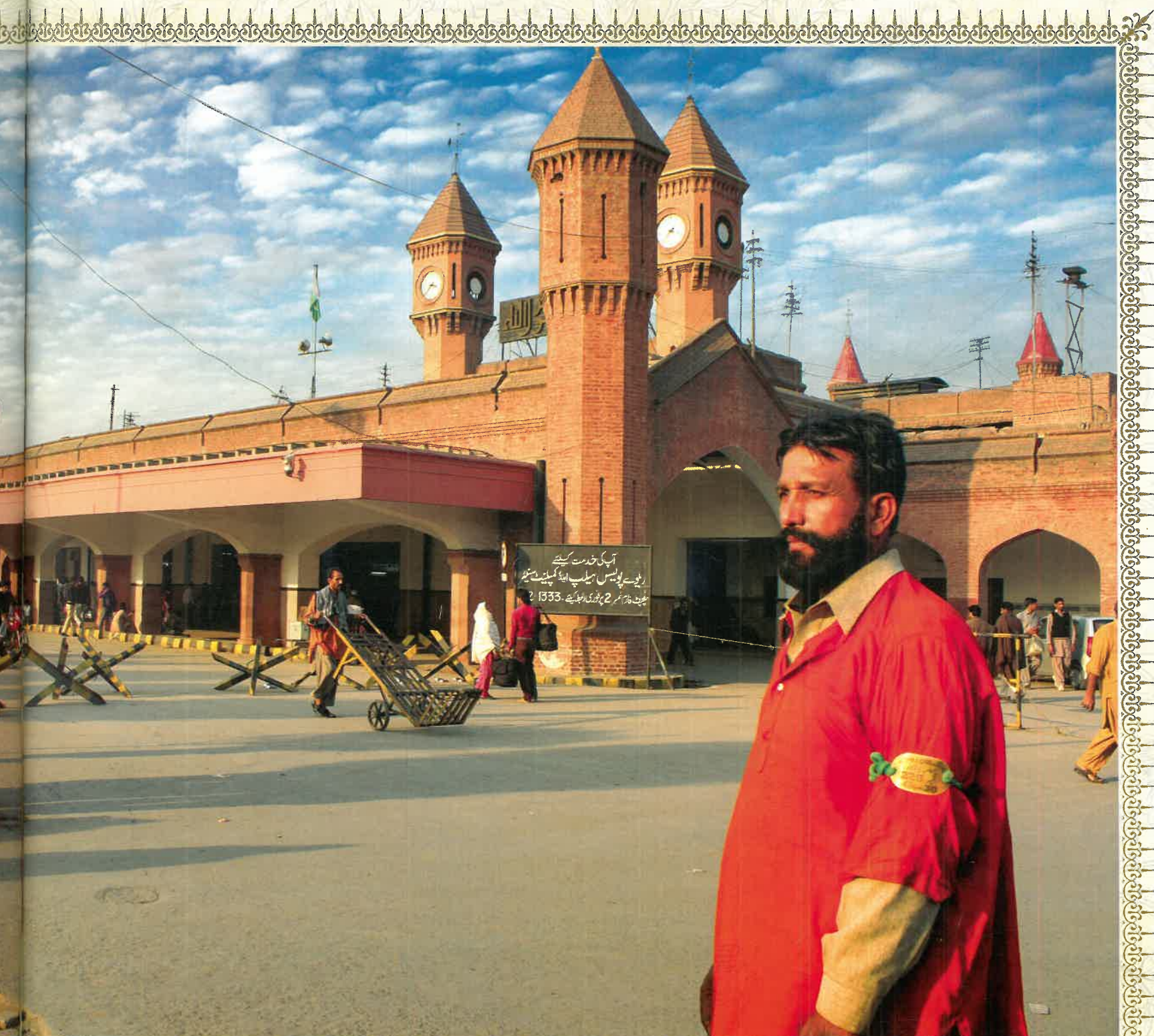
At present, the Lahore railway station is considered the biggest and busiest station of the country and is owned by the Ministry of Railways. It is also the location of Pakistan Railways Head Quarter. It's main rail track is Peshawar - Karachi that covers the whole country. It has 11 platforms serve 11 different lines. The platform number 1 is significant as it serves the international line; link India and Pakistan through Samjhota Express. Other remarkable trains are Allama Iqbal Express, Karachi Express, Khybar Express etc.

ARCHITECTURAL STYLE OF LAHORE

RAILWAY JUNCTION

Lahore Railway Station characterizes the typical British Architectural style prevailed in Subcontinent during the Raj. The building seems more likely as a fortress or garrison than a civilian architecture, especially from its exterior. The major reason for this style was the protection of trains and railway staff as the station was built right after the freedom revolt of 1857 and had a severe danger to be attacked by the remaining warriors. Thus building was designed to provide accommodation for "refuge of the Railway staff and others in any time of danger."



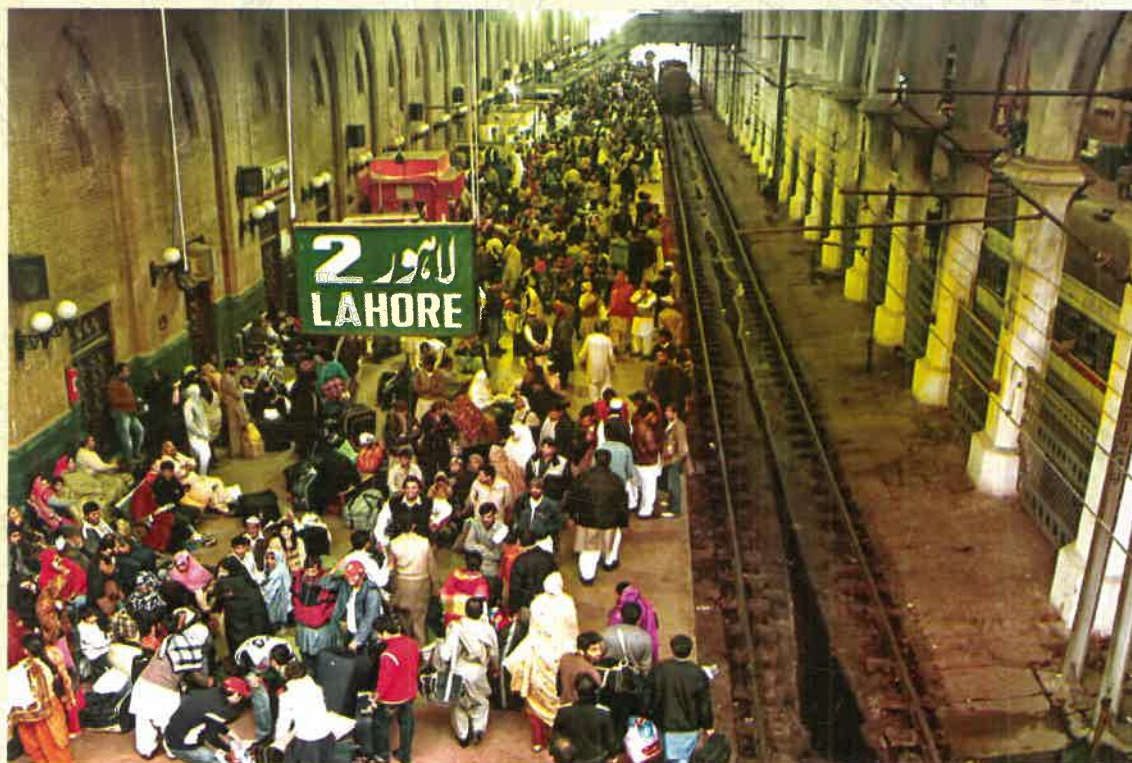


EXTERIOR OF THE BUILDING

The building was constructed completely of brick masonry, in addition to the fortress gives it appearance an old Carolingian Monastery, especially the square turrets on the octagonal drum, bastions and canopies above the round towers are the features emphasizing this similarity. It has two old-fashioned square turrets rise above the main structure and carry large clocks which could be visible from great distances. They can also be suggested as the prototypes of famous clock-towers installed in many of British lands and colonies. Two heavy iron gates at entry and exit points were specially made for the safety measure in this building when there was only arrival and departure platforms. Correspondingly, the double corridor and watching towers were also part of safety scheme. The whole front is in longitudinal plan that runs parallel to the railway lines. The strength and breaks are added in longitude structure in form of its great round bastions and tall machicolated towers. Similarly, through brackets in towers and turrets and the horizontal lines of their canopies the monotonous in plain surface is subdued. The entrances are provided through sideways while the main facade has adjacent verandas in form of barrel vaults with Tudor arcade on the front. The main facade has long slits and the bastions are crowned with merlons that were actually the placements for the Maxim guns, and served as carefully designed lines of fire in the situation of defense against any attack. Now the space between two main turrets has a hoarding depicting the Kalma Tayyiba, has both the decorative and symbolic existence. At the right front corner a steam engine is exhibited as a historical memento.

INTERIOR OF THE BUILDING

The Railway Station being the largest one has somewhat a complex layout. After crossing the front verandas that also contain offices of the staff members, one enters in a huge hall served as the waiting area. All the interior walls have dado in deep green tiles. It is the high roofed building



having buttresses and blind niches in the walls and long pointed arches and doorways open to the platforms. The walls opened to platforms are covered with bricks used in the exterior giving them same majestic looks. The main hall is relatively vast after which a series of platforms start, each separated by the wall incorporated with long pointed arcade. These arcades rest upon square capitals. The columns are octagonal in shape and slightly taper as going downward finally rest upon square pedestals. The roofs of platforms are constructed through *timber*. Each of the platforms provides the passenger with shops having food and reading materials.

The railways Main Offices and other such offices are adjacent to the main building of the station making it a huge complex.

CHAUBURJI

Chau in Persian means four and *burj* stands for tower. This Mughal structure stands alone yet tall in the middle of a small garden. The monument, which was once a gateway to an extensive garden, is situated at the intersection of Multan Road and Bahawalpur Road in the city of Lahore. Bapsi Sidhwa in her *City of Sin and Splendor*, writings on Lahore says the city has a chequered history. This seems quite true as according to the known history, the city of Lahore has undergone a lot of changes since the Mughals downfall. After seeing an agricultural span it has become a metropolis to which the flux of people of various ethnicities is growing every year. The garden which was once surrounded Chauburji has become a small grassy round-about now which is getting smaller day by day as the road authorities is expanding the roads to channelize the ever growing rush of automobiles. The roundabout is being given a name after the monument and is known as *Chauburji Chowk* from a long time. The area has become a bottle neck and thousands of automobiles pass by it. The beauty which once this gateway must have had is badly affected by the carbon prints and tons of smoke left by passing traffic. Flooding, negligence and an earthquake of 1846 add more pain to the injury however it has not lost its elegance yet. If any shortcoming was left to contribute to the destruction of Chauburji that is being brillaintly made up by Orange Line Metro Train.

The time period is quite defined on one of the inscription done on the building which reads it as 1056 AH, (1646 AD). However, a substantial ambiguity lies about who built it as two speculations exist as whom to attribute the monument. The reason of this uncertainty is probably because the line of the building inscription which bears this information has worn out with the passage of time. Sayyid Muhammad Latif, who is a 19th century historian and is believed to be an authentic source on Punjab and Lahore, has mentioned the inscription in his *Tarikh-e-Punjab*:

Chauburji, Lahore.



“This garden, in the pattern of the garden of paradise, has been founded...
(the second line has been effaced)

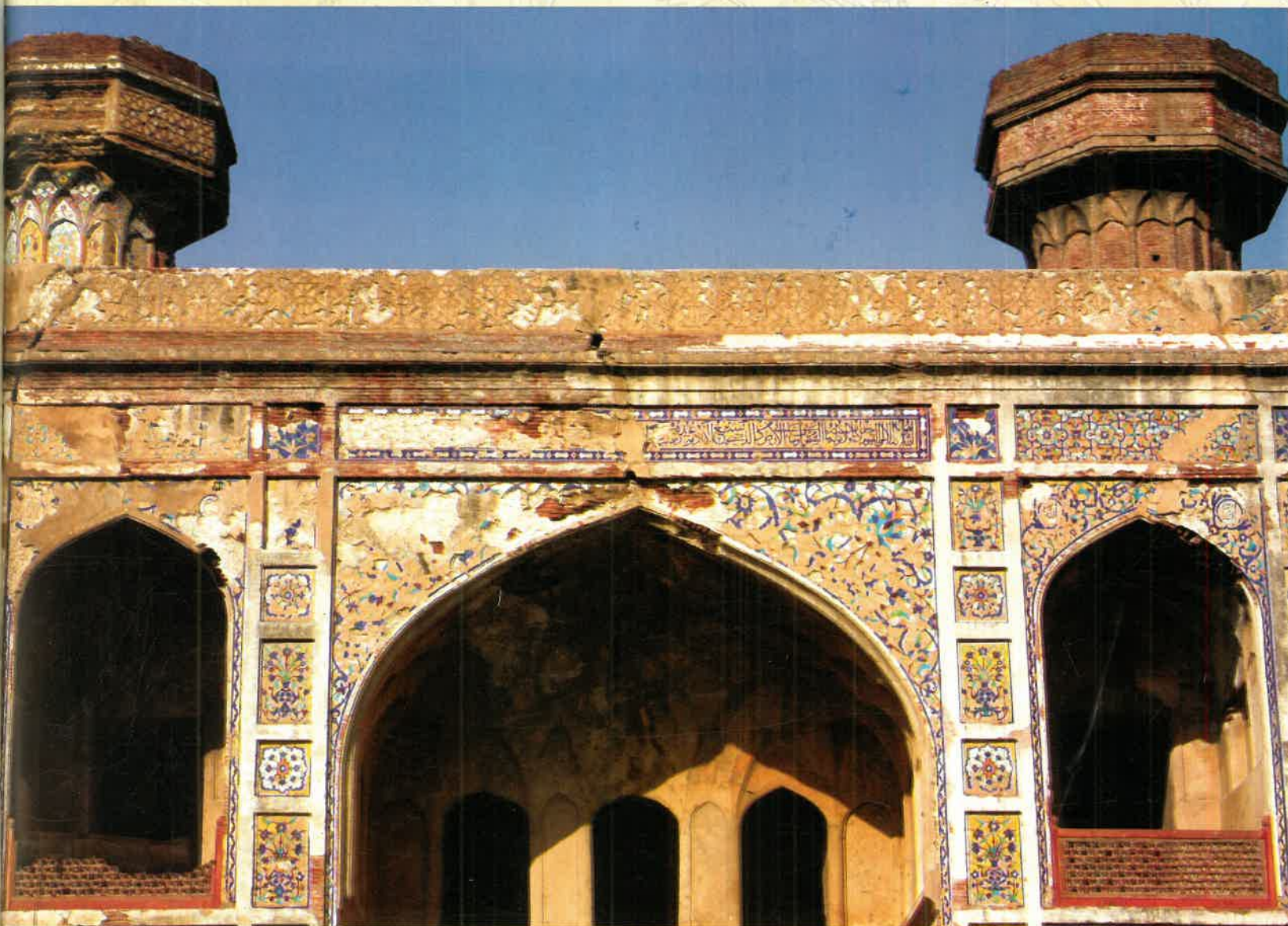
The garden has been bestowed on Mian Bai

By the bounty of Zebinda Begam, the lady of the age”.

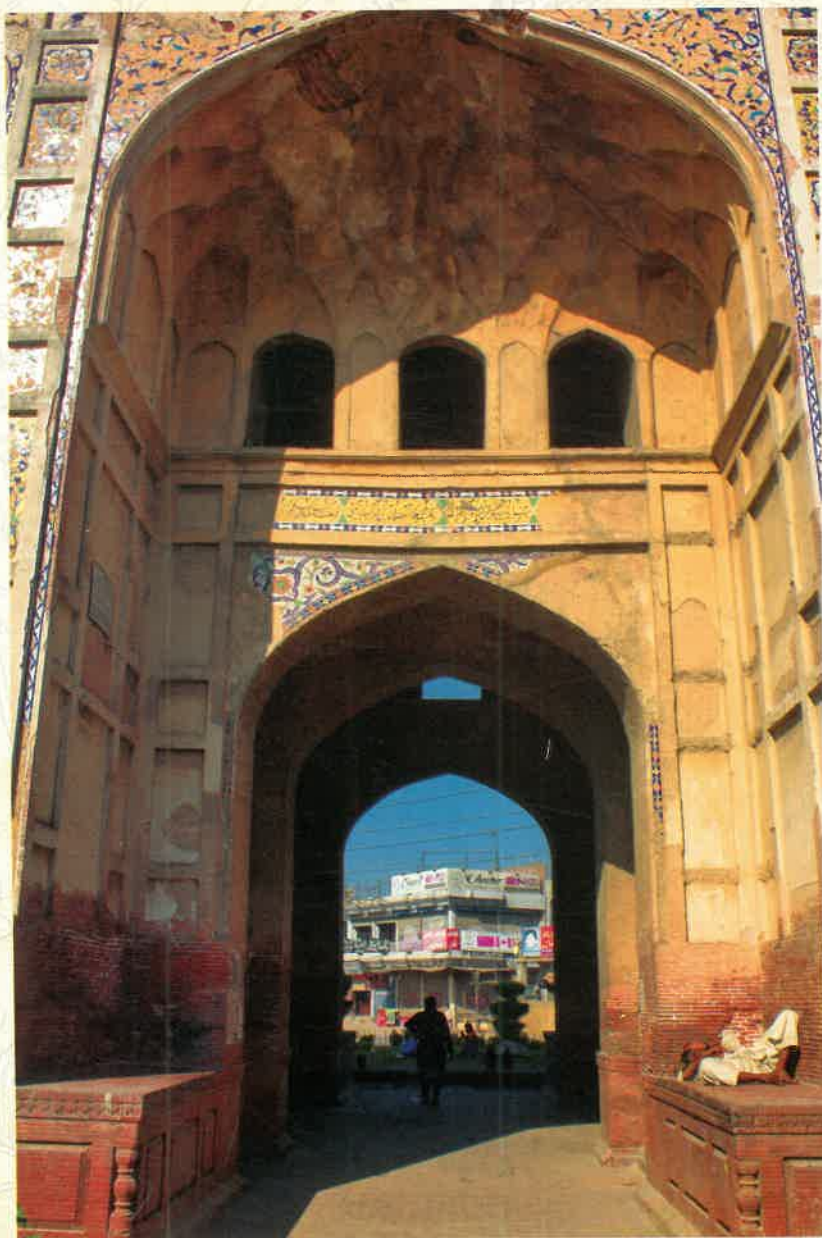
Now according to the above mentioned reference, Mohammad Latif has made an assumption by recalling a story from *Shahjahannama*. It narrates that Zebinda Begum assigned Mian Bai to supervise the construction of the garden to which Chauburji is the gateway. When the construction was about to be finished, princess arrived to pay the visit. When she was approaching she heard people saying that princess is coming to visit “Mian Bai’s garden”. That gave her an idea about the gift she was thinking to give to Mian Bai who was her favorite mistress also. On princess’s arrival, Mian Bai’s act of making a *dua* for princess’s long life made Zebinda Begum immediately grant to the mistress (Asian Historical Architecture).

However, on the site of Asian Historical Architecture, there is a disagreement found with Mohammad Latif. It is stated that spotting Zebinda Begum as Zeb-un-Nisa who was the daughter of Aurengzeb, Latif may not be right. The reason is logical as Zeb-un-Nisa was born in 1637 and the building date of the monument according to the inscription is 1646. Now it is quite impractical to believe that at the age of eight she was given the authority to build a garden. Jahan Ara Begum who was one of the daughters of Shahjahan could be a better option than Zeb-un-Nisa.

This second largest city of Pakistan Lahore is one of the oldest cities of the world. From 1524 to 1752, Lahore was under the Mughal Empire. Mughals were great builders therefore, when they started ruling over the subcontinent, they carried out immense constructions and adornment in the city. Resultantly Lahore touched its zenith. Mughals gave Lahore some of



A section of Chauburji showing upper elevation.



Glimpses of Chauburji.





Stalactites, Chauburji.



Chauburji, Lahore

*A miniature attached
column, Chauburji.*



the supreme architectural monuments, many of which still exist. Among all other types of architecture which has its identity in the world now, Mughals paid special attention to the gardens. Their affair with the gardens has its root in Central Asia and later foreign influences like Persian, Kashmir etc had their share. Other famous cities like Delhi and Agra under Mughals had gardens too but only Lahore got the title of the 'City of Gardens'.

Chaurbuji is considered to be the gateway of one such extensive garden as mentioned in a fragmentary inscription on the eastern gateway. This garden is believed to have been extended from Nawankot in the south to the main city of Lahore towards north. There is only an almond shape grassy area left now around the gateway which seems less than two hundred meters from the building till the railing. A few feet tall wall on south and north side which is all broken could be an evidence for the garden which was once

there. However there is no record available of the garden map or the plan. The wall divides the gateway into half from exterior, but it is hard to tell that which part of the gateway was inside the garden and which was outside.

Chauburji represents a strong blend of Mughal architecture with early Muslim style of building. This masterpiece of later Mughal era is made out of bricks mainly which was typical of the Muslim buildings of the Subcontinent however the structures commissioned by the emperors themselves follow imperial pattern where the building material strictly stone and plaster was used for external surfaces. The buildings ordered by the lesser nobility local lords and ladies bear the provincial taste where brick was the main material for construction and the outer surfaces were adorned with the glazed tile mosaics.

The structure is square and has four facades with corner minars. Eastern and western facades have similar features while northern and southern are identical with a wall branching out that used to serve as a separator between the exterior and the interior of the garden. The monument was originally adorned with the beautiful faience mosaic work. Most of the work is destroyed with the passage of time but the remains tell it must have looked stupendous when it was first made. A noticeable feature of this monument is its minarets which have a broad head. Kamil Khan in one of the article in an online periodical Travel and Culture mentions them as typical of the provincial style prevailing at that time. "The minarets themselves with their top-heavy profile are characteristic of the contemporary provincial style of Lahore." Arches are wide and the style is referred by the architects as 'Tudor' style which is to be seen in many mosques and tombs built under Mughals. The red brickwork is typical of the Muslim buildings of the subcontinent. Another characteristic element of Mughal style is the doorways and the arched openings running through the interior. The main idea of this

dilapidated building seems to be a monument although, once a gateway to heaven has now become a residence of the bhangis and the charsis.

The various features of the monument bear a lot of similarities with other monuments, e.g. *Charminar* of Hyderabad (1591AD), Dai Anga's Mosque (1635 AD), Masjid Wazir Khan (1634 AD). While locating the structure which might have inspired the architect or the patron, Dr. Ajaz Anwar mentioned in The Pakistan Times in April 1985 in one of the article:

But the real prototype of *Chauburji* is the *Charminar* (meaning: four minarets) of Hyderabad Deccan constructed in 1591 by Muhammad Quli as a triumphal arch at the junction of four roads. The Charminar, though it comes closest to *Chauburji*, has a striking contrast and a sense of negation between the very simple lower portion and the heavily decorated upper portion. In the tomb of Akbar, the white marble and variegated stone give the feeling of having been added later. *Chauburji*, because of the colour of the brick adorned with glazed tiles having the look of flowering creepers, retains a distinctive unity.

Many critics have mentioned the *minars* of *Chauburji* as one of the characteristic feature of the monument and a stylistic variant which is not to be seen anywhere in the Subcontinent (Mumtaz, Lahore School of Architecture) however, if we look at the Masjid Wazir Khan which was built in 1634 AD just twelve years earlier than the *Chauburji*, another fact comes forward. We have come to know through various sources that the *Chauburji* monument might not have seen its completion so it is quite possible that the top part of the *minars* were yet to be build and after completion they might have looked like the *minars* of other buildings constructed before this monument for example the *minars* of Wazir Khan's sanctuary. Some have believed that cupolas were built but collapsed with the passage of time. The latter sounds true as the top profiles of the corner towers display signs of earlier construction and it feels like as if it is used to be the base of arched kiosks once, as seen in the Wazir Khan mosque.

The main building consists of a plan seen in many monuments of that time. It constitutes an *Iwan* with four facades having open high arches on two sides behind which the arched entrance is placed in deep recess. The clerestory of the Iwan has three small arches above this arched entrance. Two pairs of arched opening on bays of the high arch give an illusion of double storey. The Gulabi Bagh Gateway has almost the identical appearance. The eastern and the western facades are also reminiscent of the entrance gate of Wazir Khan. The difference lies on the flanking sides of the main high arch where two false arches are placed one above the other on either side unlike the Wazir Khan's entrance which has a set of a roofed *jharoka* and a false arch on either side of the main high arch.

In the eastern and western elevation, the underside of the main high central arch with two side arches on either side has a remarkable yet common feature of Mughal architecture known as *Muqarnas*. According to James Curl "*muqarnas* is a form of architectural ornamented vaulting, the "geometric subdivision of a squinch, or cupola, or corbel, into a large number of miniature squinches, producing a sort of cellular structure", sometimes also called "honeycomb" vaults from their resemblance to these". James further defines their role and states that this vaulting is generally applied to the inner side of the dome or arch as we can see in the case of *Chauburji* gate. The main purpose of these miniature vaulting is ornamental yet they also provide a share with load bearing. Peterson in his book *Origin of Muqarnas* says that the origin of this architectural feature can have many theories involved but after analyzing the architecture where this feature has been applied it seems, all builders are agreed to the function it serves. It is basically a solution to a structural problem. The load of the dome can be transfered down without building an extra weight of the pendentive but the ariel view of *Chauburji* reveals that it does not have any dome built whereas the underside of the central area is circular brick formation. When *muqarna* is made at the corner it is called muqarna squinch. This feature is evident in this monument when we stand in the *Iwan*, the center of the structure and look up.

In the eastern and western facades the central high arch and the smaller side arches have *muqarnas* mostly as a decorative element.

The entire surface including the corner minars, the parapet, the high arches on entrances, the arches on the northern and southern bay of the eastern and western facade appear to be embellished with brightly coloured work known as faience or glazed mosaic. The stalactite vaulting of the arches and the minars are given the analogous ornamentation.

In the sixteenth and seventeenth century Mughals employed this type of work to decorate their monuments. Diversity in colours and form of the tile work can be seen with evolving styles during this period in Delhi and Punjab where Lahore was the center. *Chauburji* shares affinities with other structures even in the type of ornamentation which is done on its surface. Wazir Khan Mosque, Tomb of Ali Mardan Khan, Dai Anga's Tomb and the gateway of Gulabi Bagh, all are good examples to give. The surface of the outer elevation and the *minars* is beautifully divided through a running grid of squares and rectangles with a vivid work of mosaic tiling. A variety of motifs and calligraphy are made on plaster base in the colour palette based on blue, green, yellow, orange parallel to the structures mentioned above. The motifs include the fruit bowls, an array of flower vases, geometrical pattern, single motifs etc.

M.S. Gilla with his fellow researcher in their research entitled Tradition and indigeneity in Mughal architectural glazed tiles state that Lahore during the seventeenth century developed its own style of this glazed tile decoration which started from northern India. *Chauburji* could be a good example to serve that. Mumtaz gives the attributes to Safavids which is quite possible as many Mughal architects were of Persian origin. If a study is made in detail many traces and similarities can be found among the structures built in Lahore during the seventeenth century.



After a decade *Chauburji* was built, Mughal Empire witnessed the rule of Aurengzeb which is the time of distinct decline. After the fall of the empire in the times of Bahdur Shah Zafar it was all lost. The matter of maintaining the architectural wealth which Mughals left behind was kept under no supervision. Some photographs of later half of 19th century and the early half of the 20th century reveal that the most part of the monument had destroyed and it was being rebuilt. In the 1960s, Archaeological department administered the reconstruction of the lost tower which was destroyed in the earthquake of 1846, they also repaired the surviving part but even now the condition of this monument is fragile and needs proper care.

(Courtesy: Amina Cheema).

JAHANGIR'S TOMB

North-west of the City of Lahore stands Jahangir's Tomb, one of the most beautiful Mughal tombs. Enormous energy and expense were lavished on its surface decoration which is the main glory of the building, and it is important as a landmark in the development of the Mughal style.

The royal tombs of the fourth Mughal emperor, Jahangir (d.1627) lies in *Dilkusha Bagh* built by Nur Jahan in Shahdara, along the right bank of the River Ravi, about five kilometers to the north-west of old Lahore, on G.T. Road leading towards Rawalpindi and was one of the many such gardens that lined the river bank.

Emperor Jahangir was born in 1569 AD, the son of Emperor Akbar who made Lahore his capital. Jahangir, a great art lover and connoisseur, inherited a prosperous empire. He acted as patron to the arts which flourished during his reign. His wife Nurjahan, was also responsible for the building of numerous important buildings and gardens. Among these was the *Dilkusha Bagh*, built at Shahdara, a rich complex of royal gardens. She constructed the garden as an addition to the *sarai*. However Salih Kambho accounts had not mentioned the garden name but mostly historians have same point of view that it was the *Dilkusha Bagh* which was owned by his wife.

Jahangir, while returning from Kashmir towards Lahore died near Rajauri on 28th October 1627 and according to Salih Kamboh's text that it was the Jahangir last wish to be buried in one of the garden across Ravi and his tomb should be erected in open air, close to the nature. His tomb was constructed by his wife and son Shahjahan. Kamboh's account ascribed it construction to Shahjahan, while few historians like Kipling, Thornton believed that it's the result of NurJahan's idea while in Kamil Khan's point of view she took inspiration from his father tomb of I'timad al-Daula. Later



Cenotaph of Emperor Jahangir.



Tomb of Emperor Jahangir.



on it became the source of inspiration for Emperor Shahjahan to build the mausoleum of his beloved wife Mumtaz Mahal, which is commonly known as Taj Mahal.

The structure was set within a classic Persain *chaharbagh* style large garden layout comprising of sixteen plots or double set of eight paradises with *sara'i* serving as a forecourt. The tomb stands in an immense garden of 64 acres. It took ten years to complete the project, from 1627 to 37 at the cost of rupees ten lakhs and was probably funded by the imperial treasury (though there is some evidence that Jahangir's wife, Nurjahan, may have financed the construction). The name of the architect is not known, but during Aurangzeb reign (1658-1707) Chandar Bhan, a historian and writer of the *Char Chaman*, also served as a supervisor of the site for some time. But the early history of mausoleum is almost veiled.

Jahangir's brother-in-law Asif Khan, who died in 1641 had built his tomb and funerary garden during his life time this was added to the west of Jahangir's compound, and his wife, Nurjahan (d. 1645) tomb was also constructed within close proximity to each other. By this process the landscape of pleasure gardens was transformed into one of the royal funerary gardens.

The tomb after its completion was an outstanding example of Mughal architecture before Taj Mahal. Though there is shortage of its comprehensive history, according to Kanhayya Lal, tomb was constructed by orders of Emperor Shahjahan.

The tomb complex suffered at the collapse of the Mughal Empire when it was looted by Sikh invaders. It suffered further damage when used as a residence, first for the French officer to the Sikh ruler Ranjit Singh and later by Sultan Muhammad Khan.



Looking West from the vestibole of Jahangir's Tomb.

Different foreigners travelers like William Moorcroft in 1820 and Alexander Burnes later came to Lahore during Ranjit Singh's reign and recorded their visit to the Tomb of Jahangir and admired its beauty and further added that the tomb was covered by dome which was removed by Aurangzeb to fulfill his grandfather wish that dew and rain of heaven might fall on his tomb. These were just stories and the roof is now a square, presenting an open-work screen. However, Mufti Aliuddin reported in 1854 that Ranjit Singh striped of its perforated marble railing of its roof and used it in the Pavilion of Hazuri Bagh.

Later under British rule the garden suffered badly when the railway was built cutting Nurjahan's tomb from the rest of the garden. The *Akbari Sara'i* was used as a railway depot and works area and tracks were laid across the middle of the garden.

Many alternations were made in order to secure the tomb and dam was constructed to save the monument from the floods but inspite of that, the enclosing walls on the south and east of the garden were destroyed by the floods of the river Ravi. However the tomb has been renovated and repaired in different times in the history even before and after Pakistan's creation by British Government and later by Archaeology Department and at present the tomb is entirely under the control of the Directorate General Archaeology, Government of the Punjab.

ARCHITECTURAL PLAN

The plan has all the arrangement and simplicity of a model, but the details of the buildings are highly sophisticated.

The Shahdara complex or Jahangir tomb complex consist of three rectangular courtyards situated on a single axis. The central courtyard of *Akabri Sara'i*



Eastern façade of main gate of Jahangir's Tomb

has three gateways on north, south and eastern side while in the west is a mosque Behind the mosque stands the tomb of Asaf Khan. The eastern gateway leads to the Mausoleum of Jahangir.

AKBARI SARA'I AND GATEWAYS

Serai was previously a caravanserai for travelers According to Ebba Koch, in Jahangir's tomb the classical *charbagh* layout was combined with *chauki-i-jilau khana* (ceremonial forecourt or square), which also contained a mosque. According to Lahauri, this quadrangle served as a forecourt to the tomb and its quadrangle-in-shape garden, measuring 1540x 1200 ft flanked on all sides by a raised terrace where rows of small arched cellular chambers numbering 180, fronted with the verandah are present. The Akbari Sara'i was surrounded by a wall and corner of *sara'i* are graced with burjis. All four corners of the enclosing wall are connected with newly brick paved causeways dividing the quadrangle into *Char Chaman* while in front of the raised podium of the cells runs a water channel all around and the entire is brick structure.

The *Sara'i* has two stately gateways of usual Mughal Style, one on the north and other on the south. The southern gate is the main entrance used by the visitors who approach the Jahangir mausoleum, while the northern gate is purely decorative and built for the purpose of symmetry.

Southern gateway is a double storey building. The deep alcove vaulted gateway is the entrance having two alcoves arches on both sides below and above with chamfered corner, make the gateway to be visible from far. Vaulted ceiling and two deep alcove and raised platforms on both sides and arched balconies inside are visible. Externally it is dressed with stones and *shamsas* (sunflower) decorate the white marble spandrels at front of the entrance gate. Internally with fresco and *Ghailb Kari* which is less visible





Western facade of main gate of Jahangir's Tomb



Northern Gate of Akbari Sarai.

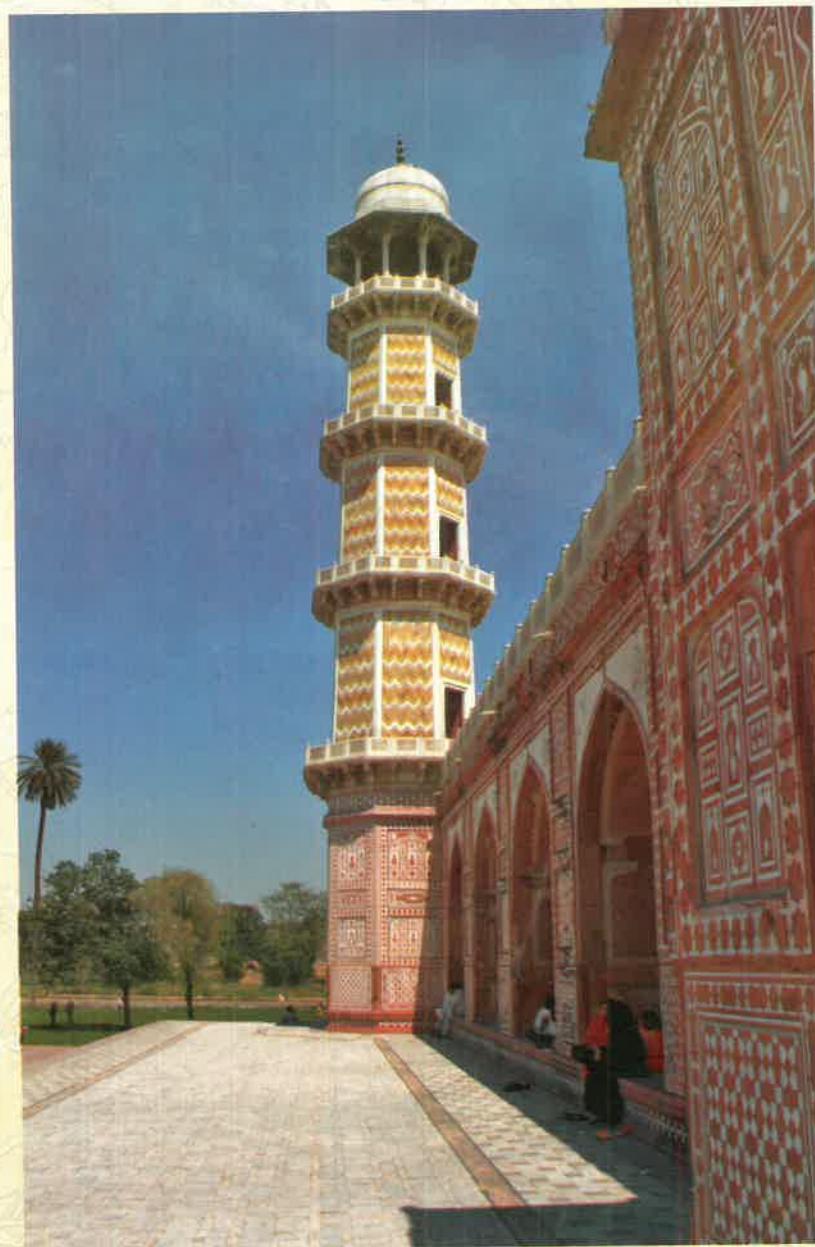
has arched alcove on the platform. The interior façade of the gate is rather simple in plain. The upper storey is approached from the north, through steps flying from the roof of the Sara'i cells.

The huge *Paishtaq* frames of the *iwan*, with their honeycombed pendentives and arched niches, which are in either side of the central vault (two in the lower part and two above their soffits, gives a lightening effect in the structure.

White marble has been used with red sandstone in inlaid mosaic, to provide a simple and beautiful colour combination, which was the usual scheme of finishing the ceremonial gateways from Akbar to Shahjahan.

The front maintains the base-line of red sandstone, *Ghulta*, *Dasa* and *Mudhkal* and parapet. The corners emphasized by octagonal slender pilasters are also in red sandstone and inlaid with white marble. The parapet is also in red sandstone inlaid with white marble and at the parapet there are four small minarets capped with finials. Raised on 3 ½ ft., high platform, the construction is masonry brick. These parapets appear smaller in sizes than the gate structure.

Entire front façade of the gate has been finished with recessed panels in square, rectangular and arched ornamental niches. These panels of red sandstone have been richly inlaid with white marble, *Sang-i-Khuto*, *Sang-i-Musa*, *Sang-i-Abri*, *Sanga-i-Badal* and purple stones. The motifs of decoration include *Ghulab-ash* (sprinklers), *Guldasta* (banquet), goblets and flowers, lilies, iris, dish full of fruits and two *shamsa* (sun flowers) at the spandrels of the arched entrance. Geometrical and stylized designs and such popular motifs of the age as wine-vase are used in ornamental niches along the whole mural



surface. The same scheme of ornamentation has been followed on the main tomb.

The interior facade and interior of gate is painted with frescoes paintings, brick imitation and *Ghalib-kari* etc. Most of the decorative work done here has been damaged. Its paintings are blurred with dust or damaged and faded with the passage of time. The interior of the upper storey has some decoration which is partially damaged.

The main cause of deterioration is the rainwater that penetrates into the brickwork cracks and discolouration of masonry and detaching outer brick covering from the main wall and damaging the frescos which is in dire need of cleaning and conservation.

The most attractive aspect of Jahangir's tomb is its location—right in the middle of beautifully laid gardens with canals and walkways and and fountainbodies at the crossing of walkways. From the gateway, the mausoleum opens itself to the visitor gradually, as one walks through the grassy lawns. The plantation in garden is now a little irregular but formerly there was a thick but regular plantation of fruit trees and flowers.

The tomb itself lies in a walled garden of nearly sixty four acres in the center of *charbagh*; the original garden consists of sixteen plots, with usual parkota and gateways; and walkways, water-channels and eight tanks arranged symmetrically around the tomb-building in such a way that the tank with a single fountain is placed in front of each façade and each quarter also has a tank in the center and all interconnected through a network of shallow water-channels. Each tank has in the middle of each side, a cascade (*chadar*) which drains water in the canal in a beautiful way and fountains provide inlet in them. Miniature arched bridges of the bricks have been made on these canals.

On each side of the tomb, a pair of walkways, each 15 feet in width, covers 198'.6" distance from enclosure wall of the tomb and are raised suitably from ground level. Walkways have also been paved with brick but originally these were made of red sandstone of Fatepur Sikri and other mines near Agra. Even the tomb garden which has profuse brick work at present is restoration work and originally was in red sandstone. The damaged walkways have been restored in 1972-73 and these pathways have *Gul-i Nau* or chain star design.

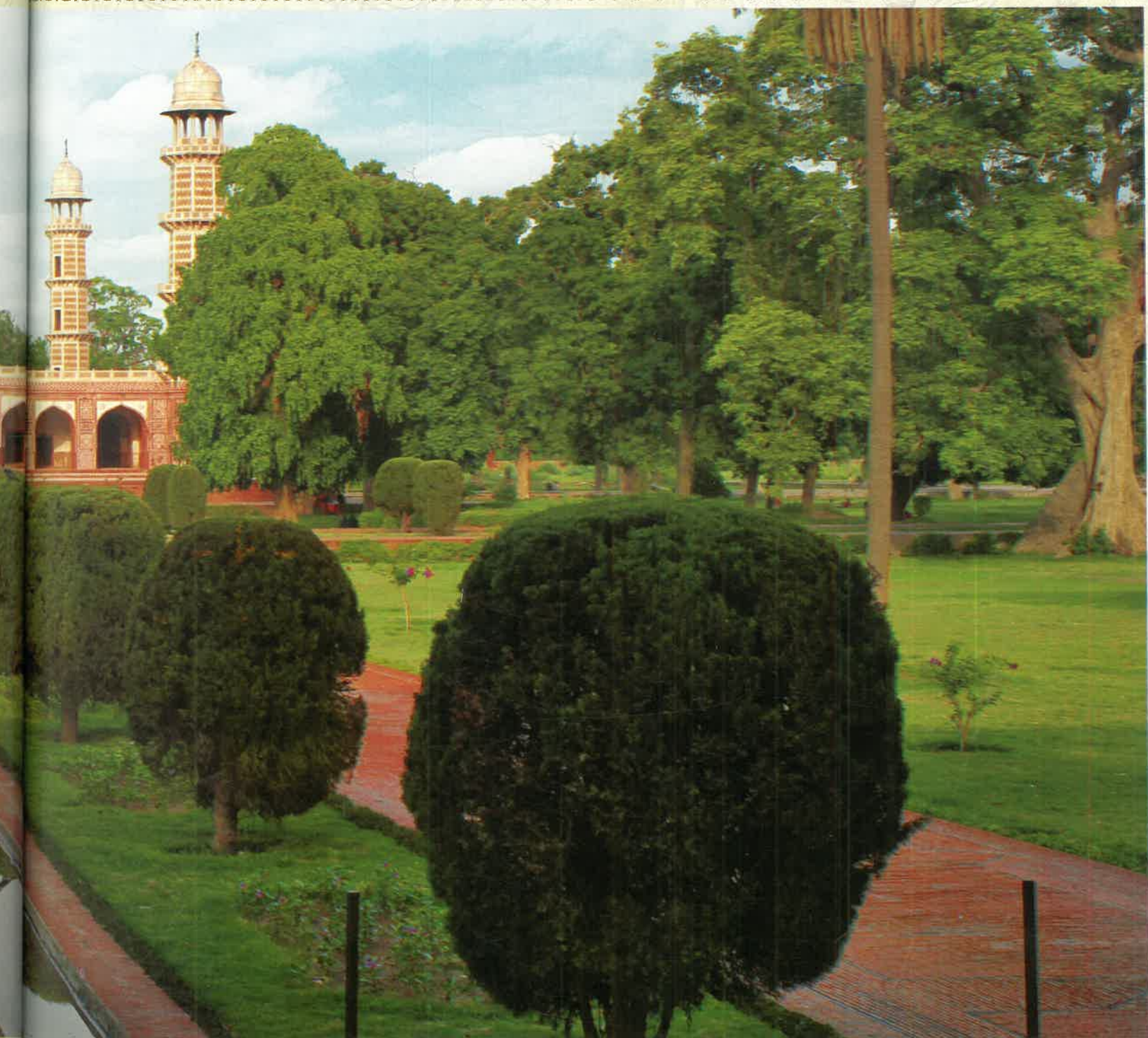
Like other such Mughal complexes, the tomb and garden were conceived as an imitation of the Quranic heaven. Though the water channels, which are essential part of this reference, are now dry, the garden retains enchanting peacefulness. This quality was not only created for the benefit of the spirit of the departed: but were intended for the enjoyment of the living also.

MAIN BUILDING OF THE JAHANGIR'S TOMB

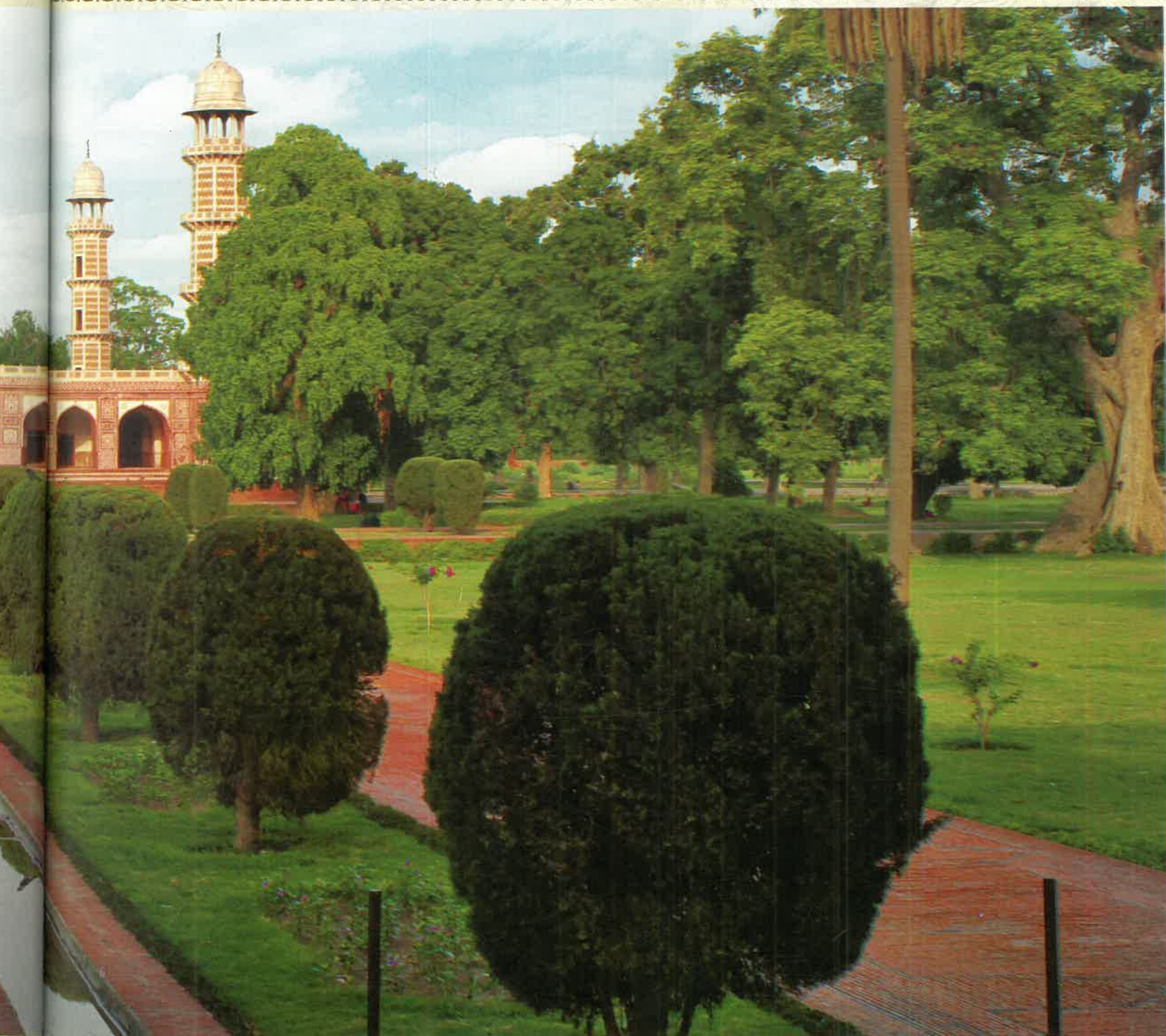
The tomb building is square in plan and is single storey building of relatively low in height and is located in the center of the garden on a raised high platform which is also in square shape in red sandstone and is 5'4" in height and 266'-8" on each square side while tomb proper square building is 213'-4" side and 21'-4" height.

The plinth of the first platform is 5 and half inch from ground level of garden. Made of brick masonry, it runs below the upper platform no.2. It is 320 feet long and 26.9" wide. Its original finishing is missing and presently it has been replaced with the country-bricks. To climb up the top of second floor, at center of each façade of the platform, there are four flying steps. The finishing of its façade retains the base-line and *ghulta* or folded stone of red sandstone. It is 27 feet wide and encloses the verandah on four sides. The floor surfaces of second platform are finished with variety of stones like *Sang-i-Badal*, *Sang-i-Abri* and *Khutto* etc.









The arcaded verandah (or *dalan*) rotates on its four sides and the square cells enclosing the internal burial chamber open in the verandah. However, the cell at each corner is octagonal in shape. Each side has a bold frame containing the central arch, which projects forward a little, with five arches in each wing, thus 11 arches of equal sizes on each façade. It also retains *Dasa* and *Sehra*. The *Mudkhal* has also beautiful finishing. The outer arcaded façade of tomb was originally embellished with inlay of different stones. Each side maintains the baseline and *Ghulta* of red sandstone.

The verandah from outside, measure 213.6x 213.6'. Its vaulted roof finished with plain stucco has stalactite design in molding. The unique feature of this verandah is glazed tiled dadoes.

The interior of eleven cells enclosing main chamber on each side for readers of Quran and other attendants and were also originally painted. Above them is only a cornice and the above parapet is made of marble *jali* railings and balustrades resembling to the tomb of I'timad-ud-Daulah. The tomb has flat roof, but embellished with stone work.

The internal chamber is approached through the central vestibule on the west. Similar type of vestibule approached the interior from the other three sides, but they are closed with white marble lattices. These passages have vaulted ceiling and gorgeously painted and embellished. The floor of such vestibule has been embellished with different types of stones in tessellated technique, their dado with *kashi* work and above parts with fresco paintings.

This internal chamber is octagonal in shape and contains sarcophagus of emperor. The floor and the walls of the chamber are of the purest marble. Like the Mughals tombs_ the genuine sarcophagus is placed directly but far below its dummy, in a crypt underneath the building.



Main entrance to the tomb chamber.

This chamber 26'-6" in diameter has semi-octagonal alcoves on corners. The dadoes up to apex of arches are of white marble. Stucco work in stalactite design has been done above them, in the center is placed sarcophagus of white marble, resting on marble plinth which has beautifully molded nook-shafts and floral composition inlay, in red and green. This pedestal on which the tombstone stands, is like a vertical plate resembling a cut-off multi-level pyramid standing on a wide base, and is covered with beautiful stones let into the sides. Even the shading of some of the roses and other flowers is preserved by the different colours of the stone. The sarcophagus being one piece of white marble also bears inlaid designs. On its sides are carved the ninety-nine attributes of God and on top extracts from Qur'an. At its foot is the Persian inscription, recording the date of his death. All decoration on sarcophagus is done in pendentive technique. This cenotaph is similar to the Taj which is built later.

As far as Tomb of Jahangir is concerned, only the grave of Jahangir is decorated with "*Pietra Dura*". The rest of the work done is in stone in-lay. "*Aqiq*" and "*Zehr Muhra*", "*Sang-i Musa*". If we talk about the grave of Jahangir, it can be divided into two parts lower deck and the cenotaph. Both are then further subdivided into five parts each, 4x elevations and top.

The damages in the cenotaph stones can be replaced so that the cavities are filled and further damage can be minimized. These cavities should at least be filled with "*katchakali*" or "Lime mortar".

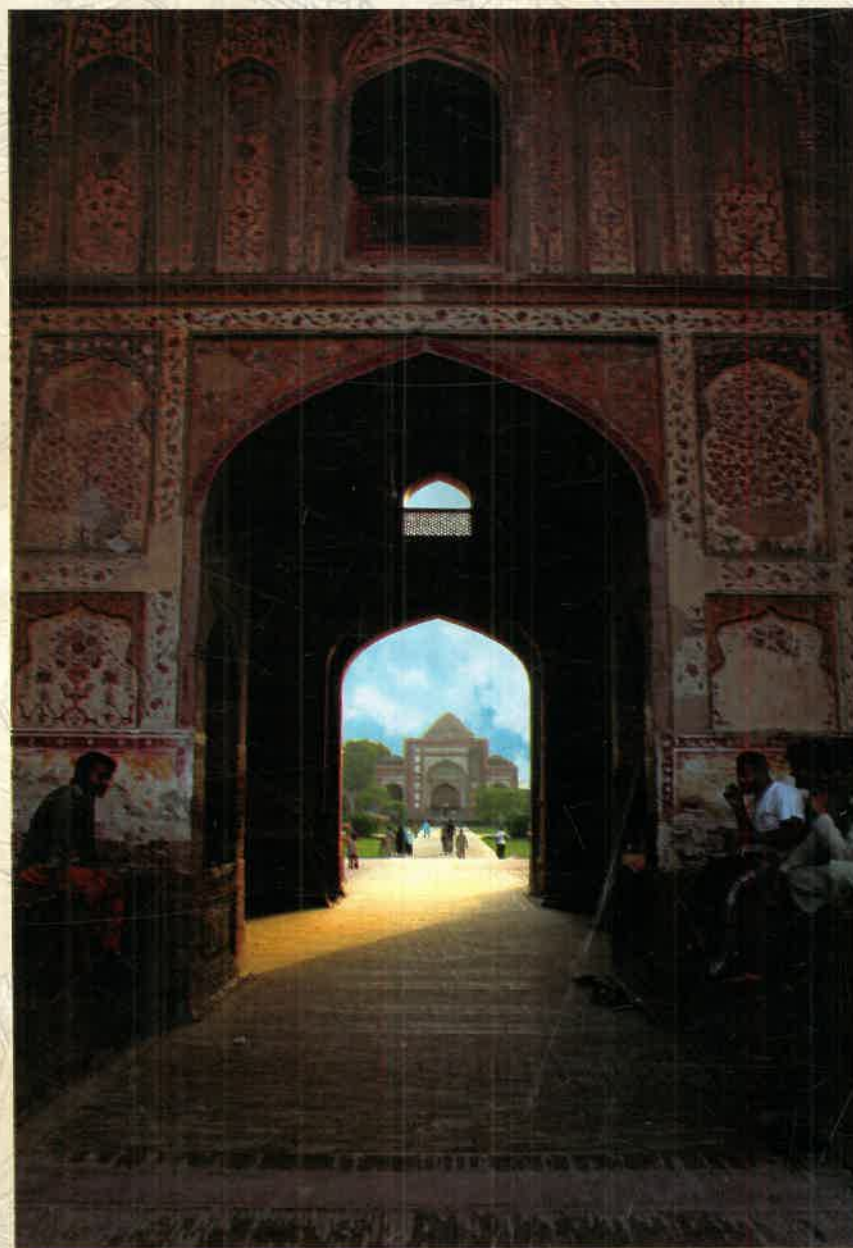
Set of four octagonal minarets, each in five stages rising to the height of 85', which have been attached to the corners of the tomb. The main storey of the minaret is of red sandstone (in accordance to the tomb building) while the upper three storeys and the crowning *chhatris* are of white marble with similar balcony but with extreme slender pillars, octagonal *chhajja* and a high cupola rising to half of the total height of the *chhatri*. These storeys are

separated by balconies and protected originally by *jali* railing and balustrades resembling of I'timad-ud-Daulah. And have spiral stairways inside the *minar*. The upper three *minar* bear hevron design also in inlay technique.

The main storey of the tomb, including the ground storey of the *minar*, is of red sandstone with inlaid mosaic in white marble, paneling in slightly sunken niches. While façade dados bear geometrical designs, *guldastas* and other typically Jahangiri motifs as wine-vases and dishes and cups have been used on upper panels. Spandrels of the arches are of plain white marble, each bearing a circular inlaid medallion in low relief. The *minars* upper three storeys have chevron design in inlay technique.

The terrace of the roof is of marble and different stones in tessellation and looks vacant and in the center there is a raised platform 53'-4" square which gives cut off impression of the building part from the top.

However there are many controversies and viewpoints about its roof. Salih Kambho, says "His majesty (Jahangir) willed that his tomb should be erected in the open air, so that the rain and dew of heaven might fall on it" Smith



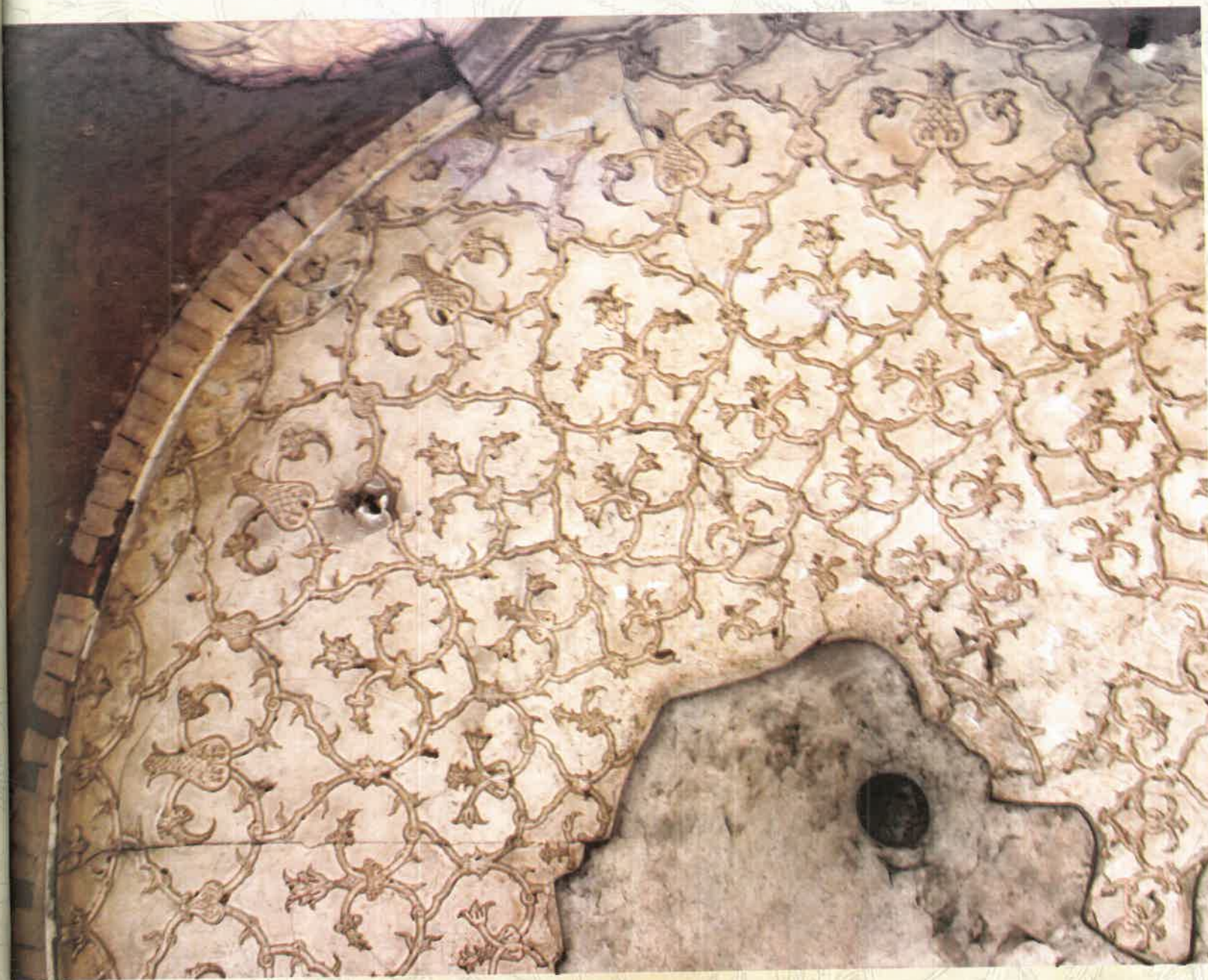
and Fergusson are of opinion of having light dome. While R. Nath believed that the platform had marble edging 19" wide and path of red sandstone 2'-10" wide leaving a square of 45' and there was probability that cenotaph in the center of square platform and *jali* railing and balustrades was placed on red sandstone path. All this now not present. He quoted J.P.Thomson views that tomb chamber was not left open to the sky and had closed roof, a cenotaph was placed in the center of platform and was enclosed with in a trellis screen without roof. R.M Wheeler believed that on the roof platform there was a marble pavilion like Akbar's tomb and there is evidence of former marble railing round the outer edge of the platform but the present marble flooring is a relatively modern patch-work which conceals the exact plan of the superstructure.

Others stories like Moorocroft (1880) and Alexender Burnes(1820) believed that dome was taken off by Aurangzeb in order to fullfil Jahangir's wish. Later authors, after 1880's gave reason that Ranjit Singh transferred the dome to his *baradari* in Hazuri Bagh. However, mystery is still obscured due to lack of historic information records. But in Kamil Khan's, point of views that structural evidence shows that the platform was decorated with marble railings which together with cenotaph have vanished . Originally no cenotaph on terrace is present now.

ENCLOSURE WALL OF THE

JAHANGIR'S TOMB GARDEN

The tombgarden of Jahangir's is enclosed from three sides with high perimetre wall punctuated with buttresses. Teh fourth side, i.e., western side in enclosed with back wall of chambers of Akbari Sarai. The monotony of the walls was broken with series of square and rectangular panels both



A section of the stucco work at Asef Khan's Tomb.

internally and externally. These panels were rendered with lime plaster that has now disintegrated many places and require serious attention for its preservation.

The two pavilions placed inside the center of the northern and southern wall are similar in plan. The south pavilion has perforated *jali* of white marble at the back and is well preserved, while that of north is closed at the back. Each of them contains the main chamber connected with one room that were spacious and airy and maintain characteristics of Mughal garden pavilion. At front of each pavilion there is a vast raised courtyard, spacing a fountain amid. Only traces of fresco paintings are present at places on the surface. However, use of white and red sandstone is also convincing from structure standing at present.

The master plan for the garden is under way. Repair of the stone fretwork on the southern and eastern facades has now completed and work on the northern facade begun. The brick on-edge paving on the *chaharbagh's* south walkway leading to the southern false gate has completed. In the Akbari *sarai*, a new water supply pipeline has been laid down, and the interior and exterior facades of the main entry gate have been re-plastered. The Department of Archaeology has developed a master plan in which they have requested funds for the removal of encroachments which fall within 200 feet of the perimeter wall.



Northern façade of the Main Entrance.



Wood craft work.



Wood craft work.



CRAFTS OF LAHORE

GLASS-MOSAIC DECORATION (A'INAKARI) OF THE SHISH MAHAL

Inclination of Mughal to the beauty of nature is obvious in their well-organized gardens lavishly ornamented palaces, mosques and tombs depict overpowering floral decoration. Babur loved to build pleasure gardens rather than any other building, having been inspired by the fertilized, fragrant and green valley of Farghana and wanted to change dry land of India fresh green and fertile as Farghana. For this he developed irrigation system and brought most of vegetation and floral pattern from Central Asia. "To call him the prince of gardens will not be wrong."

Jahangir was a passionate lover of beauty of nature. His highly developed miniature paintings had stimulated Shahjahan to depict them on the surface of his buildings, which was a tribute of Shahjahan to his father's genius. The development, brilliance and evolution of his paintings were because of the visits of expert painters from Persia and Central Asia. The artists of Jahangir's court include Mir Sayyid Ali Tabrizi, Khawaja Abd-ul Sammad, Ustad Mansur, Ab-ul Hassan and other Hindu and Sikh painters. Some of them were specialist of animal, birds and flower painting.

Mughals gave political and cultural stability to the Subcontinent. They built many cities and constructed many forts and palaces. All Mughal Emperors

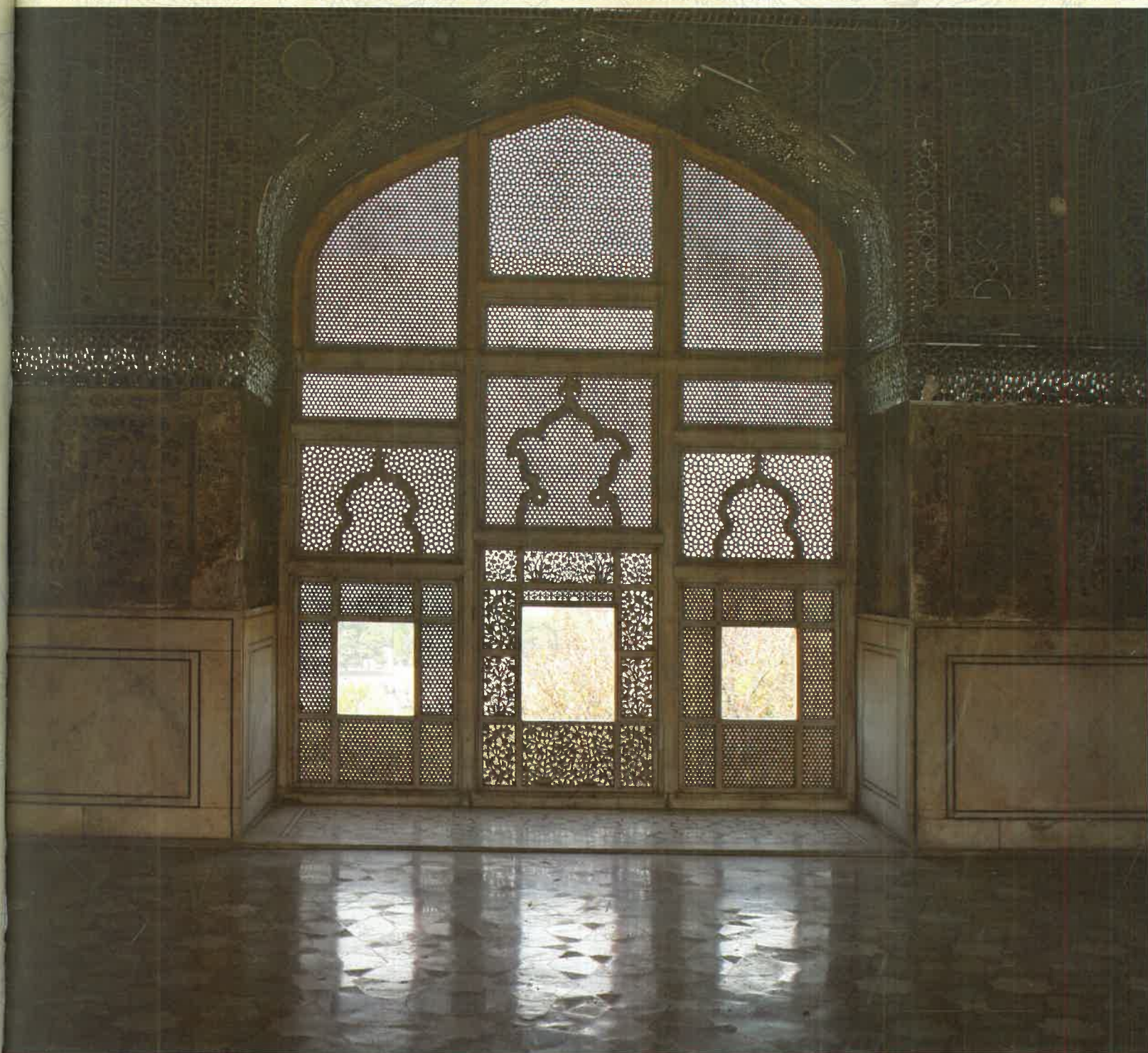


Glass-mosaic Decoration (A'inakari) of the Shish Mahal.

contributed to the development of the region but all the arts and sciences had progressed during the regime of Emperor Shahjahan and the Mughal architecture predominantly took a new turn in aesthetics and entered its classical phase. The reign of Shahjahan was the peak of art of construction. Under his supervision the architectural developments reached to maturity, depicting splendor with dignity of lines, harmony in all parts and bilateral symmetry, leading to a centralized scheme that makes the vocabulary of architecture more comprehensive and effective. The architecture found expression in style of excellent splendor and reached to the highest degree of perfection. The symmetry, uniformity and aesthetic beauty became the outstanding features of the Mughal buildings in his period. In the sphere of building art, it was an age of white marble. "The use of white marble inlaid with stones, noted during the later portion of Jahangir's reign, characterizes much of Shahjahan's architectural production. His buildings appear increasingly refined, establishing a style that became an Indian classic."

By all means, Shahjahan's era stands as the outstanding in the Mughal architecture. In his reign, the art of construction touched the heights of excellence and at the same time assumed a sophisticated characteristic and an exceptional splendor. "The distinguished features of Mughal Architecture reveal Central Asian and Persian inspirations."

The glory of the days of the great Mughals is no more, but the Shah Burj pavilion of the Lahore Fort still represents one of the most fabulous resorts ever erected by the Emperor. The Shah Burj originally overlooked the river Ravi which used to flow then touching the northern wall of the fort, whose course now has changed. Its white marble buildings like their counterparts of Shahjahan's palaces elsewhere overlooking the water and were reserved for the emperor and his family. This and a similar pavilion erected about the same time in the Agra Fort, indicate the emperor's preference for highly



ornate personal chambers. Among the most impressive is the Hall of Shish Mahalat Lahore Fort. "This name is a modern one, deriving from the mirrors, known in Mughal texts as Aleppo glass, that are inlaid into the walls and on the ceiling, thus creating a shimmering effect. Such chambers were even more impressive when filled with the lighted lamps so often mentioned in contemporary texts."

Shish Mahalis an excellent example of form and function. Shish Mahalis located within the Shah Burj (King's Pavilion) block of the Lahore fort. Shish Mahalis on the north side of the courtyard. It was the residence of the Empress when she stayed at Lahore. It was constructed by the orders of Shahjahan for his beloved Empress Mumtaz Mahal (the lady of the Taj). "It was here that in March 1849 the sovereignty of the Punjab was assumed by the British Government."

Similar work is done in Agra and Delhi Forts. The three Shish Mahals in the forts of Lahore, Delhi and Agra were constructed during the reign of Shahjahan almost simultaneously. Shahjahan built and renovated forts throughout his reign. He continued to build at the Agra fort long after he shifted his capital to Delhi. However, most of the construction at his Lahore and Agra forts was done in about the first decade of his rule. "The marble dados, with beautiful stucco work and the glass work of the Shish Mahal presents the most gorgeous and magnificent atmosphere in the semi-dark interior. All three of these major projects have striking similarities reflecting continuing Mughal practice. Perhaps the most notable was placing imperial chambers at the fort's far end overlooking river."

These palaces are the only examples of this kind of majestic work. It is said about Agra Fort that:

The difference between the Shish Mahal of Agra fort and Lahore fort was

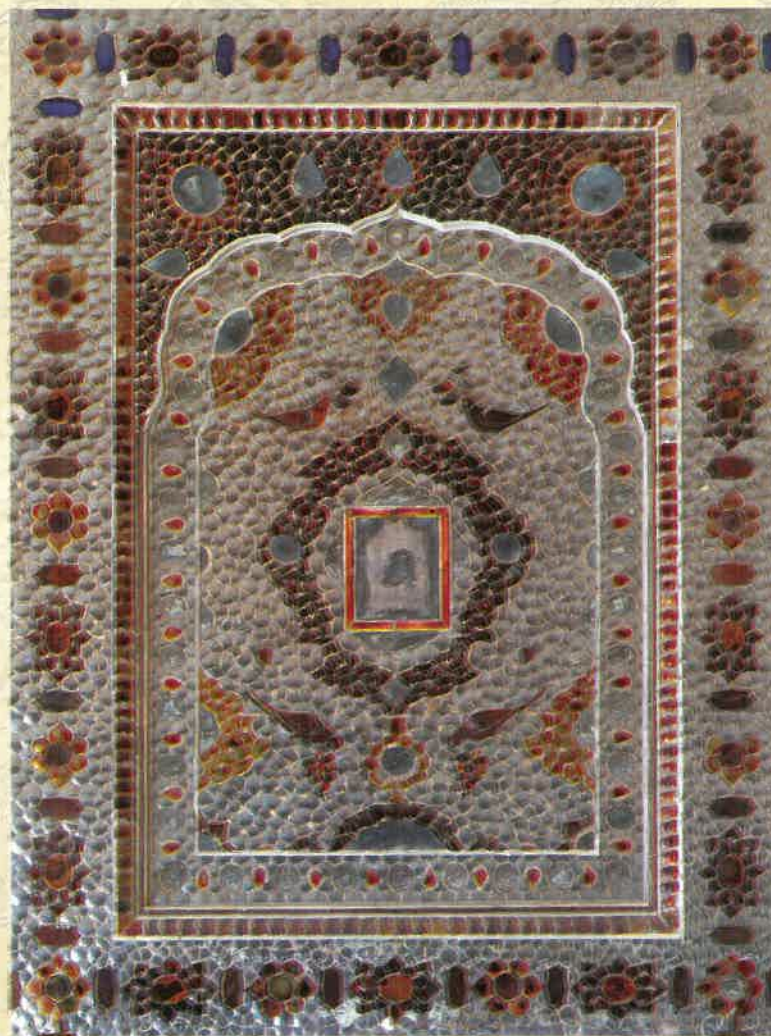


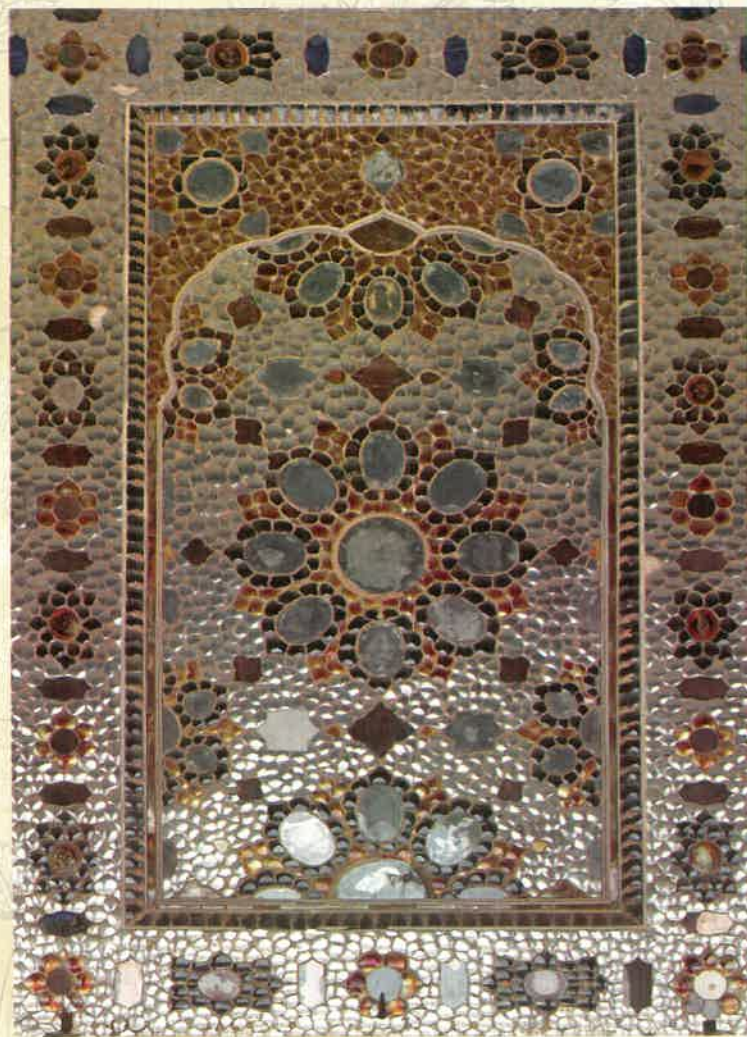
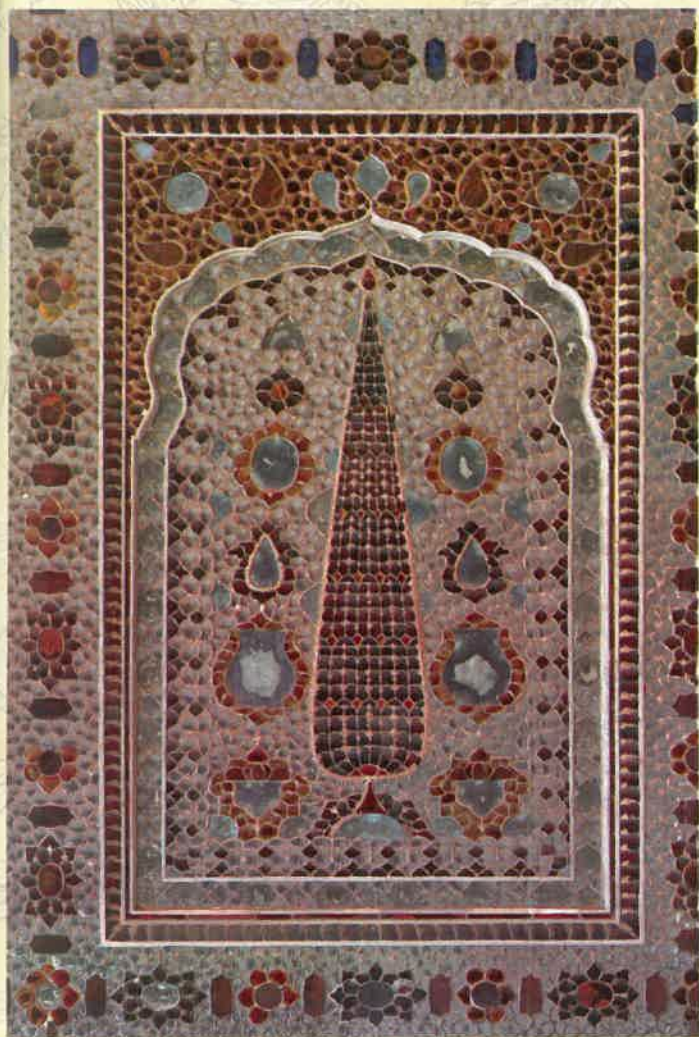
perhaps that Agra fort was used as royal bath and Lahore fort was used as a residence for the royal family. In Agra fort rooms of the Shish Mahal were enclosed so these were purposefully made dark. The effect of dim light in the dark interior was wonderful. "Glass-mosaics have been used in the dim interiors purposely for their magnificent colour effects and it is this interior decoration by glass-mosaic that has not been superseded or equaled so far by any ornament."

The small windows were not sufficient to illuminate the interior. Artificial light of some sort was absolutely necessary. For this purpose many small artificial lights were used to lighten the hall. The source of light were many, small lamps of low intensity which could glitter and twinkle through the glass pieces. Only the dim interior could give such a magnificent colour effect.



Panel showing ainakari, Shish Mahal, Lahore Fort.







Whereas in Lahore fort, the Shish Mahal was constructed in such a way that its main hall was open from the front side thus permitting the sunlight to enter the hall. The light was picked up and reflected at all angles from the glittering, convex surfaces of the glass-mosaic. These mosaics gave colour and softness to the interior thus creating an ethereal quality. The same hall at night presented another effect with artificial source of light. The small glass pieces seem to shimmer delicately in the artificial light.

The rooms at the back of the main hall are designed in such a way that sunlight did not enter the rooms directly but light reflected either from the marble floor or passed through the tiny holes in the perforated marble screen at the back of the rooms. These perforated marble screens facing the river Ravi thus allowing the reflections from the surface of river to enter the rooms and creating the remarkable effect. Ordinary mirror cannot have such varying and such magnificent effects.

Shahjahan's buildings are unmatched in exquisite beauty of form. These buildings have no parallel in symmetry of design. The ornamentations are unsurpassed in grandeur. The structures built during his reign have great strength and have beautiful balance among different parts. Shahjahan's buildings display a synthesis of Indian and foreign architectural styles.

Mughal architects constructed buildings according to the climate of the region. Climatic dictates of this region led the architect to design the dark and cool residential mansions for maximum comfort. Mughal artisans used various techniques to decorate the interior and exterior walls of royal buildings. They used tile mosaics, stucco tracery, fresco, marble inlay and *pietra-dura* etc. "Embellishment by mosaic, stone tile or glass, had been adopted for varied affect and subdued colourfulness. Mosaic in naturally coloured stone pieces did have the brilliant luster of the mosaic of glazed

tiles. Glazed tile mosaic had proved to be less successful in the semi-dark interiors. We do not come across their use in the interior apartments of the Mughal buildings.”

Glass mosaic work proved to be the best form of ornamentation for such secular buildings of the Mughals. The dados and the twelve pillars of Shish Mahal are of marble. The central portion of this pavilion's facade is composed of five cusped marble arches supported on faceted double marble pillars whose bases are inlaid with precious stones. This and a similar pavilion erected about the same time in the Agra fort indicates emperor's predilection for highly ornate personal chamber.

The Shish Mahal has semi octagonal plan. Octagonal shape is not new in the history of Islamic decoration as is commonly used for the decoration of the religious buildings of Muslims. If we go back in history perhaps the first example from Muslim architecture was Dome of the Rock, which was built on an octagonal plan.

THE DECORATIVE FEATURES OF SHISH MAHAL

The main decorative features of Shish Mahal of the Lahore Fort, are:

- Mirror work or *A'ina-kari* or convex glass mosaic work with *Munabatkari* or stucco tracery
- Gild work
- Pietra-dura* work
- Marble grilles or lattices

Mirror and Glasswork or *A'inakari* of Shish Mahal

Shish Mahal is one of the most exciting feature of this fort which is adorned with thousands of convex mirrors and coloured glasses on its walls as well as on ceiling. This Mahal brings a source to life with thousands of flickering



reflections. The literal meaning of Shish Mahalis “mirrored” Palace. It is decorated by patterned mosaics, coloured glass and mirrors all over there from dado level to ceiling creating a palace of unbelievable beauty. The most awe-inspiring thing to observe in the Hall of Mirrors is that one candle is enough to lit the entire hall of Shish Mahal. The mirror and glass mosaics are composed of floral and geometric designs finely worked in stucco. In artificial light, each piece of convex glass reflects a separate image of the source of light.

Mughal artisans used convex glass because of its unique properties as it has a diverging quality and forms a virtual image which is smaller in size. It reflects out the light to a larger area. Since the images formed are small, bigger objects become small which gives a beautiful view. The glass used by the Mughal artisans was very thin and instead of using a large sheet of glass they have used these in small pieces which were glued together with stucco creating sophisticated floral designs.

The construction of this hall is done in such a way that even if a single ray of light enters the *Mahal* the light would be replicated by the mirrors and the entire hall would have a natural lit-up and will be enlightened.

“The glittering space owes its effect to a novel technique of breaking up the light by means of small faceted mirrors that catch the slightest gleam. Like a fireworks it plays with light and colour, setting reflections against the subtlety of flowers made of coloured glass, and paintings inset above the marble dado. As a setting for the apotheosis of the great Mughal it has no parallel: nowhere else has human imagination, in its desire to exalt the superhuman nature of the sovereign, been so successful in transfiguring the world, dematerializing the physical setting, and evoking Paradise on earth.”

THE MAIN HALL OF SHISH MAHAL

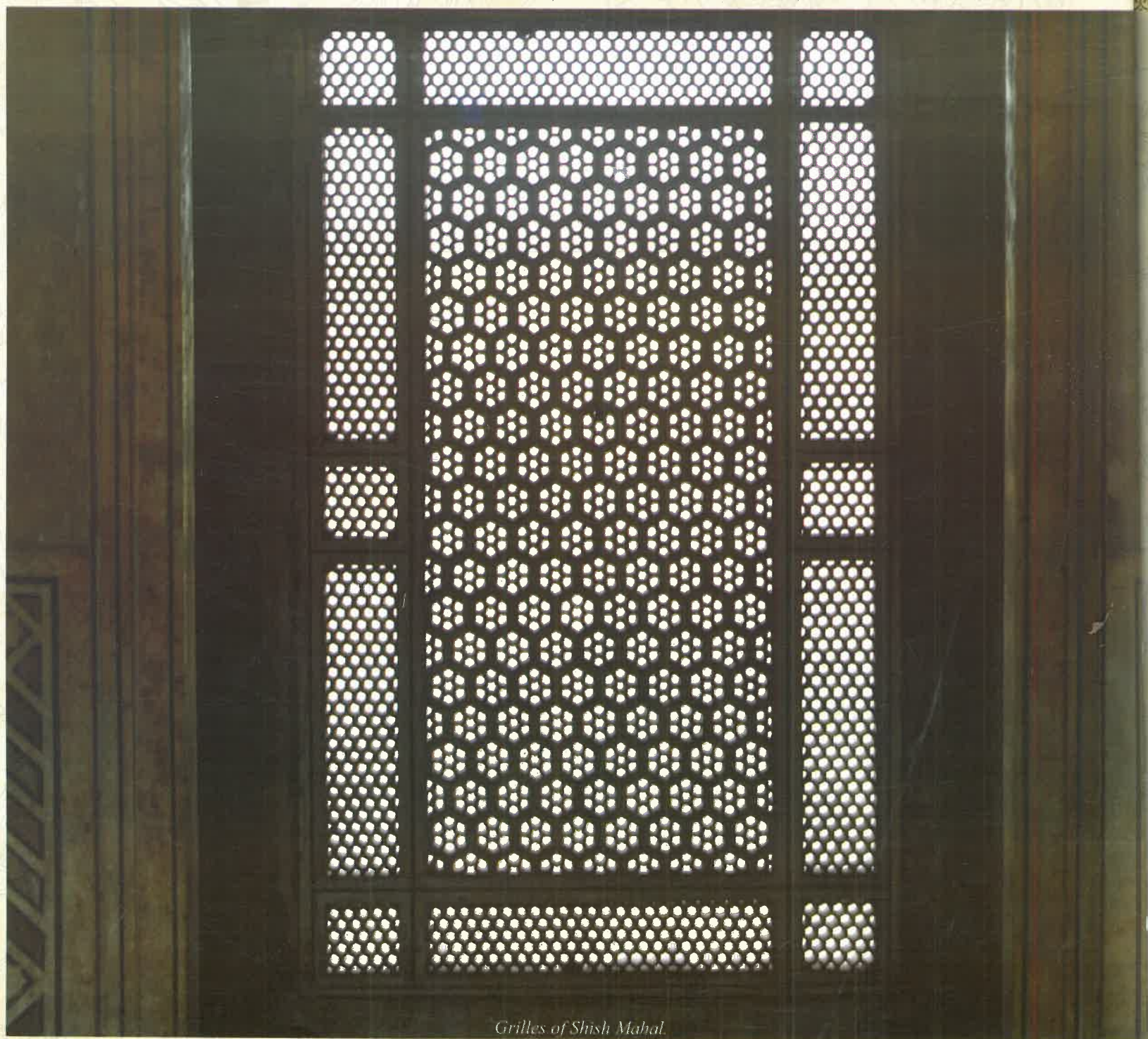
The main hall is huge and rectangular in shape, measuring about 67 feet 9 inches by 30 feet 6 inches. The roof height of the main hall is almost double storied whereas height of the rooms at the back, are half the height of hall. This large, fabulous hall is a simple rectangular structure having a single arched opening in the center of the front wall. This is the best example of glass work executed with great skills and accuracy, in stucco plaster along with gilding.

The chamber is internally decorated with variety of decorations of good quality. There are large rectangular panels covering three sides of the main hall replete with glass mosaics showing various floral, geometrical patterns along with trees, fruits and birds.

The three walls of the hall are decorated with small convex silver and coloured glasses starting from the dado level. Above the marble dado are two fresco paintings on the left hand and right hand side walls and eight frescos on the front wall. These fresco paintings are considered to be the work done during the reign of Ranjit Singh. Around the fresco paintings are delicate floral borders of glass mosaic.

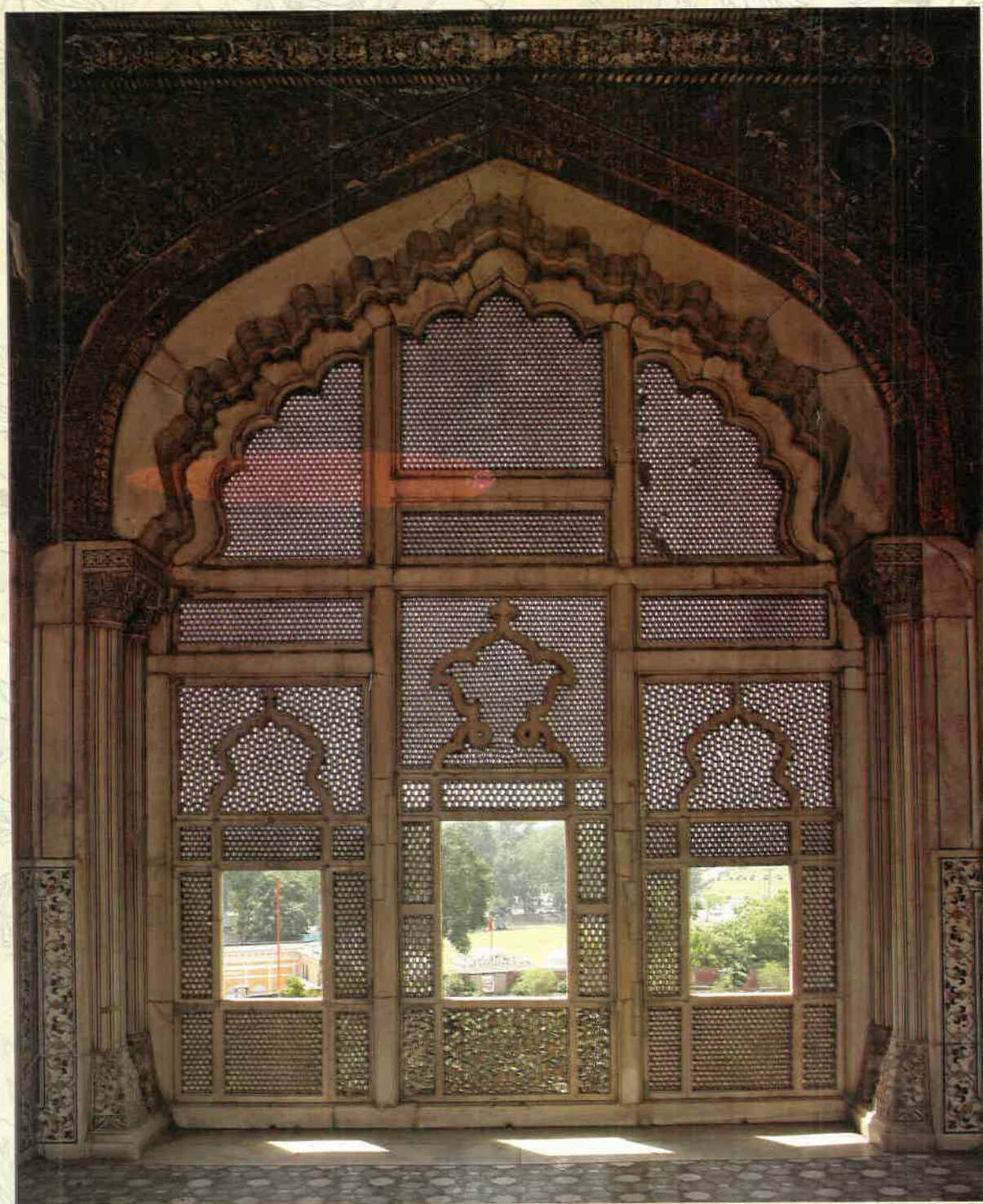
Above these paintings, the side wall has lavishly decorated rectangular panels in three levels. The first level contains five rectangular panels with recessed arches within it, similar to the multicusped architectural arches of the main hall. The second level contains five smaller rectangles showing flowerpots, empty vases, fruits and dishes. The third and the final level which touches the roof has nine small panels also showing floral arabesque motifs, flower pots, vine glasses and fruits but are different than those shown in the first two levels.

The hall has six rectangular panels on each side of its axis. These panels are arch shaped like the side walls. Above these panels twelve small rectangle panel are designed along with twenty five smaller panels touching the roof.



Grilles of Shish Mahal.





*Perforated
marble screen at
Shish Mahal.*





WOODCRAFTS OF LAHORE WALLED CITY

INTRODUCTION

Walled City of Lahore possesses most valuable heritage in form of extraordinary historical masonry works, doors, windows, and wooden balconies as regular feature of many buildings. This treasure is unique and priceless. In the urge to explore and investigate this treasure of wooden balconies in *Andrun Bhati* Gate this study is conducted. Analyzing historical structures of these wooden balconies there are number of causes that are affecting adversely this valuable heritage. Several reasons of structural decay are documented in this paper with an elaborate description of decorative features of these balconies.



Artisan at work.



An exclusive product.











Area of study is *Andrun* Bhati Gate, which includes some *muhallah/s*, *kucha/s*, *Andrun* Bhati Gate Bazar and Bazar-i Hakiman. This is mandatory describing here that word '*Andrun*' which is used repeatedly in address of houses and text means 'inside'. This area is generally called *Andrun* by locals so it is obligatory to write it this way so that the balconies can be easily located.

Balconies that are located in main bazar are mentioned with directions as *Andrun* Bhati Gate Bazar and Bazar-i Hakiman. Other balconies that are located in *muhallah/s* or *kucha/s* are mentioned with *Andrun* Bhati Gate.

Visually captivating balconies of *Andrun* Bhati Gate reveal the taste of makers and the owners of the houses. These balconies embrace unique ornate features on traditional structural components. The design of wooden





balconies is predominantly challenging since balconies are applied with structural fundamentals. Either a balcony is designed with intricate design details or just with simple geometrical shapes and motifs; a conscious effort of design and symmetry is prevalent in every structure.

It is important to ensure a high level of conservation of these existing balconies before they lose remaining features. Damages that are happening due to ill maintenance would not have been occurred if the understanding of root cause is kept in mind. However, shortage of skilled artisans for urgent problems is also a major cause of such loss.

Illegal encroachments have ruined the real design and planning of Walled City where residential houses were beautifully adorned with rich masonry facades possessing magnificent wooden balconies and doors. Current



circumstances have compromised the beauty of centuries old buildings. Physical decomposition of many architectural structures and the demolition and rebuilding in the Walled City are continuously losing its historic ground. The enduring global profits of cultural heritage are often low-priced against openings for instant domestic economic development. Instead of conservation of valuable heritage many historical features are torn down for modern constructions and what is left is not preserved carefully. Remaining living heritage is neglected or surrounded by inadequately designed commercial development. This commercial development has brought irreversible loss to this heritage.

Lahore is the traditional capital of the Punjab, a rich, agricultural zone made more fertile by a network of irrigation canals. It is situated on the left bank of Ravi River, one of the five rivers that give the Punjab its name, with the







walled city on an ancient mound in its north quadrant. We do not know what the precise limits of the city of Lahore are today. Once 'Lahore' lived only within the walled area. During British period it brought Muzang, Mughalpura and Mianmir into its municipal and cantonment limits. But, today Lahore has encompassed a vast area between Jallo and in the east to Shahdara in the west and from Kot Khawaja Saeed in the north to Muhlanwal and Raiwand in the south and south east. And still, it is ever-expanding and enlarging in all possible and permissible directions-particularly towards south.

No one knows history that how old is Lahore. The available historical record is insufficient and the archeological statistics are inadequate and full of loopholes. The popular notion that Lahore derives its name from Lov, Loh or Lava, the son of the celebrated Raja Ramchandra, does not emerge in the historical documentation until 1695-96 (when a Hindu historian Sujan Rai







mentioned it in his *Khulasat al-Tawarikh*, The consent among historians is that Lahore unquestionably predates by numerous centuries the occupation of the area by Mahmud of Ghazna in the early year of the 11th century, but it is not assured by how long. The imperfect excavation conducted in 1959 inside the Lahore Fort and the *Haveli* of Dhayan Singh in the Said Mitha Bazar allowed to broaden the history of Lahore city back to the 6th century, unless some new verification come to light from excavations at latent sites.

The earliest genuine written resources from pre-Muslim times pertinent to the history of Lahore dates from 982 AD in an unidentified geographical treatise, the *Hadud-i Alam*, Lahore is mentioned as a *shihr* (town) inhabited by infidels with several districts, markets, temples, and orchards.

Lahore has witnessed in the past countless historical and cultural shocks







through assaults, conquests, settlements, immigrations as well as evacuation. It has many settlements scattered all over the city, the name of which reflect their diverse origin in geography and races- or their divisions into different groups pertaining to different professions particularly those devoted to crafts and arts. The hierarchies of political power, social status, caste, and calling were visibly represented in its substantial arrangement, whose pattern of urban spaces and street system was comparable to those of other customary cities in the Middle East and South Asia.

Various cultural invasions and inroads never took the intelligence, humour and hospitality out of the people of Lahore. They always received outsiders open heartedly, allowed them to establish their separate localities, either according to their mores of geographical origins such as Mughalpura, *Muhallah Kashigaran*, *Muradabadi* colony, or according to their ethnicity







such as *Muhallah Kakkezaian*, *Takiya Sadhuan*, *Bhati Darwaza*, or even according to their occupation such as *Baghbanpura*, *Thaihi Malahan*, *Muhallah Chabak Swaran*, *Bazar Patang-Sazan*, *Muhallah Rang-Raizan*, *Muhallah Pat-Rangan*, *Qahairah Bazar*, *Dabbi Bazar*, *Muhallah Kundi-Garan*, *Muchi Darwaza*, *Muhallah Şahafan*, *Muhallah Kaghaz-Sazan*, *Gali Patulyan*, *Suha Bazar*, *Bazar Dalgran*, etc.

During the Mughal period, the Walled City seemed to have developed and extended south east and west from the focal point of the Fort, where all the palaces and *haveli/s* of the rich were located, ordinary people- craftsmen, artisans and merchants- lived further away. Except for the forty years of Maharaja Ranjit Singh's rule, the period from the forth decade of the 18th century until the annexation of the Punjab by the British in 1849 was one of pillage and anarchy. Little was built, and entire *muhallah/s* was destroyed. After this destruction, reconstruction wrought change, and with it an indifference to historic buildings and their maintenance, a situation that has continued unabated to this day. Lahore city walls were destroyed by the British shortly after they annexed the Punjab in 1849. Access to the Walled City is still joined through 13 gates. Starting with the main gate between the Fort and the Walled City in the north and progressing clockwise, they are named: *Raushni*, *Masti*, *Kashmiri*, *Shairanwala*, *Yakki*, *Delhi*, *Akbari*, *Muchi*, *Shah Almi*, *Lahauri*, *Mori*, *Bhati*, and *Taksali*.

A new settler may come from any part of the country, he may belong to any society, speak any language and even many communicate a different faith, Lahori/s have always been welcoming their guests who arrived here for a momentary visit or for a permanent stay without any let and interference and without any prejudice- racial, religious or linguistic. Lahore possesses many exceptional features, that deserve the consideration of both the architectural historian and the urban conservator. Its architecture reflects both its imperial

and its regional history. Many rulers of Lahore have encircled the ancient Walled City within arrangement of impressive monuments to their power and taste.

Old Lahore with its tapered, crowded dark lanes, decaying historic *haveli/s* (mansions), *takiya/s* (Community centers), and *baithak* (large living room of wealthy people) and a large number of mosques point to a sharp dissimilarity to modern housing scheme and buildings, complexes, super markets and boulevards, which have sprung up all around the Walled City during the past five decades. Within the Walled City, one moves along a complicated road system that defines the nature and extent of the different localities. These can be ranked according to a hierarchy descending from the main “spine” (*guzr*) to the “neighbourhood” (*muhallah*) and finally the Individual Street or cul-de-sac (*Band-gali*).

Today the Walled City is a densely packed habitation for some 200,000 persons living in 2.5 square kilometers (including the Fort), with around 120 kilometers of streets and some 20,000 buildings. The buildings were mainly residential commercial, service or carriage houses (*Twailah*), and social and religious (mosques, *Imambargah* shrines, temples, Gurudawara, Dharamshala, marriage houses), punctuated by open square and gardens.

Among the more outstanding examples of Mughal architecture in the Walled City was the great *haveli/s*. The prodigious economic and political power of their owners is expressed in their awesome size. While the average house of the rich merchant in the Walled City might have occupied a ground area of about 200 to 300 meters each, all of it built upon, an average *haveli* of the nobility during the height of Mughal rule could cover as much as 2 to 3 hectors. Although there must have been earlier prototypes, the earliest of the surviving *haveli/s* date only to Akbari period. Those built in Akbar's

time and during the region of Jahangir were all close to the Fort. However in the period of Shahjahan the largest of them were built chiefly in the *Raṛṛa Maidan*. A number of these buildings in Walled City present remarkable architectural elements of inestimable value.

WOODEN BALCONIES ANDRUN BHATI GATE

The affluent architectural character of Walled City is notable by its Mughal and Colonial constructions with porches, galleries and balconies. In these buildings balconies are characteristically noticeable elements of construction. Wooden balconies in Walled City building constructions are key elements in determining its style, and play a noteworthy role in its appearance and that of the cityscape.

Historically, balconies were an extended or projected space outside room where house owners sometimes could find a secluded alteration into their buildings. These are exterior living space, and a place to meet and communicate with neighbors and greet visitors from above. Their overhangs also protect windows and doors below from direct sun and rain, allowing them to stay open during rains.

Many wooden balconies of Walled City have been disappeared with the course of time and we do not find any remains of them and many houses have been transformed into modern construction of concrete. These balconies have a valuable manipulation, not only for the interior, but they are an attractive part of the streetscape. In view of the fact that wood structures in exterior applications are subject to weathering and high moisture levels which is another factor in this loss. And presently poor alterations and replacements in original designs are unavoidable due to the negligence of owners or tenants residing in these buildings. This is highly important to raise awareness of the historical value and preservations of this rich cultural

heritage of Walled City to be secured.

Bhati Gate is the area of focus for this research and to raise a few dialogues of worth importance a few other balconies from modern localities have also been added to highlight some contemporary trends in installation of old wooden balconies in modern houses.

Name of the Bhati Gate is derived from the Rajput Bhat/s, or Bhatiya/s, later to be called Bhattis, who were the original rulers of Lahore. These Rajputs still live in the villages to the west of Lahore right up to Sheikhupura. While passing through Bhati Gate Bazar, known as Bazar-i Hakiman one can observe adversely affected traditional balance of residential and non-residential use. Majority of residential houses are either completely in commercial use or sometimes the ground floor is transformed into shops. In one house many families are living mostly belong to labour class. This is the reason that a residential zone is showing vulnerability to expanding commercial pressure. Commercial use requires amendments and alterations as per the requirement of business. These alterations and new constructions are modifying original designs and this is the reason houses are not in their original form any more. If the historical, cultural and artistic heritage is to be preserved for



Jharoka in Walled City, Lahore.

our coming generation then this is high time to apply basis improvements to save decay and destruction which is speedily changing the real essence of walled city culture.

In Bhati Gate Bazar a number of buildings towards Bazar-i Hakiman and Tibbi Bazar have projected wooden balconies. Entering from Bhati Gate heading towards north is main bazar famously known as *Andrun* Bhati Gate Bazar. Continuity of this bazar leads to Bazar-i Hakiman and further directs towards Tibbi Bazar. This main bazar gives access on both sides to a number of gali/s, muhallah /s, twailah/s and kucha/s. Some of them that are focused for the study of wooden balconies are, *Muhallah Islam Khan*, *Gali Makhzan wali*, *Muhallah Chawmalan*, *Muhallah Ghauthiyah*, *Nur Muhallah*, *Twailah Shaikhan*, *Muhallah Jalukian*, *Muhallah Pat-Rangan*, *Muhallah Jalutian*, *Gali Maai Gulabu*, *Kucha Munshi Ladhdha*, *Kucha Kababiyani* (band), and *Jaugi Muhallah*.

Wooden balconies of several houses are normally extended from the face of the building, generally 76cm to 1.21 meters and typically do not include an extended roof structure above rather a separate projection of wood covered with corrugated tin sheet to protect it from climatic effects. These balconies act as outdoor corridors frequently on one level and infrequently on two levels across the facade, supported by columns or posts. In some cases, galleries are protected by an extension of main building roof whereas frequently with a separate extended roof of wood applied by corrugated tin sheet.

These wooden balconies are made up of many components. These components work all together to complete an incorporated and amalgamated visual, corresponding to architectural and structural principle that is attribute of a building's type and style. It is important to communicate that all

balconies do not have all components rather they vary in style and design. Most common components are roofing, ceiling, frieze, wood ornaments, flooring, privacy screen, balustrade, columns or posts, or brackets. Areas covered by a balcony included windows, doors and wall surface which require less maintenance, nevertheless components of balcony require regular maintenance due to exposure to sun, wind and rain.

A HOUSE IN MUHALLAH ISLAM KHAN, GALI SHER DIL, ANDRUN BHATI GATE

Muhallah Islam Khan, *Andrun* Bhati Gate, was an area of great political importance before partition due to the center of Muslim community. House # B/217 in *Muhallah* Islam Khan, *Gali* Shar Dil famously known as *Makhzan* House and *thakaidaron ki haveli*, is owned by a family of great political



A surviving gallery.

standing who participated in Pakistan Movement. In 1940 this house was declared as Muslim League house. The house was also honoured due to the publishing of *Makhzan* magazine where Maulana Abd al-Qadir Azad and Hafiz Jalandhri were editors. Building of the house is approximately 400 years old, covering an area of roughly one kanal and possesses unique woodworks and stained glass adorning interior of the house and also includes a well preserved wooden balcony which is titivating the main facade of the house.

Length of the balcony is approximately nine meters and width is 76cm. Height of the balcony from front is 2.43 meters and from the edge attached with wall is 2.59 meters developing 16cm slopping roof. Ceiling of the roof is made of wooden planks joining with the frame of louvers. Wooden bars of louvers are always angled which let light and air come in but keep out rain, straight sunshine, and noise. Whole structure of the balcony is painted in light blue as one of the best ways to protect wood features is standard painting but sometimes disproportionate over layering of paint destroy the details of the delicate wood carvings.

Front of the balcony is divided by five big and four small multi-foil arched openings supported with chamfered posts. These chamfered posts are redecorated with a vase shaped base. Decorative wood elements such as frieze fret work or spandrels adorned with visual concentration and are préciised to a building's style and period of construction. Spandrels of these chamfered posts are decorated with carved flower and leaves pattern drawn symmetrically on both sides of big openings whereas small openings have three divisions of carved motifs to bring a different design balance. Upper section of these openings has sets of louvers in each section. Bigger openings have four sets and small openings are with two sets of louvers. Above these louvers is saw toothed frieze which is beautifully carved with delicate symmetrical geometric patterns.

Area above frieze is cornice which is divided into two running grooves. Simplicity of the frieze in appearance adds grace to the balcony and brings a balance to the structural design. Furthermore, roof of the balcony is covered with corrugated tin sheet to save wood from weather effects specifically rain water. Though balcony is well preserved but some of the components are deteriorating and require repair and regular maintenance such as joints and decorative fan shaped fringes of projection. Lower section of the columns is fixed balustrade divided by symmetrically set grooved compartments in square and rectangular shapes. Exterior of these compartments is decorated with fine grooves however inner side has flat divisions without any decorative elements and reveals over layering of paint that was applied during years. Sophistication and simplicity in design divisions and motifs applied to balcony add grace to the whole structure and giving it a remarkable appearance.



Oil on canvas by Nazir Ahmed (TI)

PADHANA

ITS ENVIRONS AND MONUMENTS

The road that goes to border, now called Burky Road was previously known as Harike Hadiara Road. The town called Ghawindi is situated in this area (Padhana situated north of Ghawindi while another important location Jahman is in the south of Ghawindi), this town gained prominence during the India Pakistan war of 1965. For reaching Padhana one has to take Burky Road and proceed straight eastward. After crossing BRB canal you will reach Burky, the next place is Hadiara and after Hadiara the road turns towards left and there is Padhana. The town of Padhana is situated just on the border. If you throw a stone eastward, it will fall in India.

But if, after crossing the BRB Canal, you turn right after some distance you will meet another road coming from Lahore, join this road and turn left. Now you will reach three large villages, if not towns, namely Chahal, Haier and Jahman. These three places also have important mementos of the great bygone days.

In Padhana there is a stately building which is known as Sardar Sardaul Singh's *Haveli*. Nearby is another majestic building housing a school in it. There is a *tavela*, a hospital and some tomb buildings also in this area. The *tavela* was in the ownership of four sikhs. Southern portion was owned by Sardar Narain Singh, northern portion was in the ownership of Sardar Ranjeet Singh, eastern portion was the property of Sardar Sardaul Singh and western sector of the *tavela* was in the possession of Sardar Gurbachan Singh. By this division it seems that *tavela* was a fairly large monument. Unfortunately no book on architecture of this area throws any light on the architectural remains of this area.



Main Gurudwara at Padhana, Lahore.

TAVELA (ALSO TABELA)

The term *Tavela* or *Tabela* is derived from a Latin word *stabulum* and French *etable* for building or enclosure where horses or cows are kept. 'Stable' the English word has the same source or origin. The Urdu word *astabal* has the same source. *Tavela* or *tabela* are also derivatives of stable.

The *Tavela* of Padhana was no doubt meant for horses, mules, cows and donkeys but it had many other functions as well. The *Tavela* of Padhana was in fact a small fortress. Besides the animals mentioned above it had provision for keeping two elephants also. On south-eastern and north-eastern extremities of the façade of this stable or fortress were built octagonal high kiosks. These kiosks were used by the watchmen who watched the surrounds day and night. Behind the eastern wall of this building there were two large two-storied rooms, opposite these rooms was a huge veranda. The total area



Surviving portion of Haveli, Padhana, Lahore.



*Surviving portion of Haveli,
Padhana, Lahore.*

of *Tavela* was about one square (*murabba*). Within this *Tavela* was placed a contingent of soldiers called *Rasalah* locally and the commander of this contingent was called *rasalahdar*.

On entering the *Tavela* one could see a huge two-storied structure called *Malkhana*. It was the revenue office and the treasury of Padhana. The area for collecting revenue was up to Kasur. The money was generally brought on horses or bullock-carts. At that time there were no paper notes or currency and silver coins of different denominations were in vogue. The Paper Currency Act was promulgated in 1861 that gave the Government the monopoly to issue notes throughout the vast expanse of British India, which was a considerable task. Eventually, the management of paper currency was entrusted to the Mint Masters, the Accountant Generals and the Controller of Currency. This was the period of Sardar Jawala Singh, who was a brave





strong man and believed to have killed three lions with his *kirpan* (a small dagger). It is believed this *Tavela* belonged to him. This building of the fortress-like Tavela was amongst the most elegant buildings of Padhana.

Origin of Padhana is shrouded in mystery. The etymology of Padhana is not known either. Based on some hypotheses and heresay hundreds of years ago a race of people by the name of Padhay or Padday lived here. Rearing of animals like buffalos, cows and goats was their main chore. Where from these people came and why they came here no one knows. Some residents, however, believed that these people had come from Sindh side.

Padhana was considered one of the largest villages of Punjab and it existed about 500 years ago and at that time a person by the name of Changa or Chinga was the head of the people. He was a very influential and powerful Chaudhry. He was also the chief (*sarpanch*) of some forty Jats, Chaudhris and sardars. At that time in Padhana there were 35 Jat and 36 Rajput families. With so many people living in Padhana and with a fine architectural heritage it would not be right to call this inhabitation a village, if not a city it was certainly a big town.

There are extant signs that Padhana had a police post, a jail, a civil court, schools for boys and girls, mosques, a mandir, a gurudwara, a veterinary hospital, a post office, a bus-station, offices of town committee, fruit and vegetable market, a large *kohlu*, flour mills, ginning mills, rice-husking machines and clinics of doctors and *hakims*.

Kohlu is a small device used for extracting oil from various kinds of seeds. For example the oilseeds and subsequently the expressed oil are held in a scooped circular pit in the exact centre of a circular mortar made of stone or wood. In it works a stout, upright pestle which descends from a top



Oil on canvas by Nazir Ahmed (TI)



A section of Haveli showing designs in cut brickwork.

curved or angled piece, in which the pestle rests in a scooped-out hollow that permits the pestle to rotate, eased by some soapy or oily lubricant. Today the single angled piece takes the form of two shorter pieces pinioned or chained together. The bottom of the lower angled piece is attached to a load-beam; one end of the load-beam rides around the outside of the barrel, while the other is yoked to the animal. The load-beam is weighted down with either heavy stones or even the seated operator. As the animal moves in a circular ambit, the pestle rotates, exerting lateral pressure on the upper chest of the pit, first pulverizing the oilseed and then crushing out its oil.

In Pakistan there are regional variations in *kohlu* design, which probably arose from the nature of the oilseeds that were regionally available for crushing. The large granite kohlus in some cases have a capacity of 35 to 40 kg, requiring two animals yoked side by side and two operators, one for

the animals and the other near the mortar. The load-beam is very long and curved and rides on a strong outer groove on the mortar. These *kohlus* have a life of four to five years, after which the pit is too worn to be useful. The wooden *kohlu* has a capacity of 8 to 15 kg, has an oil outlet at the base of the pit (which is kept plugged during crushing) and frequently has the operator seated on the load-beam. Some *kohlus* have a small capacity of only 5 to 10 kg per charge and is usually used to crush a mixture of rape and mustard seeds to yield a bouquet of flavours. The pit is small and the pestle is tall and has a stout base. The operation is prolonged so as to permit slow enzymatic liberation of several pungent alkyl isothiocyanates from the precursor glucosinolates in the prevailing warm, moist conditions. Punjab *kohlus* are of similarly small capacity but generally carry a short pestle.

The town of Padhana was a symbol of religious and caste harmony. Hindus, Sikhs, Muslim and Christians all enjoyed each others' festivals, they shared each others' sorrows and pleasures. Thus *Eid*, *Shabb-i Baraat*, *Holi*, Christmas, were all celebrated by all. Those were the great days of Padhana. However the low caste Christians had also formed a small enclave in the north of Padhana. At this place stands a health centre now. In the middle of the town was the civil court of Sardar Sardaul Singh. He was a magistrate of *darja-awwal* (category one). He had



Decay in progress.

the powers to send someone to jail for up to six months or a fine up to Rs. 500. Culprits preferred jail because money was scarce.

CHANGA, THE FOUNDER OF PADHANA

People of today's Padhana are convinced that the founder of Padhana was Changa. The distance of Padhana from Lahore is 40 kilometers (25 miles). The planning of Padhana is unique in many respects. A series of bazaars encircle the town while the main bazaar passes through the town. This bazaar was once bustling with activity. With the town becoming a border town all that activity is subdued now. There was a time when Padhana was considered a hub of commercial activity and people from far and wide use to come here for business.

A local writer of Padhana Abdul Rashid Mughal tells us a strange anecdote in his book *Padhana, Taarikh ke Aainay mein*. According to him one of the marriages of Mughal Emperor was solemnized in Padhana. The legend goes like this:

"Akbar, with his courtiers and elite happened to arrive in Padhana on his visit to Lahore. As he reached Padhana he saw some commotion among public. A well built calf had become unruly and unmanageable and was running helter skelter. The calf in the town was known as Maroo meaning attacker or killer using his horns. The youth of the town looked unable to catch and tame him. Akbar started watching the scene with interest. Unnerved by the scene a young village girl was working at a nearby well. She held her pitcher on her side and looked at the turmoil. She was totally unperturbed. As the calf passed by her she put her foot on the leash of the animal. Her foot-force was so much that the unruly calf could not move an inch further. The town people then seized the animal.



A blind window.

Akbar was so impressed by the audacity and beauty of the damsel that he then and there expressed the desire to marry that girl, eventually the marriage took place." This incident, if true, proves that Padhana existed at the time of Akbar (1542-1605).

Baba Lehna Singh whose mazar is situated in the north-east of the mazar of Pir Sayyid Abbas Ali Shah bin Pir Sayyid Shahswar embraced Islam taking oath at the hand of Emperor Jahangir (1605-1627). Baba Lehna Singh had two sons and the grand-children and great grand-children of one of them are still living in Padhana. These people are known as Chachar Lohar now. They have established their work-places opposite the main gate of Devi Dawara. The name of the other son of Babaji was Barkhurdar. His children moved to Lahore's walled city. Ghazi Ilm al-Din Shaheed (1908-1929) is believed to be from the seventh generation of Lehna Singh. Ilm-ud-din lived in Lahore



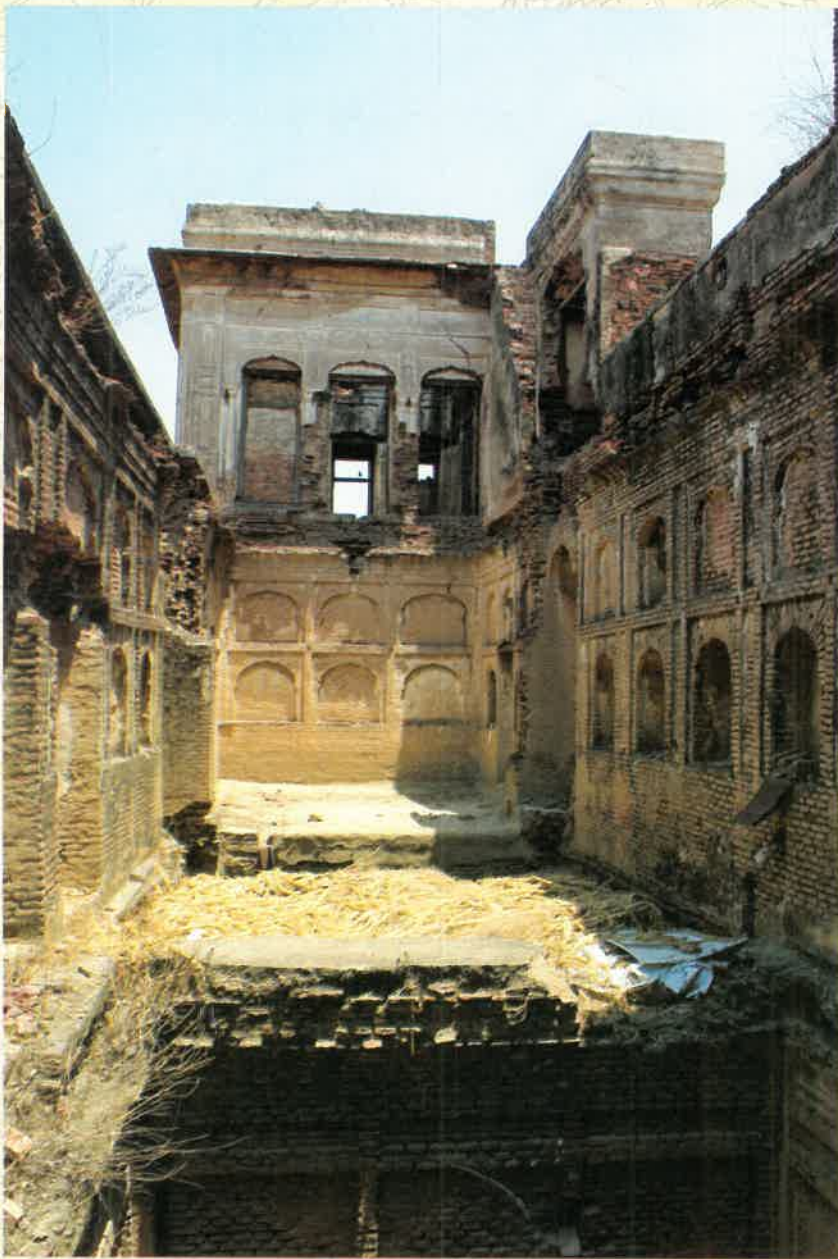
Heritage under threat.

in British India, where he worked in his father's carpentry shop. One day he and a friend, Abdul Rasheed, were passing the Wazir Khan Mosque when they witnessed a crowd shouting slogans against Mahashe Rajpal. Ilm al-Din decided that he would kill Rajpal with a dagger. He bought a dagger, hid it in his clothing and stabbed Rajpal at his shop on 6 September 1929. He was then overpowered by the general public and arrested by the police. Ilm al-Din was sent to Mianwali Jail, where on 4 October 1929 he was ultimately hanged. He thus became a '*shaheed*'. His house still survives in the walled city though in a dilapidated state. "Ilm-ud-din was hanged and then buried without the *Janazah* prayer in front of the jail. Intervention of scholars such as Allama Muhammed Iqbal, Mian Amiruddin and Mian Abdul Aziz caused the Muslims to be allowed to retrieve his body for reburial in Lahore on 14 November 1929. Some sources say that these scholars performed the reburial, although this is doubtful. What is known is that upon asking, Allama Iqbal refused to lead the procession."



GIRDLE WALL OF PADHANA

It is believed that all around the town of Padhana a girdle wall was built. The exact height of the wall is not known. Till recently some relics of this wall were extant near Sayyiday ki Patti and Bagh wala Khoooh. The brick used for the construction was of small size not resembling the Mughal brick, it was known as Nanak-shahi brick. *Haveli* of Sardar Amanullah Khan and *Tavela* of Sardar Sardaul Singh were built of the same brick. This variety of brick tiles were of moderate dimensions and could be used for reinforcing lime concretes in the structural walls and other thick components. But, as they made mouldings, cornices, plasters, etc. easy to work into a variety of shapes, they were more often used as cladding or decorative material. More often than not, the structures on which they were used, especially the Sikh temples (Gurudwaras), were a combination of two systems: trabeated and post-and-lintel, or based on arches. The surfaces were treated with lime



or gypsum plaster which was moulded into cornices, pilasters, and other structural as well as non-structural embellishments. Brick and lime mortar as well as lime or gypsum plaster, and lime concrete were the most favoured building materials, although stone (such as red stone and white marble) were also used in a number of shrines. Many fortresses were built using such bricks.

Nanak-shahi brick was most commonly used for its intrinsic advantages. They were decorated bricks. The Nanak-shahi brick was a slim brick of 6x4 x1.25. Traditional small bricks that were burnt with timber and cow dung were far superior in strength and more resilient than the conventional bricks. This brick was used judiciously as column cladding, as joints between the block and column, in the three centered arches and even in the windows apart from being used in the roof in different patterns.

Nanak-shahi bricks were kind of brick tiles of moderate dimensions used for reinforcing lime concretes in the structural walls and other components which were generally very thick. The brick-tile made mouldings, cornices, plasters, etc., are easy to work into a variety of shapes. More often than not, the structures,

especially the Sikh temples (*gurudwaras*) were a combination of the two systems, viz, trabeated or post-and-lintel, and arcuated or based on arches. The surfaces were treated with lime or gypsum plaster which was moulded into cornices, pilasters, and other structural as well as non-structural embellishments.

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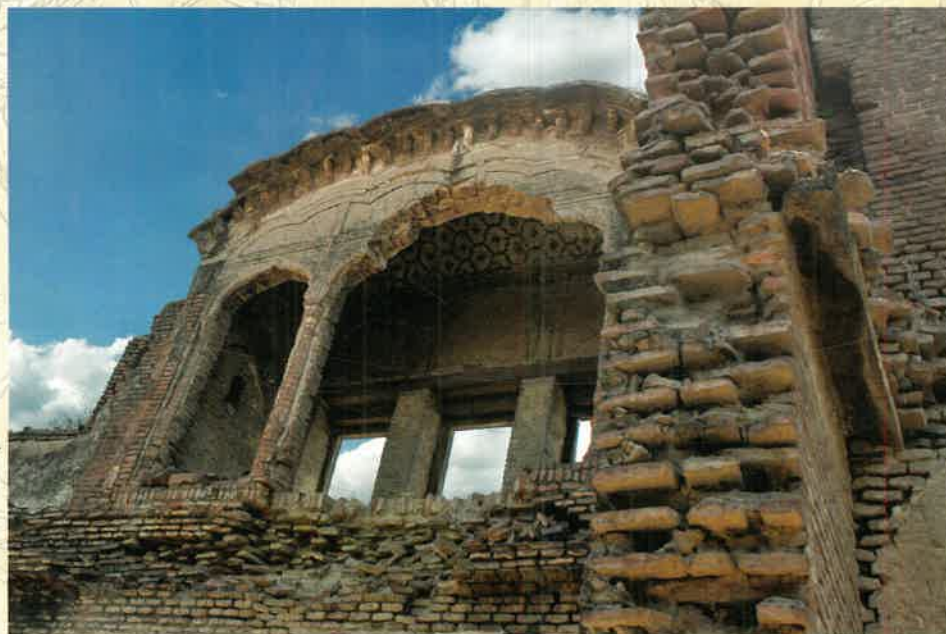
GATES OF PADHANA

It is believed that the town had a massive wall around it in the tradition of all well-known large cities of the past. This girdle wall had four gates and each was 20 feet wide and thirty feet high. If this is to be believed that would make the height of the wall more than thirty feet. The doors of the four gates were all made of 5-inch thick wood. Each door had a small window or mini-door within it. When the gates were shut only these mini-doors acted in any emergency entrance or exit.

As already said the wall had four gates and windows or a small doors within them. Their brief detail is given here:

1. *Darwaza Bagh wala Khooh*. This gate was also known as *Sayyiday ki Patti* (*patti* = a sector or a *muhallah*). This was the main gate and most





Decorative work inside the top pavilion.

of the traffic operated through it. It had a third name i.e. *Do Burji wala Darwaza* meaning a gatehouse with two turrets (burj or small dome).

2. *Chheenay wala Darwaza*. There is a small village across the border called Chheenay Wala, since this gate faces Chheenay Wala it became known as Chheenay Wala Darwaza. It was a custom in olden days to name the city gates according to the some well-known place or places it faced or after the name of a saint or something with the place where gate is located, thus Walled City of Lahore has Kashmiri Gate facing Kashmir, Delhi gate facing Delhi, Shah Alami Gate after the Mughal ruler Shah Alam and so on.
3. *Suhlaan Wala Darwaza*. This gate was located in the vicinity of the *darbar* of Pir Sayyid Shahswar, father of Pir Sayyid Abbas Ali Shah.



This gate is also known as *Deepe Wala Darwaza* because it was situated in *Deepe ki Patti (muhallah)* area.

4. *Nowshehray Wala Darwaza*. This gate also important like the *SuhlaanWala Gate* and *Chheenay Wala Gate*. An Indian village by the name of Nowshehra is located just opposite this gate. The gate was located in *Sarjay ki Patti (muhallah)*. From this gate a passage leads to a village called Ghurki. Ghurki is also a caste now.
5. *Mori Gate*. This *mori* was in the area of *Shamsay di Patti* and in the north-western side of the Gurudwara. Opposite this *Mori* is an old and large graveyard, the graveyard has the grave of Baba Pir Jahaniyan in it. It is worth mentioning here that among the gates of Old Lahore there is also a gate called *Mori Gate*. Located between the Lohari Gate and Bhati

Gate, the “Mori Gate” is the smallest of the gates of the walled city. This gate was used to remove the waste and disposal material from the city. Mori Gate was never considered an official gate, but the residents of Lahore considered it to be the 13th gate.

6. The Moat. It is also believed that around the girdle wall there was a moat as well for the protection of Padhana and people of Padhana. A moat is a deep, broad ditch, either dry or filled with water that surrounds a castle, fortification, building or town, historically to provide it with a preliminary line of defence. In some places moats evolved into more extensive water defences, including natural or artificial lakes, dams and sluices. In older fortifications, such as hill-forts, they are usually referred to simply as ditches, although the function is similar. In later periods, moats or water defences may be largely ornamental. The word was adapted in Middle English from the old French *motte* “mound, hillock” and was first applied to the central mound on which a castle was erected and then came to be applied to the excavated ring, a “dry moat”. The shared derivation implies that the two features were closely related and possibly constructed at the same time. The term moat is also applied to natural formations reminiscent of the artificial structure, and to similar modern architectural features.

HAVELI SARDAR HARCHARAN SINGH

This *haveli* is now known as *Haveli* Sardar Nasrullah, Raees-i Padhana. *Haveli* is the term used for private mansions in India and Pakistan, usually one with historical and architectural significance. The word *haveli* is derived from Arabic *haveli*, meaning “an enclosed place.” They share similar features with other mansions derived from Islamic Architecture such as the traditional mansions in Morocco called *hawli*. Many of the *havelis* of India and Pakistan were influenced by Rajasthani architecture. They usually

contain a courtyard often with a fountain in the centre. The old cities of Lahore, Multan, Peshawar, Hyderabad in Pakistan Agra, Lucknow and Delhi in India have many fine examples of Rajasthani-style *havelis*.

This *haveli* is four-storied surrounded by a boundary wall six feet high. The frame of the main gate is made of red sandstone. The *haveli* is equipped with numerous rooms, big and small, stair-cases, dalans, and a variety of verandas. In 1960 the *haveli* was in extremely good condition when I saw it last. Several rooms had elegant frescos and stucco decorations reminiscent of the Sikh era. Ceilings were all made of wood having a unique style called *sandugchi chhat*. It is believed that an elephant was sacrificed before the construction of this *haveli* started. This elephant was then buried within the *haveli* area.

At the top of the building there were *mamtis* on each corner. *Mamti* is a vernacular term for a singular room which is built atop a building. It is like a garret. Garret is usually small and unpleasant room or space area just above the roof of a building. These *mamtis* served as the *hawa-mahals* for the *haveli* and they may have been used as watch towers also.

In the courtyard had a well, huge in size that supplied water to all the needs of the *haveli*. This has been earth filled now but a small plaque in memory of Sardar Harcharan Singh is still in situ. The *haveli* had a huge basement also, from the basement a tunnel-like passage went up to a well. Though the basement was dark but as one approached the end of tunnel close to the well there was some light. I believe this was a kind of *baoli*.

Baolis or step-wells are certainly one of Indo-Pakistan's most unique, but little-known, contributions to architecture. They influenced many other structures in the sub-continental architecture, especially many that

incorporate water into their design. Interestingly, Ram Bagh in Agra was the first Mughal garden in India to have a *baoli*. It was designed by Mughal emperor Babur and reflected his notion of paradise not only through water and landscaping, but also through symmetry by including a reflecting pool in the design. Naturally, he was also very entranced by step-wells and felt that one would complement the garden of his palace and built a *baoli* in Agra Fort. Shalamar Bagh at Lahore had a *haveli* too that has been earth-filled now. Rohtas Fort near Jhelum has as many as three *baolis* in it.

This basement was not without elaborate decoration. Every nook and corner has some kind of embellishment. Close to the well there was an elegant fountain with a trough. How this fountain functioned and how its water was disposed of no one knows. In the western wall of the basement there are *raushadans* in the form of machicolations. Outside their openings are just four or five-inch square but inside they are high and wide.

Sardar Harcharan Singh (later Sardar Nasrullah) had three sons from his wife Kartar Kaur. Maan singh was born in 1904, Harnam Singh in 1909 and Hardhayan Singh in 1916. In tears in their eyes, they all left for India in 1947. Sardar Harcharan Singh from his second wife Channan Kaur famous as Bibi Channu, only son Sardar Amanullah was born on March 9, 1937. He died on September 2, 2010.

According to a rough estimate the *haveli* covered an area about 6666 sq.yards on ground. During the two wars of 1965 and 1971 the *haveli* was ruthlessly plundered. Today it is in near shambles.

HAVELI GAGGU BUHIYYAN

Till 1947 this *haveli* was known after the name of Sardar Naunihal Singh. Naunihal Singh was son of Jaswant Singh the son of Sardar Narain Ningh. The outer periphery of this *haveli* started from the Town Committee building of Padhana and went up to the *Haveli* of Sardar Harcharan Singh (Sardar

Nasrullah). The *haveli* comprise four storeys and had uncountable number of rooms, halls, *dalans*, verandas, raushandans and flights of staircases.

In the main courtyard there was a big platform some two feet high. This was meant for the visitors and devotees to sit on and relax. An amazing feature of this *haveli* was its *khuee*, a small well. It was so built that its shaft or cylinder was connected to all the four levels of the *haveli*. Keeping its depth or height (as seen from the basement) in view this small well to became known as '*Aasman wali Khuee*'. At each level of the *haveli* a window opened into the well and the water was pulled by virtue of pulleys.

GURUDWARAS OF PADHANA

At the time of Partition there were as many as 25 gurudwaras in Lahore district. One of them known as *Chheveen Paadshahi* Gurudwara was located in Padhana. Other gurudwaras were:

1. Gurudwara *Pehli Paadshahi*. This gurudwara is dedicated to Baba Guru Nanak Dev Ji. It was built by Seth Bhuni Chand who was a big business tycoon of that time. He also built a Dharamshala. This gurudwara is located in *Muhalla Kakkay Zaiyyan* also known as *Sariyyan Wala* Gurudwara.
2. Gurudwara Janam Asthan Ram Das, Choona Mandi.
3. Diwan Khana, Choona Mandi.
4. Baoli Sahib, Dabbi Bazar.
5. Lal Khuee, Mochi Gate.
6. Gurudwara Dera Saheb.
7. Gurudwara Chhaivin Padshahi, Muzang.
8. Gurudwara, Guru Mangat.
9. Gurudwara Dera Chahal.
10. Gurudwara Chhaivin Padshahi, Dhalwan.
11. Gurudwara Rori Sahib, Jahman.
12. Gurudwara Lahore Saheb, Ghawindi Border.



13. Gurudwara Chhavin Padshahi, Hadiara.
14. Gurudwara Maal Saheb, Kanganpur.
15. Gurudwara Guru Arjun Dev Ji, Baharwal.
16. Gurudwara Chhavin Padshahi, Rampura kalan.
17. Gurudwara Teesri Padshahi, Jhari Saheb, Targa.
18. Gurudwara Dukh naveran Saheb, Jambar Kalan.
19. Gurudwara Sangat Saheb, Bhai Pheru.
20. Gurudwara Chhota Nanakiana Saheb, Manga.
21. Gurudwara Pehli Padshahi, Dipalpur.
22. Gurudwara Nanaksar, Harrapa.
23. Gurudwara Thalumba, Makhdumpur and
24. Gurudwara Shahid Ganj, Lahore.

Gurudwara Padhana is situated right at the borderline. This was built by Guru Har Gobind. Whenever Guru Har Gobind traveled between Lahore and Amritsar he used to stay here. Guru Har Gobind was the sixth Guru of Sikh religion. In Padhana he had a fast friend called Jhallan and whenever the Guru visited Padhana he never forgot to meet Jhallan.

Initially this gurudwara had a simple structure but later on Sardar Attar Singh spent a lot of money to improve its building. The building is square in plan. The first level is about 10 feet higher than the surrounding ground. Each side has three windows in the middle of each side and two closer to the corners, thus there are five windows on each side. Above this is another four sided structure, each side of which is half the size of lower storey. Each side has three openings all three capped by one arched *chhajja*. Above that is beautiful bulbous dome, onion or melon-shaped, each of its segment is well defined. Atop is a usual inverted lotus formation that holds the beautiful finial.

DEVI DAWARA OF PADHANA

A small area within Padhana was once known as Devi Dwara. The word '*devi*' in Hindi is used for chaste, clean and religious lady. Inside Devi Dwara was a Hindu Mandir that had three statues within. Hindus and Khatri of the town used to assemble here every morning and evening. There was no religious activity during the day. Khatri is a caste from the northern Indian subcontinent and lived mostly in the Punjab region.

Khatri played an important role in India's Trans-regional trade during the Mughal Empire. They adopted administrative and military roles outside the Punjab region as well. Khatri were among the "most important merchant communities of early modern India."

All the Sikh Gurus were Khattris. Khattris consider themselves to be of pure Vedic descent and thus superior to other claimants to Kshatriya status, such as the Rajputs. Their standards of literacy and caste status were such during the early years of the Sikh community that they dominated it. Khattris were a warlike race, a claim further supported by their employment as soldiers by Mughal emperors. But if Khattris were once warriors, then, why they are found to be involved in merchant and scribe occupation. Khattris sources explained it as the act of Mughal emperors who terminated the services of Khattri chieftains as they moved against their order of widows remarriage. "The Khattris claimed with some justice and increasing insistence, the status of Rajputs, or Kshatriyas, a claim not granted by those above but illustrative of their ambiguous position on the great Varna scale of class divisions." Khattris claim that they were warriors who took to trade. The 19th-century Indians and the British administrators failed to agree whether the Khatri claim of Kshatriya status should be accepted, since the overwhelming majority of them were engaged in *Vaishya* (mercantile) occupations. There are Khattris that are found in

other states of India and they follow different professions in each region. The Khattris of Gujarat and Rajasthan are said to have tailoring skills like "*Darzi*" (tailor) caste. *Dasrath* Some writers describe Khattris as a mixed *pratiloma* caste of low ritual status but suggest that Khattris could be a mixed caste born of Kshatriya fathers and Brahmin mothers.

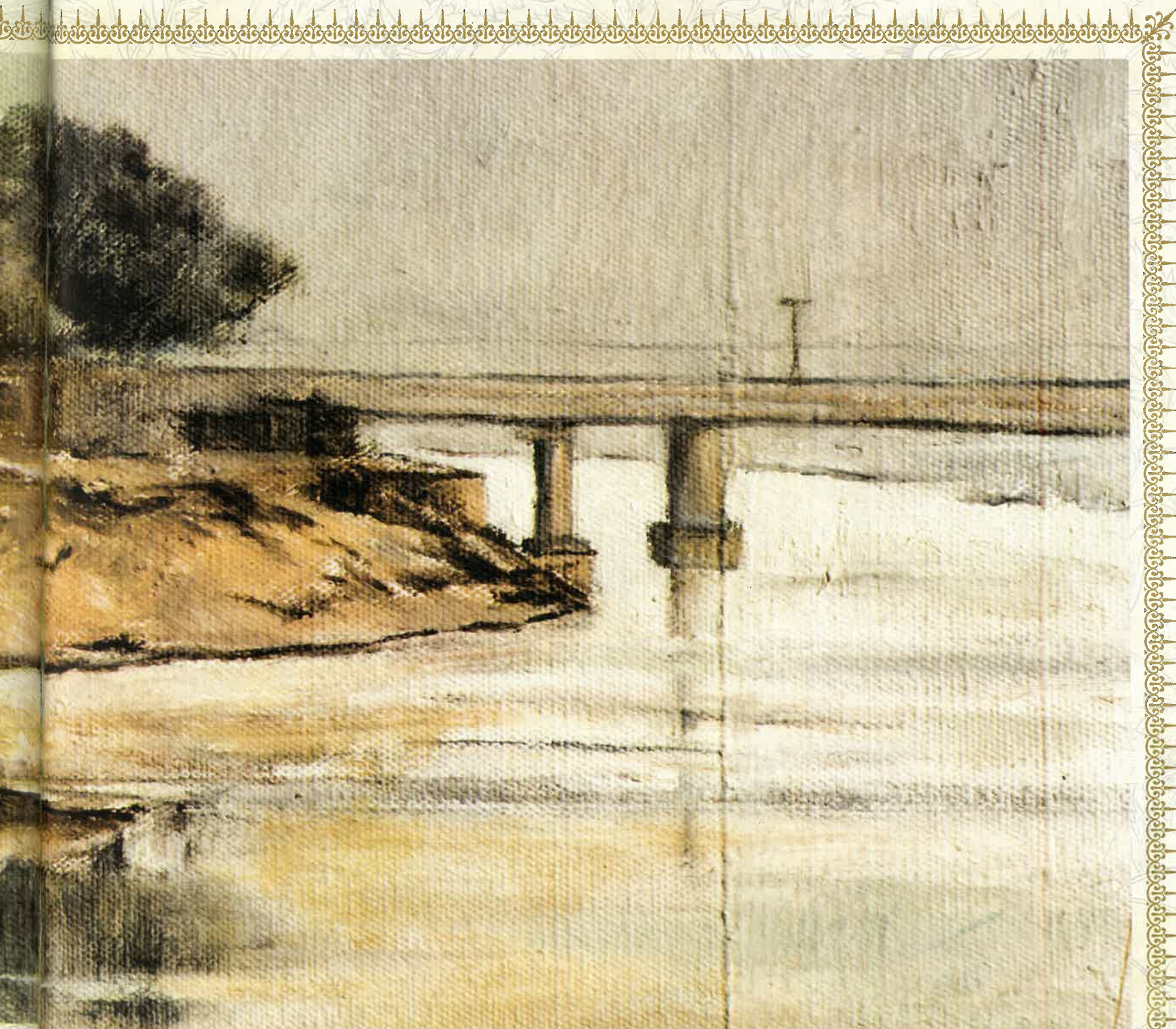
According to *Bichitra Natak*, said to be the autobiography of the last Sikh Guru Gobind Singh, but whose authenticity is a matter of ongoing dispute, the Bedi sub-caste of the Khattris derives its lineage from Kush, the son of Rama in the Hindu mythology. The descendants of Kush, according to the disputed *Bachitar Natak* legend, learned the Vedas at Benares, and were thus called Bedis (Vedis). Similarly, according to the same legend, the Sodhi sub-caste claims descent from Lav, the other son of Rama.

Devi Dawara had a small well also that was equipped with a Mechanical device that made the job of securing water easy. The device could be worked with both hands and both feet.

Oil on canvas by Nazir Ahmed (TI)







Oil on canvas by Nazir Ahmed (TI)

CERAMICS POTTERY OF LAHORE



GOVERNMENT POLYTECHNIC INSTITUTE FOR GLASS, CERAMICS AND POTTERY DEVELOPMENT

The institute was established in 1938, by Govt. of the Punjab. Then it was aimed to develop the refractory prouducts. Immediately after independence the efforts were made to utilize the available resources to their optimum level to meet the ever increasing demand of local market while taking in view the change in the customer, as well as developments in the field of ceramics, especially, the making of stone ware crockery. Then it was all under the aegis of West Pakistan Small Industries Corporation.

In 1972 as a result of dissolution of WPSIC, the PSIC came into existence, which inherited this Center. At this stage it was felt that ceramics industry which, was gaining momentum, required the services of trained manpower, advisory service on technical know-how as well as education for the utilization of raw material to its exact composition and specification for the ceramics products and which was conspicuous at that juncture.

In 1998, Government of the Punjab founded Technical Education and Vocational Training Authority (TEVTA) and merged all the technical and vocational institutes of Punjab in it. So institute of Pottery Development was also taken under the banner of TEVTA and its name was changed.





GLASS AND CERAMICS TECHNOLOGY

Government of Pakistan Ministry of Education has provided funds for the development of Glass and Ceramics Technology programme in association with Government of the Punjab to produce Glass and Ceramics Technologists/ Technicians at Government polytechnic Institute for Glass, Ceramics Pottery Development at Shahdara Lahore.

EDUCATIONAL FACILITIES

Three year Diploma of Associate Engineering in Glass, Ceramics and Pottery Development Technology.

To produce pottery and special ceramics.

To provide training facilities to unskilled, semi-skilled and skilled warders at various levels and to offer regular courses of study leading to certificate and training to Instructors in service.





To develop pottery work other than the commercial pottery work available in the market, especially for hotel etc.

To revive the old pottery.

The institute engaged in production of pottery for demonstration purpose to improve quantity and quality of the products.

Advisory services to all the units without any charges.

“We offer testing of Glass and Ceramics according to local and international standards to the local Glass and Ceramics Industry. We are specialized in measuring the behaviour of refractory ceramic material, its physical, chemical, thermal, and mechanical property. Our lab test helps in performing product development, quality control and failure analysis. Consulting



services on Glass and other Ceramic materials are also available. Typical work involves the analysis and testing of tiles, tableware, construction products, sanitary ware, refractoriness, raw materials, advanced ceramics and glass.”

CHEMICAL ANALYSIS

Test methods cover the complete analysis of glass sand, glass and the new materials of ceramics, body and glazes. Typical analysis includes SiO_2 , TiO_2 , Al_2O_3 , Fe_2O_3 , CaO , MgO , K_2O , PbO etc.

Chemical Analysis helps to understand
 Colour after firing
 Maturation temperature of Body and Glaze
 Impurities present in the raw materials etc.







PHYSICAL AND THERMAL TESTING

Tests to determine a wide range of physical properties on raw materials, semi-finished or finished products are available. Whatever the specification, the testing is to the highest standards using transparent, traceable, calibrated approaches by highly qualified and experienced technical staff.

PHYSICAL ANALYSIS

Whilst many of the tests conducted are specific to particular materials and applications, others are more general in nature. Most of the tests are conducted according to ASTM standards.

PARTICLE SIZE DISTRIBUTION

Particle size is the most important parameter in the production of ceramic

products. The particle size must be optimized to ensure that the desired physical / mechanical properties are achieved. The test is performed in lab by the state of the art instruments by the qualified persons. The result helps in the following areas,

Slip Casting
Sintering

ABRASION TEST FOR GLAZED WARES

This test measures the resistance of floor tiles against scratching when used in service or when packed for transportation.

MODULUS OF RUPTURE

This test is most important when it is carried out on refractories. The test gives an index of brick quality and also indicates the problem performance in services.















CRAZING RESISTANCE

This test method covers the determination of the resistance to crazing of fired, glazed, ceramic or white wares when stresses residual after glaze firing may cause a tendency to craze. Such stresses being induced by factors other than moisture expansion. It can also serve as a referee test method in purchasing contracts or agreements.

DRYING SHRINKAGE

Specify the % water content.

Fired Shrinkage

A percentage value that represents the dry-to-fired shrinkage of a ceramic body. Typically a body is fired to a range of temperatures; each is specified with its shrinkage value. Fired shrinkage figures are valuable both in maintaining a clay body's fired properties and formulating bodies to have a good compromise between shrinkage and fired maturity.

THERMAL SHOCK

This test characterizes the ability of refractory bricks to withstand sharp temperature variation without destruction.

PH

The pH aids you in understanding the amount and type of additives to obtain desired viscosity, especially if producing a slip. Variation in pH is also a contributor to variation in a pugged body's tendency to soften or stiffen with storage.

APPARENT POROSITY

Measurement of density, porosity, and specific gravity is a tool for determining the degree of maturation of a ceramic body, or for determining structural properties that may be required for a given application.



APPARENT VISCOSITY

This test enables us to understand the amount of deflocculent and their behavior in casting.

%LOI

This test represents the mechanically and combined moisture plus CO₂ in the raw materials.

RESIDUE TEST

The test aids you in understanding the amount of unbranded materials in glaze and body.

%AGE Moisture

It is important to know the moisture content of ceramics raw materials due to the following reasons:

To make allowance for it when weighing

To control the moisture content of Ceramics raw material prepared for shaping

THERMAL ANALYSIS

Thermal testing can range from measuring expansion at modest temperatures to show fitness for purpose in required environment and also for the clay body fitness. Some of the available tests are listed below;

Thermal Expansion

Determination of Softening- Point

Glass Transition Temperature

Dilatometry is a thermo-analytical technique used to measure the expansion or shrinkage of solids, powders, pastes and liquids during heating or cooling. An accurate understanding of this behavior can provide insight on firing processes, the influence of additives and raw materials, densification and sintering properties, reaction kinetics, phase transitions, glaze development, and thermal shock.



Ivory Craft

Ivory is a hard, white material from the tusks and teeth of animals, that is used in art or manufacturing. It consists of dentine, a tissue that is similar to bone. It has been valued since ancient times for making a range of items, from ivory carvings to false teeth, fans, and dominoes. Elephant ivory is the most important source, but ivory from mammoth, walrus, hippopotamus, sperm whale, killer whale, narwhal and wart hog are used as well. Elk also have two ivory teeth, which are believed to be the remnants of tusks from their ancestors.

The national and international trade in ivory of threatened species such as African and Asian elephants is illegal. The word ivory ultimately derives from the ancient Egyptian *âb*, *âbu* ("elephant"), through the Latin *ebor-* or *ebur*.

USES

Both the Greek and Roman civilizations practiced ivory carving to make large quantities of high value works of art, precious religious objects, and decorative boxes for costly objects. Ivory was often used to form the white of the eyes of statues.

The Syrian and North African elephant populations were reduced to extinction, probably due to the demand for ivory in the Classical world.

The Chinese have long valued ivory for both art and utilitarian objects. Early reference to the Chinese export of ivory is recorded after the Chinese explorer Zhang Qian ventured to the west to form alliances to enable the eventual free movement of Chinese goods to the west; as early as the first









century BC, ivory was moved along the Northern Silk Road for consumption by western nations. Southeast Asian kingdoms included tusks of the Indian elephant in their annual tribute caravans to China. Chinese craftsmen carved ivory to make everything from images of deities to the pipe stems and end pieces of opium pipes.

The Buddhist cultures of Southeast Asia, including Myanmar, Thailand, Laos and Cambodia, traditionally harvested ivory from their domesticated elephants. Ivory was prized for containers due to its ability to keep an airtight seal. It was also commonly carved into elaborate seals utilized by officials to “sign” documents and decrees by stamping them with their unique official seal.

In Southeast Asian countries, where Muslim Malay peoples live, such as Malaysia, Indonesia and the Philippines, ivory was the material of choice for making the handles of kris daggers. In the Philippines, ivory was also used to craft the faces and hands of Catholic icons and images of saints prevalent in the Santero culture.

Tooth and tusk ivory can be carved into a vast variety of shapes and objects. Examples of modern carved ivory objects are *okimono*, *netsukes*, jewelry, flatware handles, furniture inlays, and piano keys. Additionally, wart-hog tusks, and teeth from sperm whales, orcas and hippos can also be scrimshawed or superficially carved, thus retaining their morphologically recognizable shapes.

Ivory usage in the last thirty years has moved towards mass production of souvenirs and jewelry. In Japan, the increase in wealth sparked consumption of solid ivory *hanko* - name seals - which before this time had been made of wood. These *hanko* can be carved out in a matter of seconds using machinery

and were partly responsible for massive African elephant decline in the 1980s, when the African elephant population went from 1.3 million to around 600,000 in ten years.

Before plastics were invented, ivory was important for cutlery handles, musical instruments, billiard balls, and many other items. It is estimated that consumption in Great Britain alone in 1831 amounted to the deaths of nearly 4,000 elephants. Ivory can be taken from dead animals – Russians dug up tusks from extinct mammoths – however, most ivory came from elephants that were killed for their tusks. For example, in 1930 to acquire 40 tons of ivory required the killing of approximately 700 elephants. Other animals which are now endangered were also preyed upon, for example, hippos, which have very hard white ivory prized for making artificial teeth. In the first half of the 20th century, Kenyan elephant herds were devastated because of demand for ivory, to be used for piano keys.

Owing to the rapid decline in the populations of the animals that produce it, the importation and sale of ivory in many countries is banned or severely restricted. In the ten years preceding a decision in 1989 by CITES to ban international trade in African elephant ivory, the population of African elephants declined from 1.3 million to around 600,000. It was found by investigators from the Environmental Investigation Agency (EIA) that CITES sales of stockpiles from Singapore and Burundi (270 tonnes and 89.5 tonnes respectively) had created a system that increased the value of ivory on the international market, thus rewarding international smugglers and giving them the ability to control the trade and continue smuggling new ivory.





Since the ivory ban, some southern African countries have claimed their elephant populations are stable or increasing, and argued that ivory sales would support their conservation efforts. Other African countries oppose this position, stating that renewed ivory trading puts their own elephant populations under greater threat from poachers reacting to demand. CITES allowed the sale of 49 tonnes of ivory from Zimbabwe, Namibia and Botswana in 1997 to Japan.

In 2007 eBay, under pressure from the International Fund for Animal Welfare, banned all international sales of elephant-ivory products. The decision came after several mass slaughters of African elephants, most notably the 2006 Zakouma elephant slaughter in Chad. The IFAW found that up to 90% of the elephant-ivory transactions on eBay violated their own wildlife policies

and could potentially be illegal. In October 2008, eBay expanded the ban, disallowing any sales of ivory on eBay.

A more recent sale in 2008 of 108 tonnes from the three countries and South Africa took place to Japan and China. The inclusion of China as an “approved” importing country created enormous controversy, despite being supported by CITES, the World Wide Fund for Nature and Traffic. They argued that China had controls in place and the sale might depress prices. However, the price of ivory in China has skyrocketed. Some believe this may be due to deliberate price fixing by those who bought the stockpile, echoing the warnings from the Japan Wildlife Conservation Society on price-fixing after sales to Japan in 1997, and monopoly given to traders who bought stockpiles from Burundi and Singapore in the 1980s.



Despite arguments prevailing on the ivory trade for the last thirty years through CITES, there is one fact upon which virtually all informed parties now agree - poaching of African elephants for ivory is now seriously on the increase.

The debate surrounding ivory trade has often been depicted as Africa vs the West. However, in reality the South Africans have always been in a minority within the African elephant range states. To reiterate this point, 19 African countries signed the “Accra Declaration” in 2006 calling for a total ivory trade ban, and 20 range states attended a meeting in Kenya calling for a 20-year moratorium in 2007.

In Asia, wild elephant populations are now a fraction of what they were in historic times, and poaching of elephants continues. Elephants are now close to extinction in China, Vietnam, Laos PDR, Cambodia and Indonesia. Instances of theft of even domestic elephants for their ivory have been recorded in Myanmar.

The use and trade of elephant ivory have become controversial because they have contributed to seriously declining elephant populations in many countries. In 1975, the Asian elephant was placed on Appendix One of the Convention on International Trade in Endangered Species (CITES), which prevents international trade between member countries. The African elephant was placed on Appendix One in January 1990. Since then, some southern African countries have had their populations of elephants “downlisted” to Appendix Two, allowing sale of some stockpiles.

China was the biggest market for poached ivory but announced they would phase out the legal domestic manufacture and sale of ivory products in May, 2015, and in September 2015 China and the U.S.A. “said they would enact a nearly complete ban on the import and export of ivory.”

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Ivory has many ornamental and practical uses. Prior to the introduction of plastics, it was used for billiard balls, piano keys, Scottish bagpipes, buttons and a wide range of ornamental items. Synthetic substitutes for ivory in the use of most of these items have been developed.

The chemical structure of the teeth and tusks of mammals is the same, regardless of the species of origin. The trade in certain teeth and tusks other than elephant is well established and widespread; therefore, "ivory" can correctly be used to describe any mammalian teeth or tusks of commercial interest which are large enough to be carved or scrimshawed (crocodile teeth are also used).

Trade in the ivory from the tusks of dead mammoths has occurred for 300 years and continues to be legal. Mammoth ivory is used today to make handcrafted knives and similar implements. Mammoth ivory is rare and costly, because mammoths have been extinct for millennia, and scientists are loath to sell museum-worthy specimens in pieces, but this trade does not threaten any living species.

Some estimates suggest that 10 million mammoths are still buried in Siberia.

A species of hard nut is gaining popularity as a replacement for ivory, although its size limits its usability. It is sometimes called vegetable ivory, or tagua, and is the seed endosperm of the ivory nut palm commonly found in coastal rainforests of Ecuador, Peru and Colombia.

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A View of Greater Iqbal Park Lahore



Punjab Small Industries Corporation
Lahore