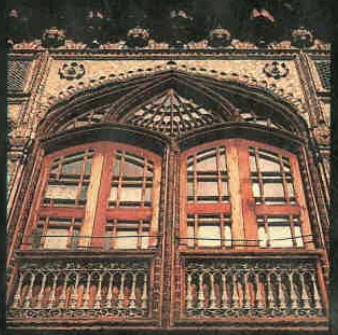
Architecture in Pakistan



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Architecture in Pakistan

Kamil Khan Mumtaz

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A Mimar Book

Butterworth Architecture

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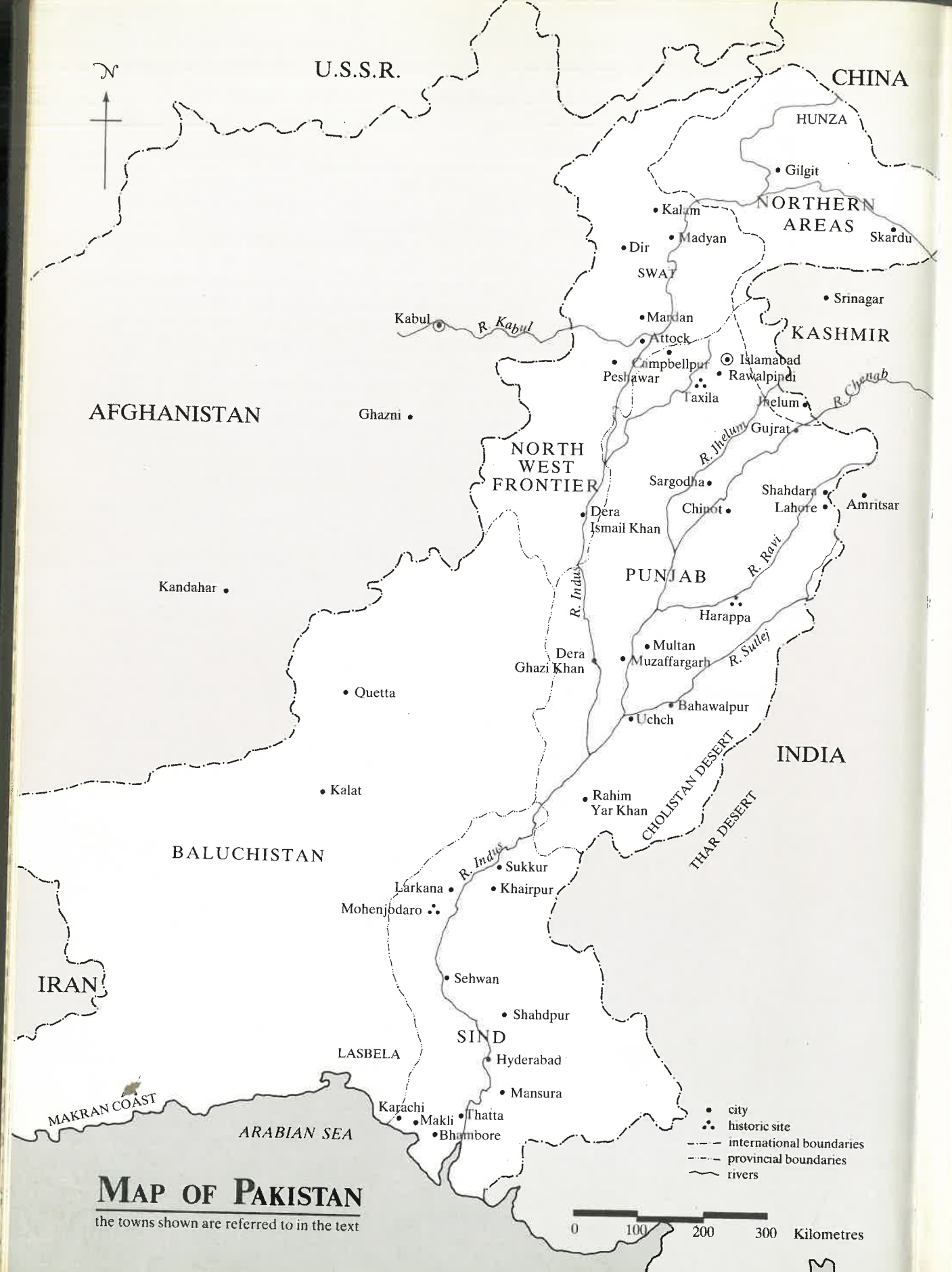


MAP OF PAKISTAN

the towns shown are referred to in the text

PREFACE

A comprehensive presentation of architecture in Pakistan is long overdue. For years A.B. Rajput's brief book of the same title has been the only publication available to the general reader looking for a presentation of the subject in a single volume. For the more serious student there have been a few widely scattered publications dealing separately with single monuments, periods, types or particular groups of buildings. I have drawn extensively on many of these for detailed descriptions of monuments. In particular I have made liberal use of the monographs appearing in the Archaeological Department's journal *Pakistan Archaeology*; F.A. Khan's *Architecture and Art Treasures in Pakistan*; Wali Ullah Khan's *Lahore and its Important Monuments*; and Idris Siddiqi's *Thatta.*

The chapters are arranged in a loose chronological order, in which my purpose has been to present an overview from the earliest evidence of building activities to modern times, rather than a detailed or definitive documentation. While the first two chapters are necessarily based on archaeological rather than architectural remains, the descriptions of individual buildings in subsequent chapters are also limited both in the number of examples and the extent of details are in the interest of maintaining the cohesiveness of the whole.

A historical overview should recognise a number of categories within the totality of the architectural matrix, but it has not been possible to do full justice to all these categories, the examples have been mainly selected from the mainstream of architecture. However, two categories have been included under the title of the Vernacular Tradition. The first refers to forms of urban architecture, produced by a variety of builder-designer-craftsmen who can be described as the "fringe" of the architectural profession. The second refers to rural vernacular building forms and techniques. It has not been possible to present these in the same historical perspective as the monumental architecture of the mainstream because one cannot refer to many examples with a comparable antiquity in these categories without a degree of speculation and specialised research which was not the purpose of this book. The urban and rural vernacular traditions have therefore been treated as an aspect of contemporary architecture.

I must record my thanks to the architects and officials, too numerous to name individually, who assisted me generously with information and cooperation. In particular I am grateful to Mr. Shakil Ahmed for permission to use his unpublished material on the architect M.A. Mirza, and to Dr. Ahmad Hasan Dani and Zahir-ud Deen Khwaja for reading my manuscript and offering their valuable advice and suggestions. I also thank the Ministry of Information and Broadcasting, Government of Pakistan, particularly Mr. Altaf Gauhar, for having initiated this project, albeit under conditions very different from today's, also to the late Professor Shakir Ali for his encouragement and support; and to Khawar, my wife, for her many roles as occasional secretary, research assistant, and adviser.

Finally I must record my thanks to the Aga Khan Award for Architecture and the Aga Khan Program for Islamic Architecture at Harvard and MIT for their financial support in the publication of this work.

Kamil Khan Mumtaz

INTRODUCTION

THE LAND AND THE PEOPLE

Pakistan lies at the western extremity of South Asia, flanked on the east by India and on the west by Iran and Afghanistan. In the north it borders on the Sinkiang Region of China with the Tadzik Republic of the Soviet Union a close neighbour, while in the south it is washed by the Arabian Sea. Pakistan is a land dominated by the mountains which cover more than half its land surface and form an almost unbroken system from the great Himalayas in the northeast and the high Karakoram and Hindu Kush ranges in the north, to the Suleman range along the west and the Baluchistan Plateau to the southwest, down to the Mekran Range along the coast. Much of the remaining land surface is desert. The Thar Cholistan desert along the eastern border with India and the smaller Thal desert between the Jhelum and Indus Rivers, leaves only a narrow ribbon of green running north-south down the central axis of the country. This alluvial plain is irrigated by the five rivers of the Punjab and the mighty River Indus.

This fertile plain supports the most numerous of Pakistan's peoples, the Punjabis in the land of the five rivers and the Sindhis of the lower Indus Valley. The northwestern mountainous region is the home of the Pathan or Pakhtun tribes, and in the extreme north of this region dwell some of the smallest nationalities of Pakistan, the Kafirs and Kalash and the people of Chitral, Gilgit, and Hunza. The Baluch tribes share the northern area of their mountainous plateau with the Pathans. To the north of the Punjab plains are the Hindkoh-speaking people of the Hazara district, while in the south of the Punjab are the Saraiki linguistic group and the desert nomads of Cholistan. To this assembly must be added many Pakistan's immigrant nationalities: Kashmiris from the northeast, Hazaras from Afghanistan, and a multitude of Indian nationalities from the east — Kutchis, Gujratis, North Indians, Biharis, and Bengalis. This multiplicity of cultures, languages, dress, literature and art is united by a common religion, Islam, and a common passion for independence and freedom.

The particular environment of each region has shaped the culture of the people within it. The constant intercourse between all of these people has enriched each of their cultures, and each has absorbed and adopted something of the others. Together,

they have been influenced by, and in turn, have influenced the cultures of the peoples adjoining their frontiers — the Indians to the east, the Persians and Afghans to the west, the Central Asian peoples to the north, and also some more distant ones: Aryans, Greeks, Mongols, Turks, Arabs and modern Europeans. Thus for all the diversity and variety of its regional traditions, there is an affinity and close relationship between these several cultures. Collectively, they form the rich and varied national culture of Pakistan. At various times Pakistan has been drawn into the sphere of influence of the great cultural centres of its neighbours to the east and west. But equally often it has extended its own influence across its borders to these adjoining regions.

THE HISTORICAL CONTINUUM

The Potwar Plateau and the Soan Valley in the northern Punjab are the sites of the earliest relics of stone-age man in the subcontinent. The form and extent of influence of this culture, which is probably 300,000 years old is as yet only vaguely defined. The later more advanced culture of the Baluchistan Plateau from about 4,000 B.C. to about 2,000 B.C. is known to have extended far into Iran and may have been, at least in part, the cradle from which arose the great Indus Valley civilisation. Successive migrations of the Aryan tribes brought the people of Pakistan within the fold of the extensive Indo-European system of cultures associated with these Central Asian tribes.

With the spread of the Indo-Aryan civilisation across Pakistan and beyond, this region became the western-most outpost of classical Indian civilisation, but the centres of Brahmanism moved east to northern India. Towards the end of the 6th century B.C. the north-western part of the country, then known as Gandhara, was absorbed into the Aechemenid Empire of Persia.

In 327–326 B.C. Alexander the Macedonian invaded Pakistan. While his military conquest was short-lived, contacts with the mediterranean peoples survived through the Bactrian Greek colonies in neighbouring Afghanistan. Later, with Chandra-Gupta's removal of the Greeks from their eastermost possessions, Pakistan was brought into the Indian Mauryan Empire. When Asoka, a later Mauryan King, adopted the Buddhist faith, the province of Gandhara developed into one of the most significant centres of not only the Buddhist religion, but also of a new art and architecture. As the Scythians, Parthians and Kushans from Central Asia and western China moved southwards through Bactria into Pakistan, the Mauryans were disloged, and the new Buddhist culture of Gandhara developed out of the fusion of Greek, Central Asian, Indian and Pakistani cultures.

By the 7th century, Hindu Revivalism had virtually eliminated Buddhism from the subcontinent, and Pakistan was once again a satellite of India. The early Muslim conquests linked this part of the subcontinent increasingly with the emerging cultural

centres to the west — Baghdad, Kabul and Ispahan — until the emergence of an independent Muslim cultural unit within the subcontinent itself. This was consolidated mainly under the rule of the Mughals, who originated in Central Asia but made the South Asian subcontinent the focus of their imperial ambitions.

By the 17th century the riches of India had begun to attract the mercantile trading companies of western Europe. The quest for trade developed into contention for political power, and by the mid-19th century the subcontinent had been added to the British Empire. The century and more domination by the British made a strong impact on the countries of South Asia. The independence movement and the demand for a separate homeland for the Muslims of the subcontinent led, in 1947, to the creation of the two wings of Pakistan the Western wing being the larger of the two in area, but with East Pakistan containing the majority of the population. In 1970 internal contradictions within the country and Indian aggression, backed by superpower designs for the region, resulted in the majority seceding to form the separate state of Bangladesh. Out of the material and moral devastation of war, secession and economic plunder has emerged a new Pakistan, comprising the four western provinces of Sindh, Baluchistan, Punjab and the North West Frontier Province.

1

EARLY COMMUNITIES

EARLY VILLAGE SITES
Potwar Plateau
Baluchistan

PRE-HARAPPAN SETTLEMENTS
Kot Diji
Amri

INDUS VALLEY CITIES
Harappa
Mohenjodaro

DIR AND SWAT

EARLY VILLAGE SITES

Potwar Plateau

The earliest records of the activities of man on the subcontinent of India and Pakistan have been found scattered over the region of the Potwar Plateau in the north of the Punjab province of Pakistan. Archaeological investigations show that some half million years ago this region was inhabited by a hunting and gathering people who used rough stone tools, but did not as yet live in settled communities.[1].

While we do not know of any building tradition from this early period, we do know that these people gradually refined their simple stone tools, developed agriculture and started making pottery, thus taking the first steps towards the establishment of an organised communal life. The excavations at *Serai Khola,* near Taxila, have revealed a late Stone Age community which produced highly burnished pottery and well polished stone implements, and in which houses were built with mud walls on rubble stone foundations. A similar evolution took place on the Baluchistan Plateau. Here some of 6,000 years ago Neolithic man had begun to herd and breed animals and to make pottery.

Baluchistan

Excavations at Kile Gul Mohammad in the Quetta valley show that by 3,200 B.C. people were living in small villages and practised animal husbandry and limited agriculture[2]. Gradually they evolved and refined the art of making pottery and developed a distinct culture, which in its early stages was closely tied to Iran and Turkmanistan, but later acquired a clearly indigenous, subcontinental character[3]. In the Quetta region a fairly complex farming settlement of numerous villages developed consisting of mud-brick houses with small square rooms, each with its own firepit[4]. As in the Potwar Plateau, the people of this culture used stone in the form of boulders laid in tiers, as the foundations for their mud-brick walls.

The excavations carried out in northern Baluchistan reveal a broad cultural link between Quetta in Baluchistan, Susa in Iran and Namazgah-Tape in Turkmanistan[5].

Kot Diji

In the middle of the fourth millennium B.C., the people from the village communities in the hills of north Punjab moved down to the fertile plains of Sind and central and lower Punjab and developed an early form of urban civilisation known as 'Kot Diji' culture[6]. This precursor of the more advanced and better-known 'Harappa' culture of the Indus Valley derives its name from the site of Kot Diji in the Khairpur District. The site consists of two parts: a fortified citadel, where the ruling classes lived; and an outer part of the city inhabited by the lower, probably artisan classes[7].

The emergence of this early Bronze Age urban culture, based on a developed form of agriculture, was accompanied by a new form of society divided into two basic classes, the rulers and the artisans. While the rulers enjoyed the protection and facilities of the fortified citadel, the artisans, providing the skill and labour necessary to operate the numerous urban industries — pottery, metalsmithy, stone carving, jewelry manufacture, baking, weaving, and the construction of massive civic structures — were social outcastes and lived outside the city. In only slightly varying forms, this division of society into a community of slaves jointly owned and maintained by the class of land owners has persisted in the agricultural societies of the Indo-Gangetic plains till modern times.

The Pre-Harappan structures within the citadel at Kot Diji were made of properly oriented massive walls of large sun-dried bricks, in certain cases more than five feet wide. Community ovens lined with mud-brick were a common feature, and kilns with lined funnels fired by bellows were used[8].

The most impressive structural feature of the citadel of this period was the defensive wall. The lower part was built of undressed limestone blocks, and the imposing structure above was raised with mud-bricks, most of which have long since decayed and gone. The height, as far as is preserved, is from 12 to 14 feet, and its inner stone face was not plastered with mud. Internally it slanted at an angle of 8½ degrees, and externally it was strengthened at intervals with bastions and faced with mud-bricks[9].

A number of sites in Pakistan have been identified as belonging to the Kot Diji culture. Many of them underlie the subsequent more advanced phase of the Indus Valley civilisation known after Harappa, in the Sahiwal district of the Punjab, where this culture was first identified.

Amri

The site at Amri, further south on the Indus, presents yet another type of pre-Harappan culture, similar in some ways to the Kot Diji culture but employing a novel form of construction for its houses. These are small rectangular buildings made of

sun-dried bricks and partitioned into small cubicles too small for anyone to live in, with no communication openings. These blind cells probably were bases of houses made of light material and raised well above the ground[10]. The Amri culture of Sind possesses certain common features with the Nal culture of Baluchistan (c.3000 B.C.) and the Kulli culture of South Baluchistan. The Kulli people are known to have lived in houses with walls built either of rubble set in mud mortar or of squared stone blocks. The walls were occasionally faced with white paste, and the average size of a room was 12 feet by 8 feet. The date of the Kulli culture is ascribed to the first half of the third millennium B.C.[11].

INDUS VALLEY CITIES

Much has been made of the possible derivation of the Indus civilisations from Mesopotamia, but these speculations are not entirely warranted by fact. The evidence of commercial relations between the two is indisputable, and it is very probable that certain ideas and techniques travelled along with this trade. But the numerous similarities encountered in these two areas must not necessarily be taken as indicative of a one-way traffic. Nor can the existence of the older village culture of Iran and Baluchistan be discounted as a possible common source of at least some of their similarities. Moreover, the spatial organisation of the Indus cities into clearly defined functional zones with carefully considered circulation, drainage and defence arrangements, as well as the use of kiln-burnt bricks and drains, is well in advance of other contemporary riverine civilisations. It is now becoming apparent that in the sheer extent and stability of its conventions the Indus Valley culture was a totally unprecedented phenomenon. The symbolic significance of the hierarchical organisation of buildings in space, however, can only be fully understood when we discover more about the religious, social, political and economic institutions of the Indus Valley culture.

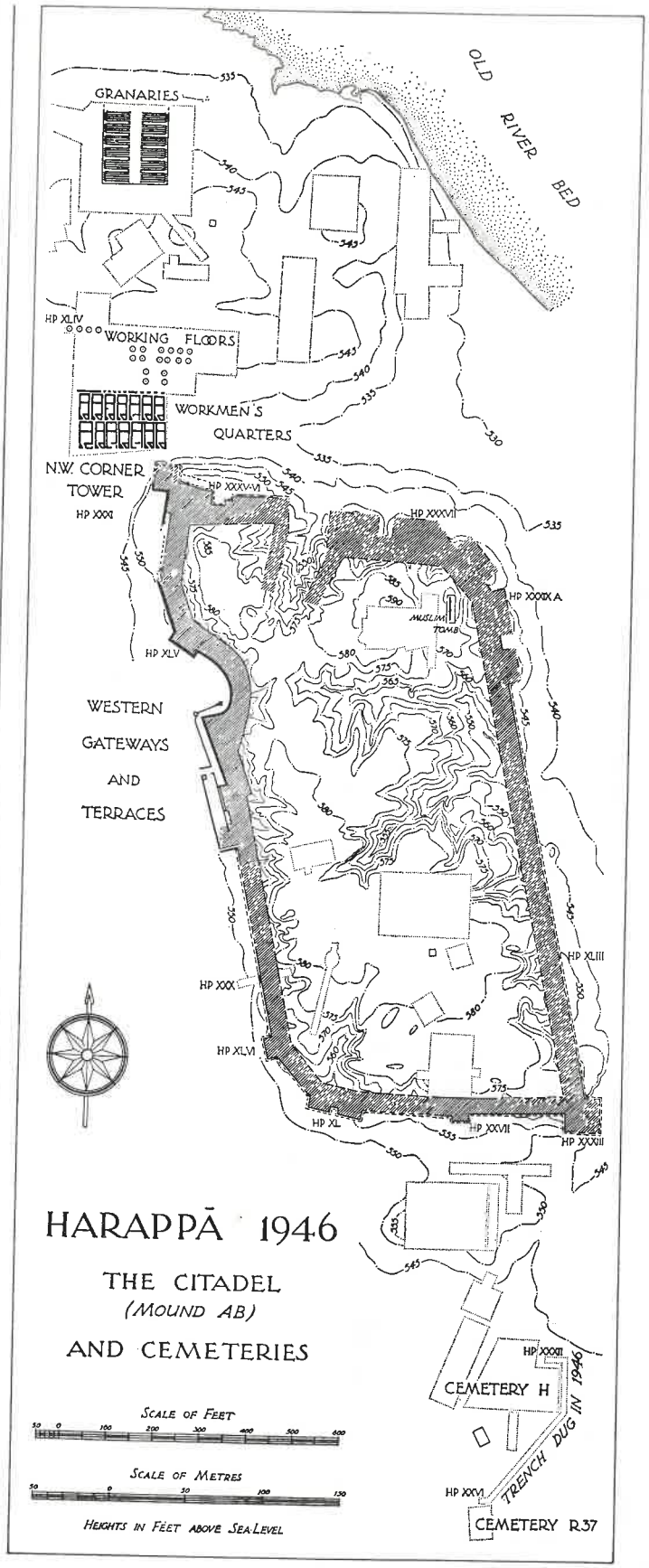
Explorations in Pakistan and in the adjoining regions of India have revealed as many as 129 towns and villages of the mature late Harappan culture. The Indus Valley civilisation is now recognised as not only one of the oldest civilisations of the ancient Orient but also as being more extensive than those of the Nile, Tigris-Euphrates and Karun Valleys. Its remains spread from Rupar at the foothills of Simla in India down to Sutkagan-Dor on the Arabian Sea coast of Pakistan and eastwards to the Gulf of Cambay in Kathiawar, India, covering an area of approximately 500,000 square miles[12]. It is now known that about 2,350 B.C. or earlier, the Harappans possessed a highly developed agrarian culture, a regular system of town planning with an efficient and elaborate drainage system, an individual style of pictographic writing and, as reflected by the varied kind of antiquities, a high degree of artistic skill and craftsmanship.

Harappa

Though wrecked by brick hunters, the building remains and other material relics unearthed at Harappa have revealed some highly interesting and intriguing evidence. The massive mud-brick wall surrounding the citadel mound measures 460 by 215 yards. It was 45 feet wide and reveted externally with burnt bricks. This mud-brick defence wall was furnished with rectangular bastions or watch towers at regular intervals. The main entrance to the citadel was on the northern side; on the western side was a curved re-entrant or a secret passage (with a tower), which led to a ramp approaching the entrance. At the southern end of this inlet there appears to have been a flight of steps leading up to the citadel. The discovery of a defensive wall, first

1.1 Granary, Harappa. Like the contemporary Mesopotamian cities Harappa had a state granary which is a remarkable building in design and size.

1.2 Grain pounding platforms, Harappa. Close to the granary are 18 circular platforms, each about 11 feet in diameter with a central hole for the pounding of grain, a practice still prevalent in many Pakistani villages.

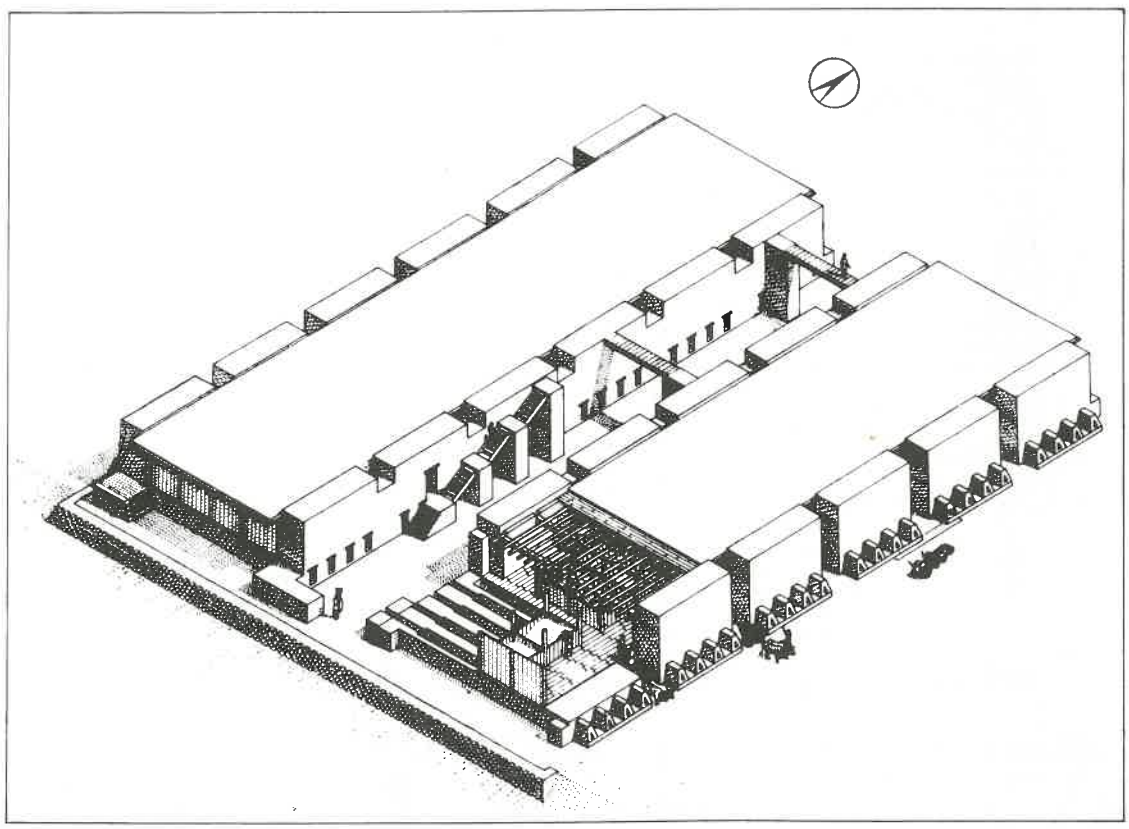


1.3 Site plan, Harappa. Source: Wheeler, Sir Mortimer, "The Indus Civilisation".

at Harappa and later at Mohenjodaro, has dispelled the concept of undefended cities of the Indus Valley civilisation. The existence of other fortified Harappan sites has been further confirmed at Kohtras Bhuti, Ali Murad and Sutkagendor.

Like the contemporary Mesopotamian cities where granaries were attached to temples or built near the canals, Harappa had a state granary which is a remarkable building both in design and size. Situated near the old bed of the river, it is built on a 4-foot-high battered-mud podium lined on three sides with burnt bricks. The granary consists of two rows of six blocks, each measuring 50 by 20 feet, arranged symmetrically and divided by a 23-foot-wide central passage. The skill of its builders is reflected in its novel plan. The actual floor was lifted on sleeper walls to allow for air circulation and prevent dampness. Close to it, there are eighteen circular platforms, each about 11 feet in diameter, with a central hole intended for the pounding of grain, a practice still prevalent in many Pakistani villages. Their location near the two rows of workmen's quarters explains the function of the whole building complex, and suggests severe regimentation under a centralised authority[13].

The two rows of oblong buildings appear to have been workmen's dwellings. On both the front and back they were separated by about 3 or 4 feet and were entered through a curved passage which provided privacy. The accommodation was limited, consisting of three rooms and a small courtyard. On the western side of the workmen's quarters were sixteen pear-shaped brick-lined furnaces, 3 to 6 feet in length[14].

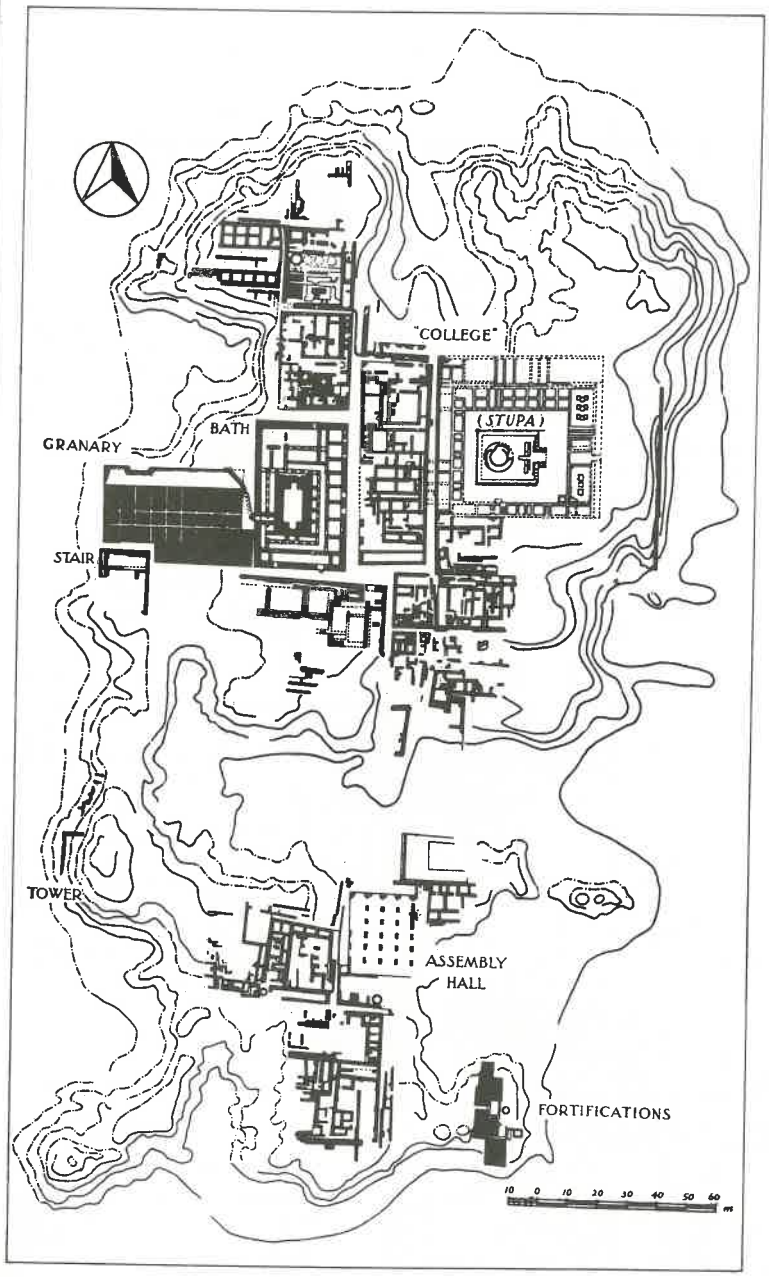


1.4 Granaries at Harrappa. Source: Wheeler, Sir Mortimer, Civilisations of the Indus Valley and Beyond, *Thames and Hudson, London 1966.*

Mohenjodaro

The extensive plunder of Harappa in modern times has robbed its structural remains of a coherent plan. Mohenjodaro, suffering fewer depredations, is today one of the world's most spectacular remaining ancient sites. Whether it was the undisputed capital of the Indus civilisation or shared its leadership with Harappa, it was certainly a metropolis of the first order[15].

From the better-preserved structural remains of Mohenjodaro and other sites it is possible to reconstruct the forms of the typical cities of the Indus Valley Harappa culture. From their very foundations the cities of the Indus Valley appear to have been laid out in accordance with some pre-arranged scheme. The sites at Mohenjodaro and Harappa are both more than



1.5 Mohenjodaro, plan of Citadel. Source: Wheeler.

three miles in circuit. The mounds themselves fall into two groups: a high mound towards the west, and a much more extensive but somewhat lower series to the east. At both cities the higher mound, an acropolis or citadel, was a parallelogram some 400 to 500 yards from west to east with a present maximum elevation of about 40 feet. At both, whether by chance or design, it was similarly oriented, with the major axis north and south. At Mohenjodaro it appears to occupy an insula in the layout of the town, of which the main streets form a grid plan enclosing other insulae on a similar scale.

1.6 The main streets of Mohenjodaro formed a grid plan. Most of the houses were at least two storeys high.

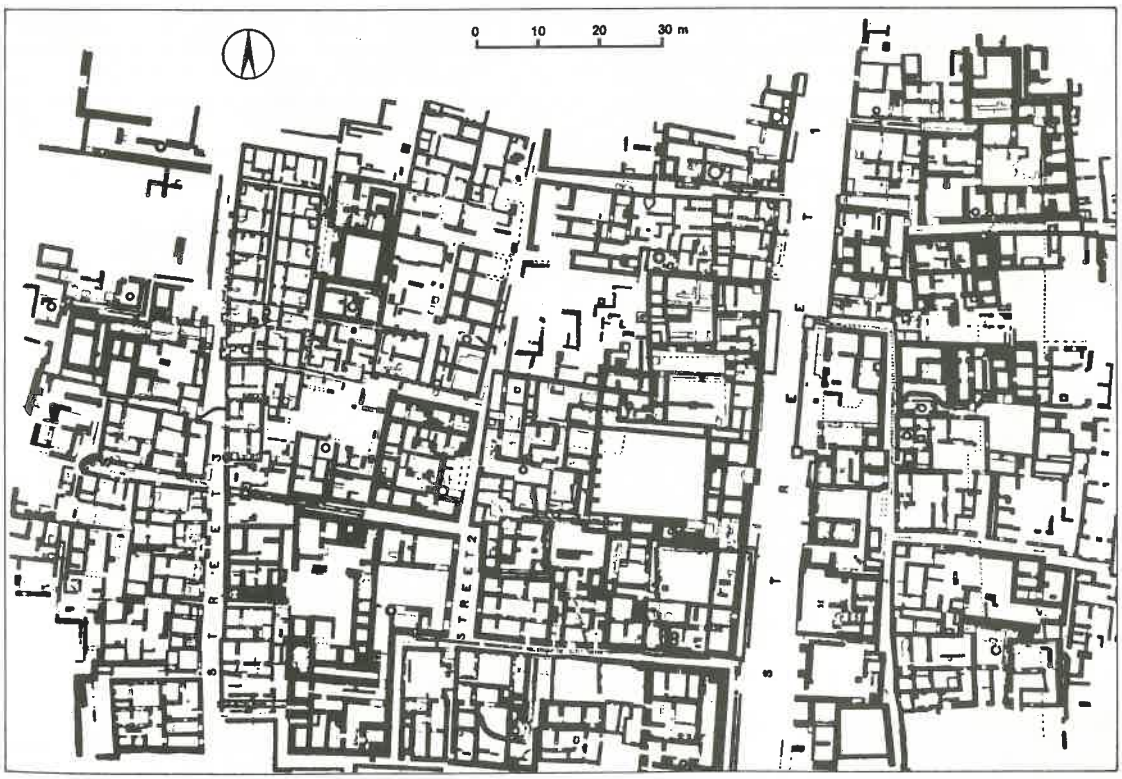
1.7 Stupa mound, Mohenjodaro. The spatial organisation of the Indus cities into clearly defined functional zones with carefully considered circulation, drainage and defence arrangements, as well as the use of kiln burnt bricks and drains, is well in advance of other contemporary riverine civilisations.

1.8 Street plan, Mohenjodaro: Part of residential quarter "HR Area". Source: Wheeler.

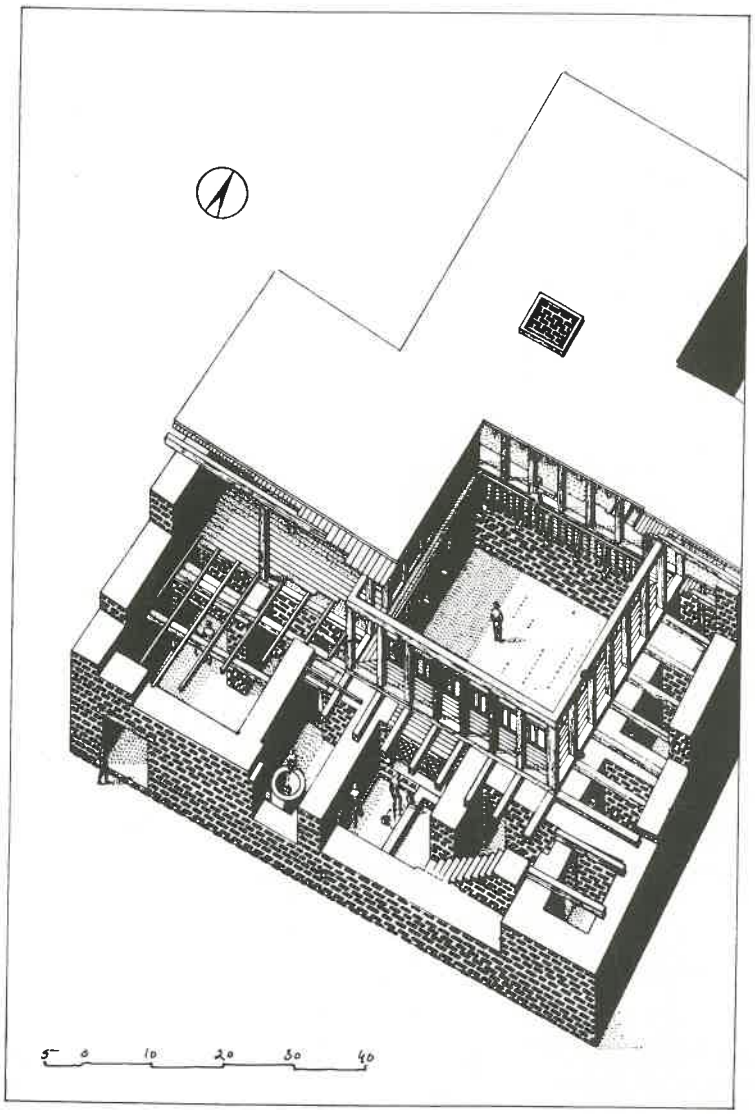
1.6

1.7

1.8



The roofs of buildings of the Indus Valley cities were flat and made of wood, reed and mud plaster. They have all perished, but the solidly built walls, often five feet thick, clearly show the layout of comfortable and well-designed houses. The average size is 35 feet by 35 feet, comprising several fair-sized rooms grouped round a central courtyard. Most of the houses were at least two storeys high. Each house had a bathroom with its circular well and a smooth paved floor sloping off to the brick-lined drain which let to a large covered drain. The drainage system is the most complete ancient system yet discovered. A brick-lined channel flowed down every street, and into this main drain ran small tributary drains from the houses on either side. The drains were covered over with bricks laid a few inches below the street level, which could be easily lifted off when it became necessary to inspect or clean the channel underneath. The drain water from the houses was not permitted to flow directly into the street drain, but had to first enter a cess-pit in which was deposited the solid matter; when the pit was half full, the water flowed into the drains[16].

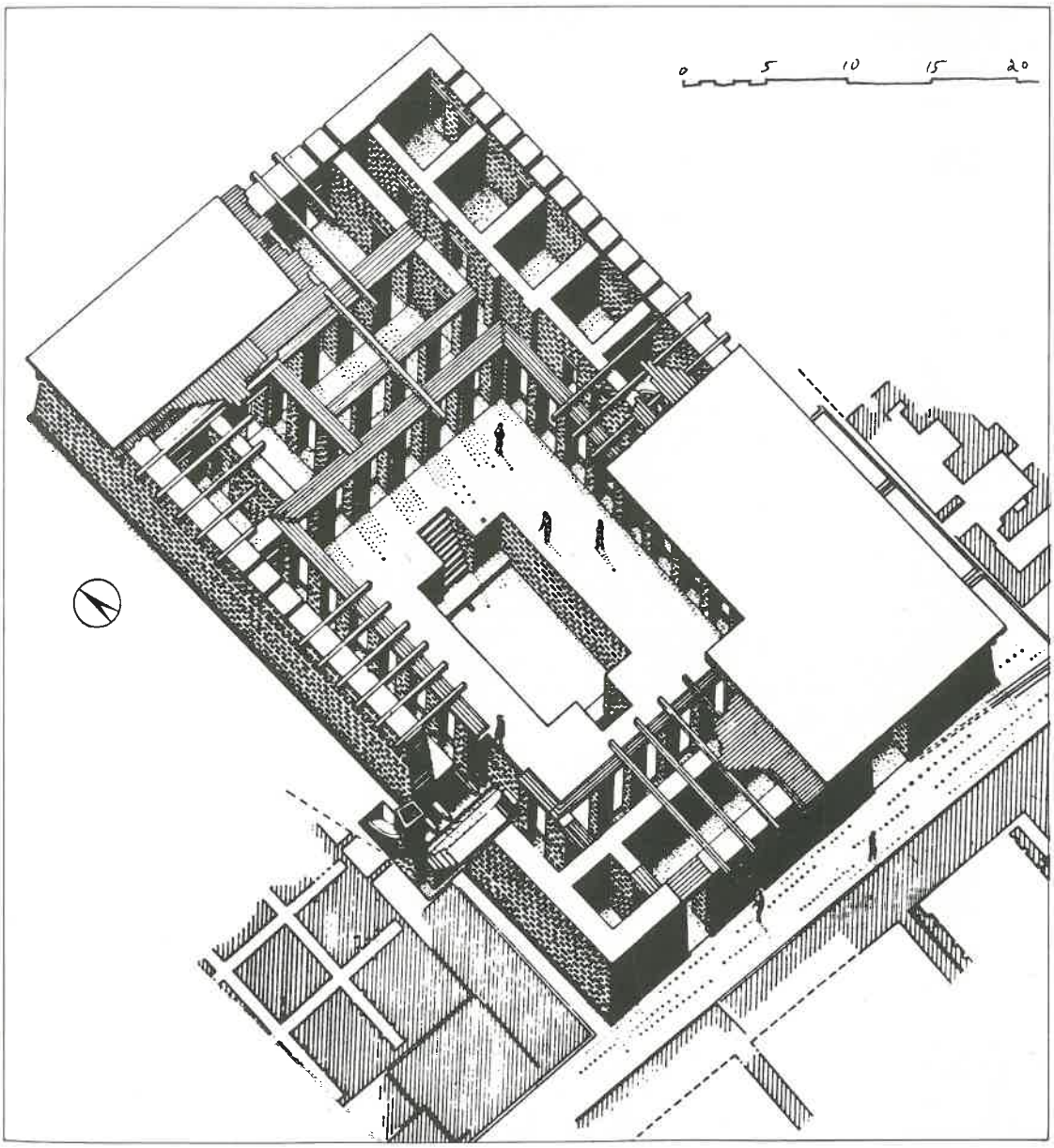


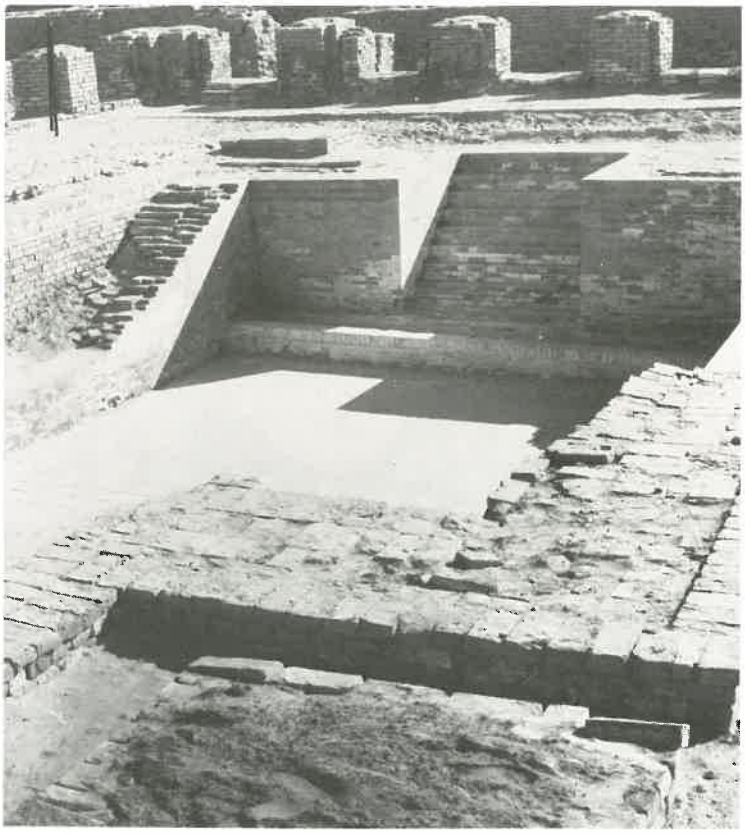
1.9 House in "HR Area", Mohenjodaro. Source: Wheeler.

1.10 House with well, Mohenjodaro. The solidly built walls clearly show the layout of comfortable houses comprising several rooms grouped around a central courtyard. Each house had a bathroom with its circular well.

1.11 Mohenjodaro Great Bath, Stage I. Source: Wheeler.

1.11





1.12 and 1.13 Great Bath, Mohenjodaro. The mounds at Harappa and Mohenjodaro fall into two groups. The higher mound, an acropolis or citadel, appears to have contained the more important civic buildings such as the Great Bath which may have been used for religious or ceremonial bathings.

Recent discoveries have extended the Indus civilisation far down the west coast of the Indian peninsula, giving the Indus people in aggregate no less than 800 miles of seaboard. What bearing this had upon their maritime activities remains to be explored. Furthermore, recent discoveries indicate that the Indus civilisation had also crossed the divide between the Indus and Jumna river systems. Sir Mortimer Wheeler suggests that

the Indus civilisation reached the formative regions of the classical civilisations of Hindustan in the north and centre of the subcontinent by a pincer movement circumventing the Thar or Indian desert on both sides[17].

The decline of the cities of the Indus Valley civilisation in 1800 B.C. coincides in time with the Aryan invasions from the northwest. Very little is yet known of the subsequent thousand years till the Achaemenid Persian expansion eastward in the 6th — 5th century B.C., which marks the beginning of the historic period. The gap between the proto-historic periods is gradually being filled with fresh evidence from Gogdara and the cemetry sites — Butkara, Loebanr and Katelai — in Swat[18].

DIR AND SWAT

The creators of a Grave Culture, widely spread in Dir and Swat, show strong affinities with northwest Iran and the southeastern part of Central Asia. They seem to have introduced bronze and iron to the area west of the Indus, and may have been the Aryans who first settled in the land of the Sapta Sindhu and then spread out into the Ganges Valley[19]. The cemetries discovered at Serai Khola near Taxila indicate a culture of a people different from those buried either at the Dir and Swat cemetries or at Harappa. They used iron and lived in the vicinity of Taxila between 1500 to 600 B.C. in a period which witnessed the appearance of Aryans in the northwestern parts of Pakistan[20]. Further south in Sind the site at Amri shows a culture related to Jhukar and Jhangar, also in Sind, which succeeded the Harappa and Mohenjodaro civilisation in the first millennium B.C.[21].

NOTES

[1] "Serai Khola" in Pakistan Archaeology, Karachi, No. 5, 1968, Department of Archaeology, Ministry of Education, Karachi, pp 28, 30.

[2] "The American Museum of Natural History Expedition to West Pakistan" in Ibid No. 1, 1964, p. 30.

[3] Beatrice de Cardi, "Excavation and Reconnaissance in Kalat" in Ibid No. 2, 1965.

[4] Ibid No. 1, 1964, p. 30.

[5] Khan, F.A. "Editorial" in Ibid No. 3, 1966.

[6] "Serai Khola" in Ibid No. 5, 1968, p. 30.

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[8] Ibid No. 2, 1965, p. 23.

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[12] "Harappa — 1966", Pakistan Archaeology No. 5, 1968, p. 63.

[13] Ibid, pp. 64–65.

[14] Khan, F.A. The Glory that was Harappa, Department of Archaeology, Pakistan.

[15] "Mohenjodaro — 1964–65", Pakistan Archaeology, No. 5, 1968, p. 56.

[16] Khan, F.A. op. cit.

[17] M. Wheeler, The Indus Civilisation, Cambridge, 1962.

[18] "Swat", in Pakistan Archaeology No. 5, 1968, pp. 137, 140.

[19] "Excavations — Serai Khola", in Pakistan Archaeology No. 5, 1968, p. 39.

[20] Ibid.

[21] J.M. Casal, "Fresh Digging at Amri", in Pakistan Archaeology, 1974, p. 59.

2 GRAECO-INDIAN

400—100 BC GANDHARA
Taxila (Sirkap)
Stupas and Monasteries

500—800 AD HINDU AND JAIN ARCHITECTURE
Salt Range
Indus
Tharparkar

GANDHARA

The exact boundaries of the Gandhara region are difficult to draw, but it is believed to have included the River Oxus and Kabul Valley, the Peshawar Valley, and the areas of Dir, Bajaur, Swat, Bunir, and areas as far south as Taxila[1]. During the 6th century B.C. this region was conquered by the Achaemenians. In 326 B.C. Alexander the Greek, after subduing the Persian Empire, pushed his way into the Gandhara region and established a Macedonian garrison at Taxila under Philip. Soon after the death of Alexander that garrison was defeated by Chandragupta Maurya, and the Greeks were compelled to withdraw beyond the Hindu Kush. When a later Mauryan Emperor, Asoka, adopted Buddhism as the state religion, Gandhara became one of its important centres. This region once again came under Hellenistic domination when the Mauryans were replaced by the Bactrian Greeks from Afghanistan. The Greeks were followed by a succession of Central Asian invaders: the Scythians, the Parthians and the Kushans[2].

Some of the most creative and energetic phases of cultural development are the product of the converging of cultural streams from a number of dispersed sources. The Gandhara episode was one such phenomenon born out of the fusion of Persian, Greek, Central Asian and indigenous South Asian cultures. The art and architecture of Gandhara is generally believed to have evolved during the first century B.C. and reached its highest form of development in the reign of Kanishka, a Kushan ruler who, like Asoka, adopted the Buddhist faith and gave to the art and architecture of the Gandhara region his royal patronage[3].

Taxila (Sirkap)

The northwest of Pakistan, from the Jhelum river to Afghanistan, contains a wealth of stupas, monasteries, towns and village sites from this period. Perhaps the most thoroughly excavated of these sites is Taxila, which represents not only a complete sequence in the evolution of Gandhara culture but also one of the best examples of its developed architecture and town planning.

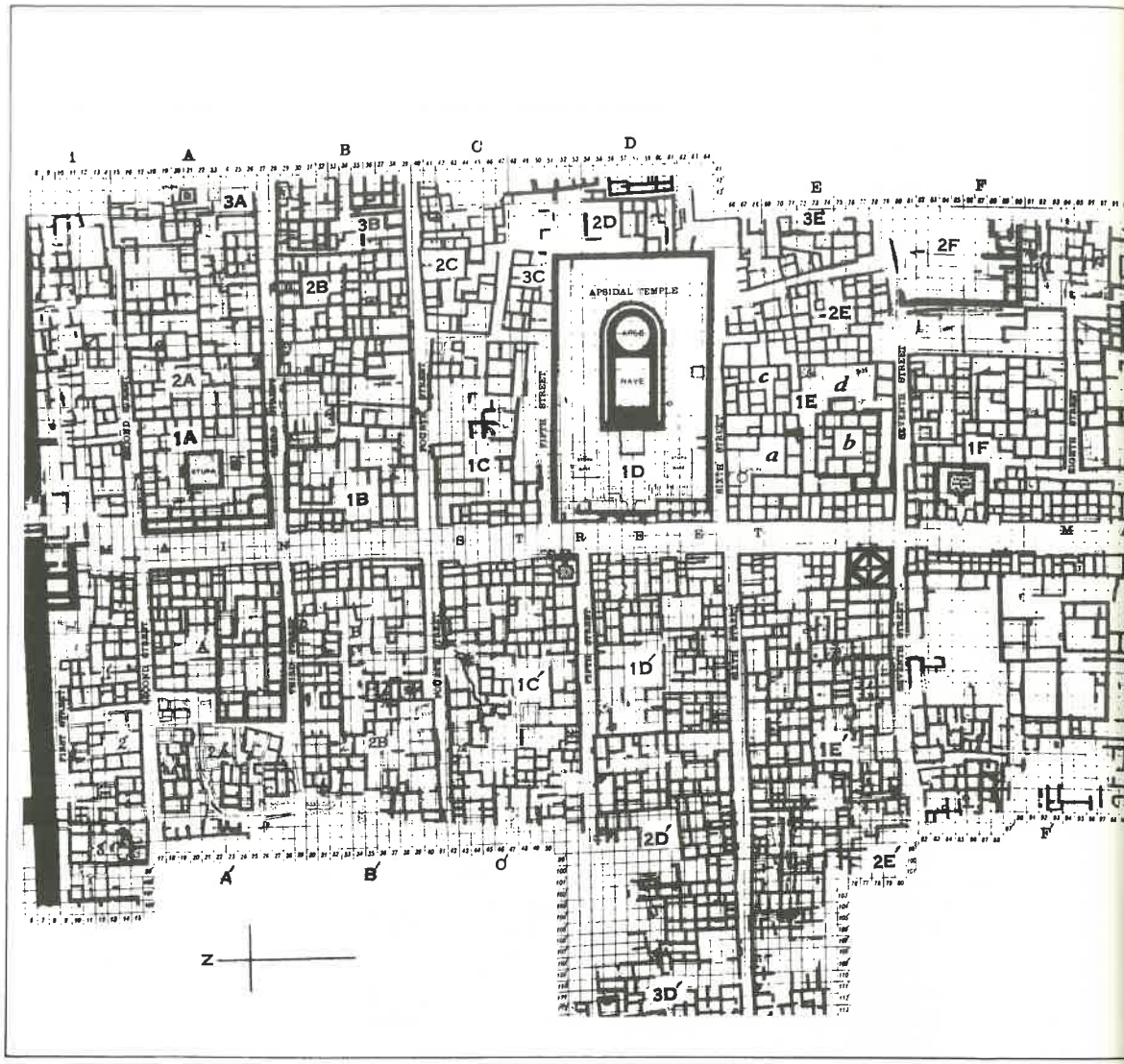
The city developed in three stages. The first city of Taxila was founded at Bhir Mound between the 4th and 3rd century B.C.[4]. Here it continued to develop till the 2nd to 1st century B.C. The earliest structures on the original site employed a rough masonry of limestone and river pebbles for their walls and pillars. Later the rough rubble masonry of these walls was built on pebble foundations and set in lime. Later still the limestone was replaced by Kanjur stone. The floors in these structures were sometimes paved with stone and invariably contained a fireplace[5].

The excavated plan of this first city includes large and small rooms, courtyards, halls, lanes and streets, with covered and partially covered drains and soak-wells built of stones or earthenware jars placed one above the other with perforated bottoms. The houses are built in an irregular and haphazard manner, and the lanes are so narrow that two persons would have found it difficult to walk abreast.

At the time of the Bactrian Greek occupation, 2nd to 1st century B.C., the city was shifted to Sirkap about a kilometre to the northeast of Bhir Mound. This second stage of the city at Sirkap is laid out on a grid plan on the Greek model. The construction of the houses shows a more advanced form of masonry using diaper stones and sometimes ashlar[6]. A remarkable new building type is the palace at Sirkap, reminiscent of the ancient palaces of Mesopotamia, with a division into the King's apartments, wide-halled audience chambers and harem. Still more impressive are the remains of the so-called fire-temple[7]. Situated about 700 yards north of the north gateway of Sirkap at Jhandial is an imposing building 158 feet long, including the projecting part of its portico, and 85 feet wide. Its plan, as observed by Marshal "is unlike that of any temple known to us in India, but its resemblance to the classical temples of Greece is striking"[8]. These similarities are indeed worth noting in the Jhandial temple.

In place of the usual peristyle of columns is a wall, pierced at frequent intervals by large windows which admitted ample light to the interior. But at the front entrance to the temple are two Ionic columns *in antis*, that is, between pilasters which supported the ends of the architraves passing above them. Corresponding to them on the inner side of a spacious vestibule is another pair of similar columns. Then comes, just as in Greek temples, the *pronaos* leading through a wide doorway to the *naos*, while at the back of the temple is another chamber corresponding to the *opisthodomus*. The only essential difference in plan between this and the Greek temple is that instead of an extra chamber between the *opisthodomus* and *naos*, we have at Jhandial a solid mass of masonry[9].

The walls of the buildings are built of coarsed-rubble masonry, comparable to the fortification wall of Sirkap. As is usual with other monuments at Taxila, the masonry is largely of local limestone, but the mouldings at the base of the walls and round the interior of the *naos* are of spongy Kanjur. According to


APSIDAL TEMPLE
APSE
NAVE
1A
1B
1C
1D
1E
1F
2A
2B
2C
2D
2E
2F
3A
3B
3C
3D
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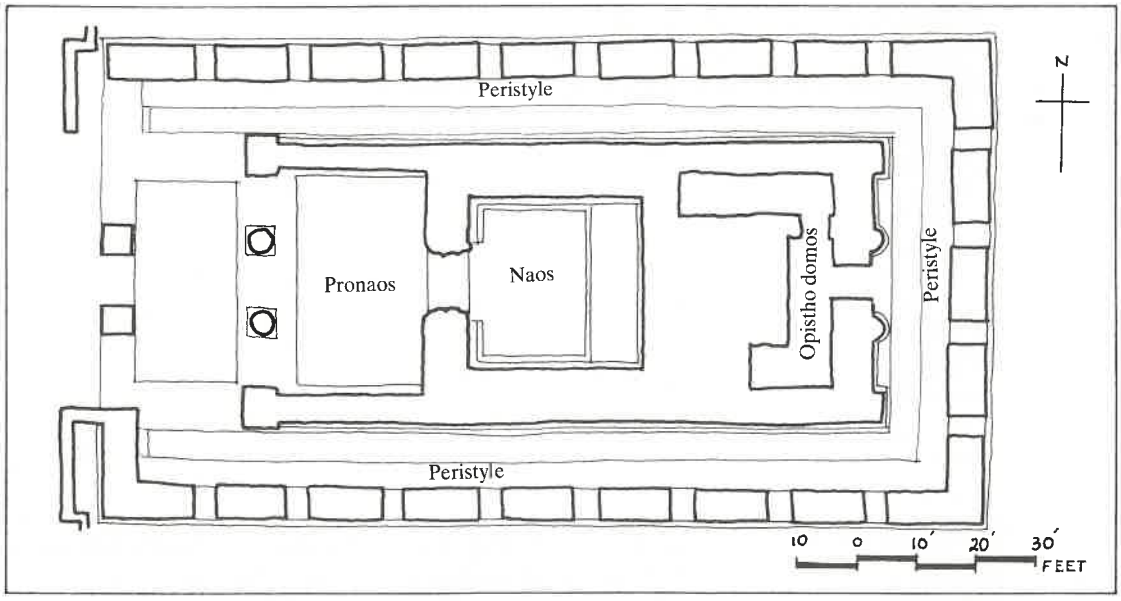
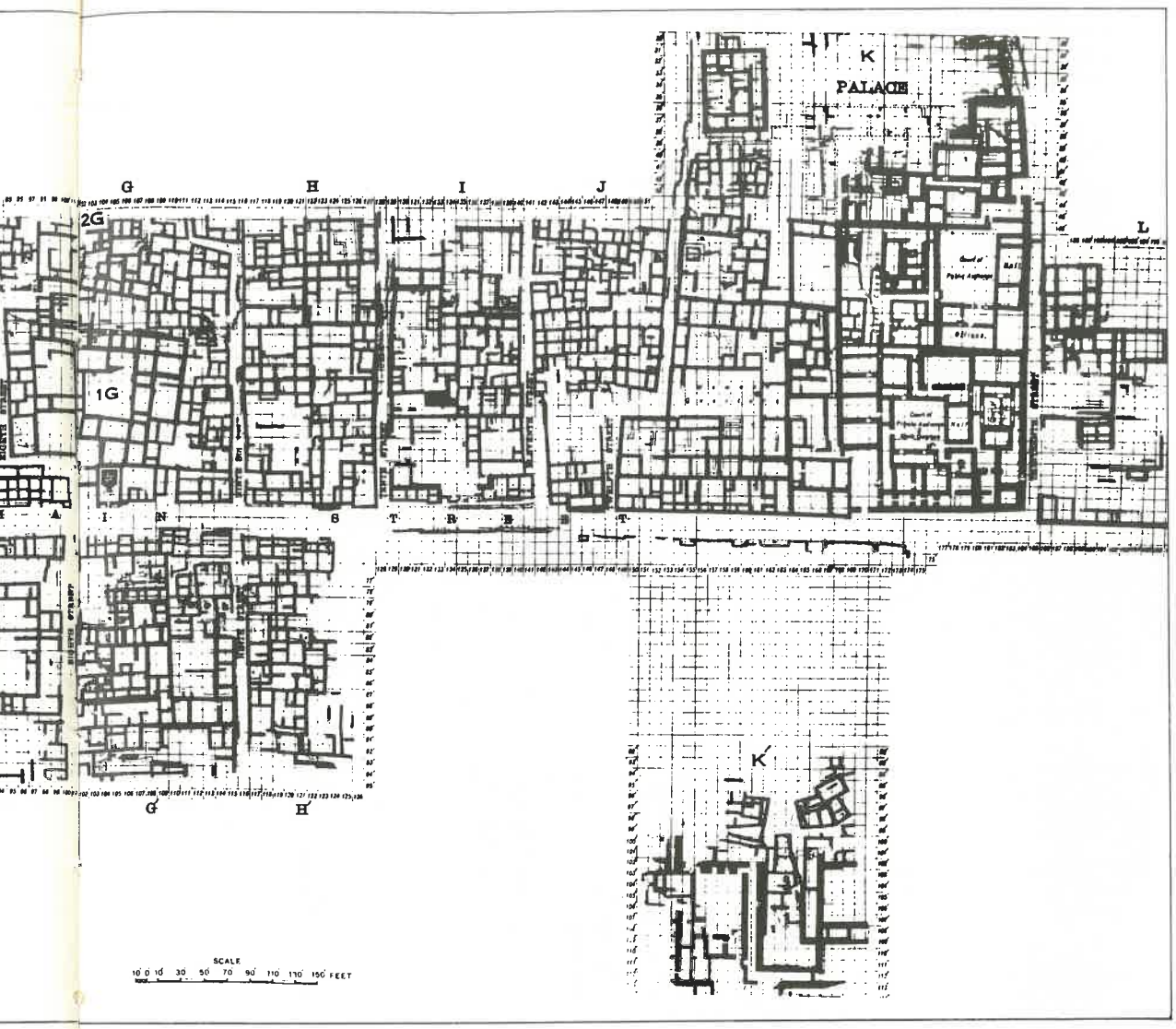
2.2


Peristyle
Pronaos
Naos
Opistho domos
Peristyle
Peristyle
N
10 0 10´ 20´ 30´
FEET



2.1

2.2

Nazimuddin, the surface of the walls, both inside and outside, was originally covered with a thick coating of stucco, patches of which can still be found, and the entrances to the two intercommunicating chambers were probably of wood bound with iron[10].

At the time of the Kushans (1st century A.D.) the city was shifted to a third site, Sir Sukh, more than three kilometres further north. The Kushan city shows a new development of military architecture in the form of prominently projected rounded bastions built with ashlar masonry[11].

Stupas and Monasteries

The Gandhara period is better known by those buildings associated with the development of the Mahayana phase of Buddhism. Beginning with a plain domical form of stupa at Taxila, Buddhist architecture developed through an intermediate stage of temple construction in which the stupa was contained within

2.1 Plan, Lower City, Sirkap. Source: Marshal, Sir John, "A Guide to Taxila."

2.2 Plan, Jandial Temple, Taxila.

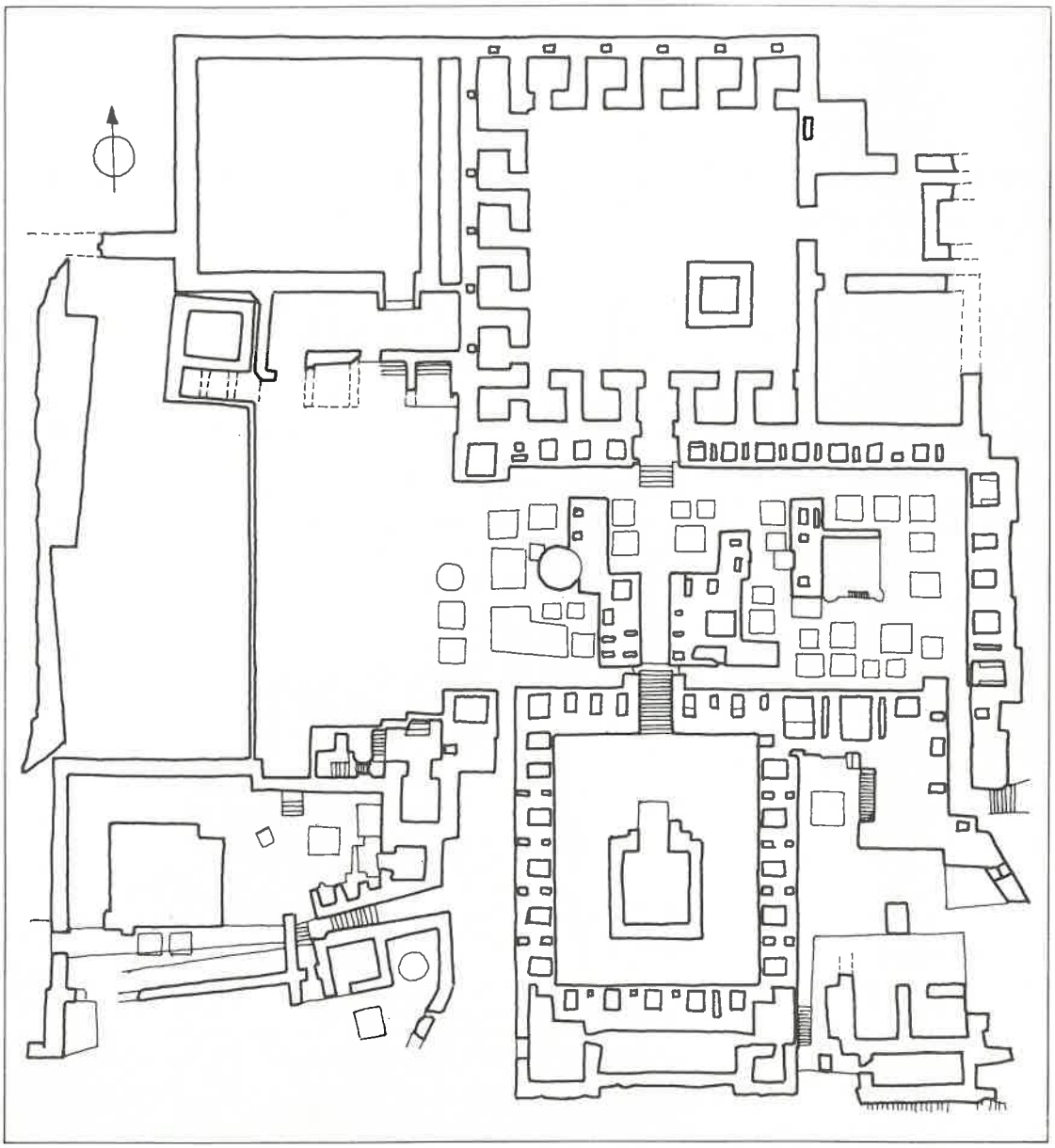
2.3 Plan, Royal Palace, Sirkap. Source: Marshal, "A Guide to Taxila."

2.4 and 2.5 Beginning with a plain domical form of stupa at Taxila, Buddhist architecture developed through an intermediate stage with the stupa contained within an apsidal building, and finally into the grand stupas such as of Dharmarajika at Taxila.

an apsidal building as can be seen at Taxila, and finally the grand stupas of Dharmarajika at Taxila and of Butkara near Mingora in Swat.

The great stupa at Butkara in Swat presents a fascinating study in the evolution of the stupa. Here a succession of six stupas were built on the same site, each successive structure built on top of or enclosing the preceding one. The first of these stupas, built about the 3rd century, B.C., is a simple affair, resting directly on the ground. After rising vertically for some height it inclines inwards on a gentle curve to form the dome. Its structure consists of stone boulders and small slabs carefully laid but without any real horizontal coursing. The dome proper consists of somewhat larger elongated slabs of schist with corners knocked off to give a curve. Externally it is totally devoid of any projection or other architectural element[12].

2.6 *Plan of Monastery, Takht Bahi.*



This basic stupa form was refined and enlarged in successive stages until a highly sophisticated form was developed. By the time the fourth stupa was built it was no longer a single mass of masonry but was divided into two distinct tiers, both cylindrical, but with the upper set slightly backwards from the lower. It is not known how the building was finished, but it may be conjectured that it carried a drum, which in turn carried a dome. Each of these elements is complete in itself with mouldings at top and bottom, and the wall faces are divided into panels by means of pilasters with capitals and bases. In still later periods the decorative elements gradually increased with the addition of sculpture depicting Buddha in various attitudes. An ambulatory and raised pavement were added, and the entire sacred precinct containing the great stupa in the centre, crowded on all sides by more than two hundred "votive stupas of various shapes and sizes, viharas and columns",[13] was paved and enclosed by a wall.

The introduction of the anthropomorphic representation of the Buddha and Bodhisattva in its sculpture, and the elaboration of the stupa form characterise Gandhara architecture. The 6th century A.D. Chinese pilgrim Sung Yun describes the most impressive of these monuments — Kanishka's tower at Shah-Ji-Ki-Deri — as having a superstructure built of every kind of wood and rising to a height of 700 feet in thirteen storeys dominated by an iron mast supporting thirteen guilded copper umbrellas[14]. As such it must have been one of the marvels of the Buddhist world and a possible prototype of the Chinese pagoda.

The stupa in Gandhara marks the gradual elaboration of the primitive types of Buddhist burial mounds or tumuli such as those at Sanchi and Barhut in India. This elaboration takes the form of the overall sculptural ornamentation of the base, drum and hemispherical dome. The Shrine of the Double-Headed Eagle in Taxila illustrates the typical Gandharan spirit in the handling of its ornamentation. Between the composite pilasters on the square base are reliefs of architectural monuments,

2.7 and 2.8 The elaboration of the stupa in Gandhara takes the form of overall sculptural ornamentation of the base, drum and hemispherical dome, as at Mankyal near Rawalpindi.

2.9 The Shrine of the Double Headed Eagle in Taxila illustrates the typical Gandharan spirit in the handling of its ornamentation.

2.10 Shrine, detail. Between the composite pilasters on a square base are reliefs of architectural monuments including a representation of a classical Greek pedimented aedicule, *a* torona *or Indian Gateway, and a* chaitya *arch.*

including a representation of a classical Greek pedimented *aedicule*, a *torona* or Indian gateway and *chaitya* arch. On the summit of the last is a double-headed eagle from which the shrine derives its name. The use of the engaged order is, of course, suggestive of Roman precedent, but the capitals themselves are completely nonclassical and even debased in proportion.

Another contribution of Gandhara to Buddhist architecture was the development of the type of building known as the *Vihara* or monastery. The usual layout of the *Vihara* consists of a square court circled by a continuous row of cells with the main stupa placed in the centre and numerous smaller stupas dotted around the remainder of the open space. The monasteries at Jaulian near Taxila and Takhte-Bahi, about ten miles from Mardan, are considered amongst the highest achievements of the period[15].

The ancient capital of the province of Gandhara was Pushkalavati, which remained an important centre of Buddhism from the

time of Asoka to the rule of the Kushanas, when Kanishka transferred the seat of his government from Pushkalavati to Purusapura (Peshawar). The mounds of Bala Hisar and Shaikhan Dheri near Charsada have been identified as the site of the ancient capital of Gandhara[16]. Although only partly explored, the early story of the site appears to resemble that of Taxila in general outline. Like Taxila, it stood upon the arterial route from Persia and Afghanistan into the subcontinent; it lay on the path of Alexander the Greek, and in Graeco-Roman times carried an appreciable east-west trade; it was a local capital with its own regional modes and crafts, and, like Taxila, it was absorbed into the Achemenid empire whilst retaining a measure of local control. Again like Taxila, in those times it was moved to a new but adjacent site and laid out substantially on a Western grid plan. It is thought probable that like Taxila, it was later moved by the Kushans to one of the other sites in the vicinity where relics of the Kushana period can be found[17].

HINDU AND JAIN ARCHITECTURE

From the 5th century to the Arab conquest, of Makran at the close of the 7th century and Sind and Multan at the beginning of the 8th, was a period of Hindu revivalism represented by the emergence of the Gupta dynasty on the political front and Brahmanism on the religious. But in most areas comprising Pakistan these changes appear to have been restricted to the assumption of political power by certain Brahmanical rulers. The populations and the culture generally continued to be largely Budhist. Moreover, Brahmanism itself was in the process of evolution and its rituals and concepts (of the diety) had not reached a stage which called for any elaborate structures. Eventually, the anthropormorphic and other figurative representation of the diety led to the transformation of the simple symbolic shrines and alters to the "house" for the diety figure, and the elaboration of the rituals was accompanied by the evolution of the temple structure. However, the classic Hindu temple form, with its fully articulated and defined parts (the *mandapa, garbha griha, ardhamanandapa, antarala, sikhara,* etc) was developed during the early Muslim period, that is, from the eighth to the tenth centuries. Some of the greatest achievements of Hindu and Jain architecture in fact belong to a still later period following the annexation of the Punjab by the Ghaznavids in the eleventh century, and the establishment of the Delhi Sultanate in the twelfth.

The surviving Hindu structures in northern and central India, before the Muslim conquest of Sind and Multan, are limited to a handful of small shrines, whose chief distinction lies in the first use of dressed stone masonry (in India), and in that they represent the first appearance of permanent structures associated with the Hindu religion. In other respects these structures are extremely modest in size and represent no great architectural accomplishment. They were simple, flat roofed enclosures built on a square plan[18].

Even in this embryonic stage the Hindu temples in the south of India were built on a larger scale, and represent an independent movement. These temples also have flat roofs[19], but a distinctive feature of this group was the structure in front of the sanctuary, which even in the earliest examples assumed the character of a pillared assembly hall, or *Mandapa.*

To these structural examples of early Hindu architecture proper, may be added three Brahmanical and one Jain rock-cut temple at Badami and a group of Gupta rock-cut sanctuaries at Udaigiri near Bhopal. But these, even more than the structural examples, were modelled on the contemporary Buddhist examples in the same region. Indeed, from the Buddhist cave architecture of Ajanta, Ellora and Aurangabad, no less than from the free standing stupas, viharas and other structures in the north-west (Sind, Punjab and NWFP), it is evident that the ancient classical architecture of India before the Muslim period was Buddhist rather than Hindu or Jain. The numerous examples of Buddhist architecture throughout the length and breadth of the subcontinent, dating up to the mid seventh century in western India, and still later in Bengal, testify to a mature and well established tradition which was the predecessor of Hindu architecture in India.

Although the Hindu structures before the Arab conquest of Sind and Multan have been described as "primitive", "crude", and displaying "no marked architecture perceptions",[20] they do record the genesis of the style that was to take a more definite form in the five centuries or so between the establishment of Muslim rule in Sind and Multan and the Sultanate at Delhi. This "Hindu style" is divided into two stylistic schools[21] the southern or Dravidian, and the northern or Indo-Aryan. Both styles are in fact restricted to a single building type — the Temple —, and are characterised by the use of richly carved stone. They did not employ cementing mortar in the joints or the arcuated forms of structures.

Thus Hindu and Jain architecture in Pakistan is limited to a few examples in those regions which remained outside the pail of Muslim rule. That is, the Pothowar area which formed part of the kingdom of Kashmir and later the Hindu Shahi dynasty in the north west, and the extreme south east region of Tharparkar.

Salt Range

The earliest of these temples are in two groups in the barren hills of the Salt Range and Dera Ismail Khan. The more easterly of the two groups lies along the river Jhelum, and is best represented by the Mallot Temple, probably the site of an ancient capital of the Salt Range[22]. The Temple is typical of the four-square Kashmiri style, with an elaborate recessed bay in each face flanked by fluted columns and capped by a trefoil arch. The roof was probably of stone, pyramidal in shape and stepped outwards in two or more stages. The columns appear to be derived from the western style of architecture through

2.11 Hindu Temple, Lahore. The surviving Hindu temples are mostly from the 19th and 20th centuries. None are likely to be earlier than the 8th century A.D. The convex sided sikhara towers, slightly projecting panelled bays and elaborately sculptured patterns are modelled on the Gupta architecture of the northern plain.

Buddhist channels, and the trefoil arches are derived from Buddhist buildings in which the trefoil represented the gable of an assembly hall or *chaitya* with side-aisles. The pyramidal roof is derived from timber prototypes designed to resist the heavy snowfall of Kashmir. Thus the whole design is an original and striking rearrangement of Buddhist elements grafted upon a Himalayan timber tradition[23].

The Kashmir style of architecture was characterised by Graeco-Roman elements such as pilasters, capitals and triangular tympana combined with such Indian elements as the trefoil arch. However, there is not sufficient evidence of a "Kashmir art" transplanted to the Punjab, and true derivations of this Kashmir architecture are confined to Mallot. Other Salt Range temples — Amb, Kalar, Katas, Nandana, and the two groups of temples in north and south Kafirkot, near Chashma on the Indus —, belong to the "medeival architecture of northwest India", or more particularly of the Hindu Shahiyas. The Shahiyas of Kabul were said to have been the vassals of the Kashmir king, and ruled the region from their capital at Hund (Waihund) near the confluence of the Kabul and Indus rivers between Attock and Peshawar. The extent of the influence of the Shahiyas can be judged from the presence of Hindu temples similar to Kafirkot in Afghan territory, in the Kunar Valley and the Khair Khane Pass, north of Kabul.

The definite affinity between the sculptures of Kashmir and the north-west is also confirmed in its architecture. The decorative details in the rock carved chambers in Bamiyan Valley in Afghanistan, include reproductions of wooden architectural elements such as the "lantern roof" which were clearly part of the building patterns not only of Kashmir, but spread over a wide area which includes the Hindu Kush, the Himalayas and the bordering mountainous regions.

Indus

The group of temples along the Indus represents the more normal northern or Indo-Aryan type. The Kallar temple in the Campbellpur area and one of the southern Kafirkot temples at Bilot in the Dera Ismail Khan district are representative of this group. Both of these are modelled after the fifth and sixth century Gupta architecture of the northern plain, with convex-sided sikhara towers, slightly projecting panelled bays in each side and elaborate fretted patterns based remotely on the Chaitya gable[24]. Over a dozen more temples within the two fortifications at southern and northern Kafir-Kot with some variations in the details and dates of individual temples, form part of the same group.

Tharparkar

A third group of temples, in the Tharparkar district of Sind, is best represented by the Jaina Temple at Gori. Built of local stones, with pillars and details of marble from Rajputana, this temple consists of three parts: an outer pavillion with marble

pillars and an inner pavillion, both with corbelled domes, and the shrine itself, which formerly had a spire of the typical Kathiawar pattern. Corbelled domes were not uncommon in Brahmanical and particularly Jaina temples, but their emphasis here has been ascribed to Muslim influence[25].

NOTES

[1] "Swat", Pakistan Archaeology, No. 5, 1968, p. 130.

[2] Mohammad Sharif, "Bhir Maund", Pakistan Archaeology, No. 6, 1969, p. 9.

[3] "Swat", Pakistan Archaeology, No. 5, 1968, p. 130.

[4] Mohammad Sharif, Op. cit., p. 17.

[5] Ibid., p. 21.

[6] Rajput, A.B., Architecture in Pakistan, Pakistan Publications, Karachi, 1963, p. 5.

[7] Nazimuddin Ahmed, "A fresh Study of the Fire-Temples at Taxila", Pakistan Archaeology, No. 4, 1967, p. 153. The Jhandial temple has been compared with similar fire-temples in Afghanistan and Iran: (1) Daniel Schlumberger, 'le Temple de Surkh Kotal Bactrian' *Journal Asiatique,* 1952, pp. 433–455; (2) Ghirshman, R., *'Iran, from the earliest time to the Islamic conquest',* 1954, p. 277; (3) Nazimuddin Ahmed, 'A Fresh Study of the Fire-temple at Taxila', Pakistan Archaeology, No. 4, 1967. However, while the date of its formulation has now been ascribed to the 2nd century B.C., the actual purpose of this building is not certain.

[8] Marshal, Sir John, *Taxila,* Cambridge 1951, vol. I, p. 223.

[9] Nazimuddin Ahmed, Op. cit.

[10] Ibid.

[11] Rajput, A.B., Op. cit.

[12] "Swat", Op. cit., p. 118.

[13] Ibid.

[14] Rowland, Benjamin, *The Art and Architecture of India,* Penguin Books, 1954.

[15] Rajput, A.B. Op. cit.

[16] "Charsada", *Pakistan Archaeology, No. 5,* 1968, p. 69.

[17] Wheeler, Sir R.E.M., quoted in "Charsada", Op. cit., p. 84.

[18] The three earliest examples (The Tigawa temple in Jubbulpore district, a temple at Bhamara in Nangod state and a temple at Nachna in Ajaigarh state), are from the 5th century A.D. and were between 12 to 15 feet side externally with cellas of about 8 feet sides. The culmination of this Gupta style is represented by the Siva temple at Deogarh in the Jhansi district. Probably from the early sixth century, it has a tower-like shrine, which measured 18 feet at its base, and was flanked by a portico on each of its four sides. See Brown, Percy. *Indian Architecture, Buddhist and Hindu Period,* Taraporevala, Bombay, 1971. pp 47 to 50.

[19] Several of the Aihole temples are surmounted by a small upper story or tower (sikhara) but these appear to have been of a later date.

[20] Brown, Op. cit. p. 48 etc.

[21] Subsequent to the annexation of Makran, Sind and Multan by the Arabs Hindu architecture evolved along two distinct lines: the Dravidian style or "order" in certain areas of south India, and the northern Indo-Aryan style which was spread over a much wider area of the subcontinent but with its principal centres lying in a wide belt stretching from Orrissa in the east to Gujrat in the west. See Brown, Op. cit.

[22] Ibid. p. 130.

[23] Ibid.

[24] Ibid.

[25] Ibid p. 134.

3 EARLY MUSLIM

600 — 900 AD ARAB PERIOD
- Bhambore
- Mansura
- Multan

900 — 1300 AD SULTANATE PERIOD
- Mosque
- Tomb of Khalid Walid
- Tomb of Shah Yousuf Gardezi
- Tomb of Sheikh Baha ul-Din Zakariya
- Tomb of Shah Rukn-i-Alam
- Uchch Monuments

ARAB PERIOD

The earliest records and material remains of building activities of the Muslims in India date from the Arab conquests of Sind. However, commercial intercourse between India and the Arab world had existed long before the advent of Islam. The Indian ports of Debal Saymur, Baroch and Thana were often visited by Arab ships, and the Arabs are reported to have established colonies in Ceylon, Malabar and the Karomandal coast of India as early as the mid-7th century. The most important centre of these Arab settlements was Gujrat. Arab travellers who visited the western coast of India in the 4th century mention the existence of mosques in almost every town of the Malabar coast and note that the Muslim communities had complete freedom in the exercise of their religion[1].

The permanent conquest of Makran in Sind was accomplished during the reign of Mu'awiyah ibn Abi Sufyan by Sinan ibn Salamah al Hidhli, who, not only conquered Makran but also made arrangements for its control and administration[2]. Makran henceforth became an Arab province and a colony, as well as an army outpost.

Following an act of piracy in which a ship carrying some Arab women from Ceylon was attacked near Debal, Hajjaj ibn al-Thaqafi, the viceroy of the eastern provinces under Caliph 'Ibn al-Malik, organised a series of expeditions to Sind. The first two of these ended in failure. The third, under the leadership of Mohammad ibn-Qasim, reached the region of Debal[3] in 711 and proceeded to conquer the whole of Sind. In the process he captured at least fourteen forts or fortified towns. As a rule the Buddhist populations and monks were treated with sympathy, and their places of worship were spared. Mosques are recorded as having being built in at least three of the conquered towns. At Multan, where the temple was robbed of its great treasures, the idol of Job (Ayyub) was not molested.

After the annexation of Sind as a province, Mohammad ibn-Qasim was followed by a succession of Ummayad and Abbasid Governors. By about 872–873 the Abbasids lost political control of Sind, and the Arab chiefs divided the country into several independent principalities. Two of the most important of these were the Emirates of al-Mansurah and Multan. The

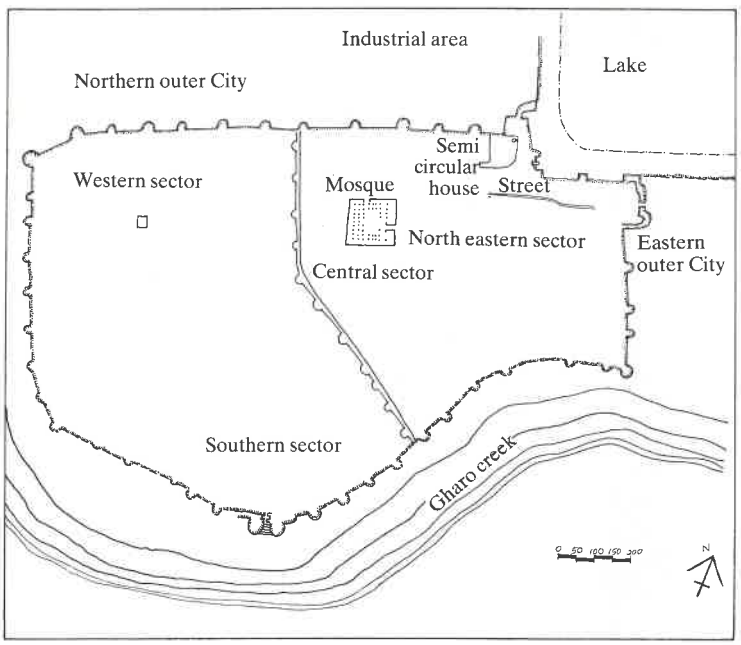
former, extending from Aror to the sea and comprising the present day province of Sind and the former states of Lasbela and Makran in Baluchistan, was ruled by the Habbari dynasty. The Emirate of Multan extended from Aror to the confines of Kashmir, and was held by another Qurayshite family[4].

The new cities which grew up in Sind under the Arabs included Nirun, Alor, Mansura and Mahfuza.

Bhambore

The ancient site of Bhambore lies on the north bank of the Gharo Creek about forty miles east of Karachi. The site has long been known by archaeologists, and many of them hold it to be the site of the ancient fort city of Debal which fell to the Arab general Mohammad ibn-Qasim in 711.

Major excavations started in 1958 revealed remains from three distinct periods — Scytho-Parthian, Hindu-Buddhist and Islamic — dating from the 1st century to the 13th century[5]. Full-scale excavations have revealed a well-fortified citadel town measuring 2,000 by 1,000 feet.



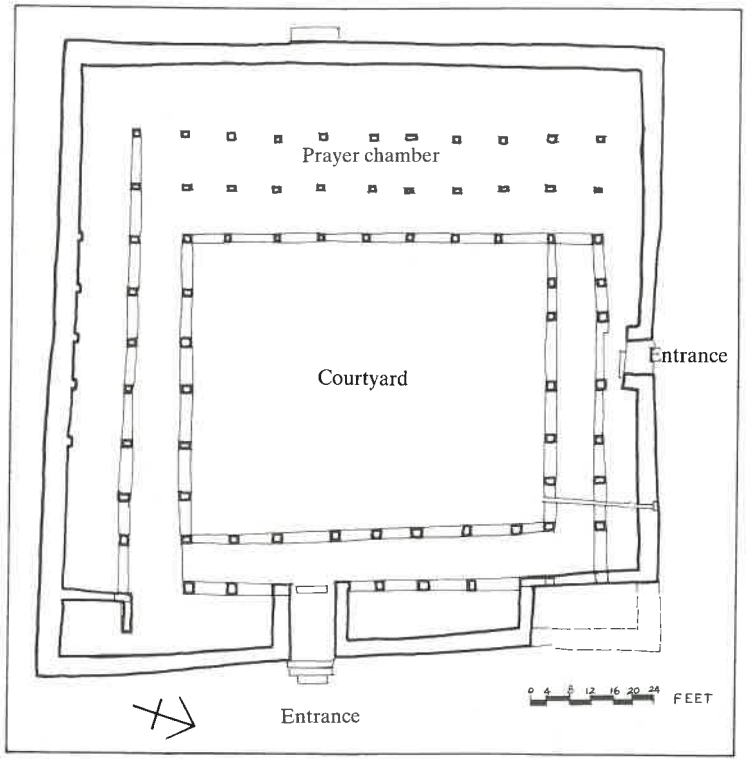
3.1 Site plan, Bhambore.

Whether or not Bhambore was the port of Debal first conquered by Mohammad ibn-Qasim remains to be decided. The Muslim occupation of the site has, however, been dated to the earliest periods of Muslim rule in Sind. The excavations suggest that during the Muslim period the city was well planned. The residential sectors were divided into blocks separated by well-oriented streets and lanes; the houses of the town's elite were built of semi-dressed stone blocks and occasionally of square-shaped baked bricks, with lime-plastered walls and floors. The houses of the poorer people were made of mud-brick on stone foundations, and the walls were coated with fine mud-plaster. Remains of large, thin brick-tiles and wooden beams have also been found[7].

THE FORTIFICATION WALL The most impressive building remains from the Islamic period at Bhambore is the fortification wall which runs round the citadel mound. It was originally erected during the reign of the Ummayad Caliphs, with large and heavy blocks of semi-dressed and undressed limestone set in mud mortar. The huge wall was strengthened with semi-circular bastions at regular intervals. This defensive wall was repaired during the Abbasid period (9th-10th century) and rebuilt on a reduced scale during the Sultanate period.

CITY GATES The excavations have so far brought to light three gateways to the citadel. The eastern gateway, connecting the citadel with the ancient lake, has a broad flight of steps and appears to have been used mainly for the supply of water. The north-eastern gateway with its well-preserved, finely designed steps, opens to the lake and seems to have served the grand semi-circular mansion which lies immediately inside the citadel. The most impressive of the three gateways lies on the south of the citadel and opens on the creek. This gate, eight feet wide and flanked by two large, solidly built semi-circular bastions, appears to have been the principal entrance to the city. Behind it lies an entrance hall of extraordinary solid and massive character. The gate is connected with the city by a wide street. In front of this gate and half-submerged, is a broad stone terrace which may have been an anchorage for small cargo boats.

To the north of the citadel is what appears to have been an industrial area with evidence of indigo, glass and metallurgical factories. Material from the Muslim occupation levels of the site — Kufic inscriptions carved on dressed stone slabs, coins and pottery — indicate a very cosmopolitan society which appears



3.2 Plan, Grand Mosque, Bhambore.

to have had particularly strong connections with the neighbouring Muslim countries to the west.

THE GRAND MOSQUE The most significant discovery at Bhambore is the uncovering of the Grand Mosque at the centre of the citadel. Two of the dated inscriptions unearthed make it the earliest known mosque in the Indo-Pakistan sub-continent. One of them is dated 109 A.H. (727), not much later than the fall of Debal to the Arabs in the 711[8].

The structure, built roughly on a square plan, measures 120 by 122 feet. Its outer wall measuring 3 to 4 feet in width, was built of finely-dressed limestone blocks. An open courtyard with a floor of flat brick measuring 75 by 58 feet was surrounded by covered cloisters and corridors on three sides, while on the fourth lay the prayer chamber. The roof of the prayer chamber was supported on 33 pillars arranged in three rows. A number of stone bases, some of which were carved, have been found intact. The presence of finely-carved wood suggests that the roof of the mosque was supported on wooden columns. No *mehrab* is traceable in the western wall as this feature was not introduced until a later period. The plan of the mosque strongly resembles those of the Jami' mosques of Kufa and Wasit (670 and 702 respectively)[9].

ADMINISTRATIVE BUILDING An impressive building of considerable size on the northern side of the Grand Mosque, with its gateway and entrance hall facing the northern gate of the mosque, is thought to have been the attached *maktab* or some important administrative building. It has a number of long and broad corridors and rows of rooms on both sides. The structure has deep stone foundations and a thick, mud-brick superstructure. Another mud-brick house on the western side of the mosque was probably the attached *serai* or inn[10].

OTHER BUILDINGS A semi-circular building of palatial proportions was uncovered in the north-eastern sector of the city. Plastered floors, massive stone walls, a fine stepped entrance and a large circular well with attached drain all add to its grandeur. Other special features of this building are the gateway that connects it with the lake and the soak-pits on the outside[11].

A large house in the northern sector, provided with soak-pits in its backyard is a rare example of a burnt-brick structure[12]. Carved stone blocks from Hindu buildings, apparently reused in the mosque, have also been recovered from this area. Indeed carved stones of the pre-Islamic period were extensively reused in the Islamic building levels[13].

Mansura

Al-Mansura, the Arab capital of Sind was situated on the western bank of the river Indus, some eight miles from the modern town of Shahdadpur. Al-Mansura is spoken of as a great commercial city with extensive trade. The city was well built and populous and had many fields, gardens and recreation

centres. The buildings were made of clay, wood and bricks but the chief congregational mosque was built of stone, bricks and marble[14].

Excavations on the site have revealed a fortified city defended by a burnt-brick wall which was provided with bastions at regular intervals[14a]. The residential buildings appear to have been large and spacious, built of burnt bricks, using arched openings, lime-plaster finishes on the floors and walls, and sophisticated sanitation arrangements with ventilated soak-pits and drains[15].

Multan

Arab travellers and geographers who visited these areas in the 9th and 10th centuries[16] report that Multan was well populated and the people led a prosperous life under Arab administration. The vast territory of the Emirate and its capital consisted of more than a hundred and twenty thousand villages, as well as larger towns such as Barɛr, Durwin, Barud and Qannauj. Its boundaries met with the kingdom of Mansura in the south, with whom it was comparable in size, commerce and civic amenities. The marketplace of Multan was spacious and populous. The temple was located in the centre of the marketplace, around which were the arcades of shops dealing in artifacts made of ivory and bronze. The Jami' mosque was situated in the neighbourhood of the temple[17].

So great was the impact of Arab culture in Sind and Multan that the local population, consisting mainly of Hindus and Buddhists, spoke Arabic along with their mother tongue. The people of Sind wore the same dress as that worn in Iraq and the adjoining Muslim countries. The Arab rulers and their associates, on the other hand, imitated some of the local traits. They not only spoke the local languages, but also adopted local dresses and other facets of social life[18].

SULTANATE PERIOD

By the 10th century the Khariji and Ismaili movements began to gain influence in both Mansura and Multan. By the close of the century the Ismaili *da'wat* succeeded in capturing political power in Multan[19]. Towards the end of the 10th century, the north-western part of the subcontinent was under the Hindu Shahis whose capital was at Waihund (modern Hund in Mardan district) and whose rule extended to Kabul in the west and river Bias in the east.

A number of aggressive acts[20] by the rulers of Multan and Waihind against the rising power of the Ghaznavid Sultans provoked the first series of punitive campaigns by Mahmud Ghazni in India (1004–1008). On two occasions the Hindu Shahis had mobilised a confederacy of the major Rajput princes of northern and central India against the Ghaznavids. The encounters with this formidable and persistent challenge pro-

voked a second series of military campaigns (1009–1027) designed to break the power of the Rajput confederacy[21].

In the process of these campaigns, Mahmud annexed the Punjab to his dominions, built a fort, Mahmudpur, near Lahore where he housed his governors, and built a mint. In 1037 he installed his slave, Malik Ayaz as ruler of Lahore. Ayaz is credited with rebuilding the fort at Lahore and rehabiliting the city, a task which he completed by 1040[22].

The Ghaznavids have been described as the political and cultural heirs of the Samanid dynasty which ruled over Central Iran and Afghanistan in the second half of the 10th century. It was at the court of Ghazni that Firdausi completed the Shah-Nama, the same court that saw the flourishing of a cluster of celebrated personalities such as the great scientists al-Biruni. Ghaznavid art, as yet not well known, may be considered the sister of the great Persian art that was to take hold in the Seljuq period[23].

Mosque

The exceptionally large mosque associated with Mahmud's palace at Lashkari Bazaar is one of the oldest known mosques in Afghanistan[24]. Its dome, in front of the *mehrab* in a mosque with a broad hall, is an innovation in the Iranian context. The burnt-brick dome over the throne room in the palace of Masud III, one of the successors of Mahmud (1099–1115), at Ghazni itself, appears to have been the first example within the Iranian-Islamic framework of the use of this device of ceremonial Sassanian architecture in a royal palace. A Kufic inscription in marble at the same palace at Ghazni is one of the oldest examples, and one of the most revealing, of the epigraphic use of Persian and is a document of great cultural value. The bas-reliefs of "hunting scenes of the Sassanian type, animals, dancing girls, and bodyguards in Central Asian costumes, contributed a completely new chapter to the history of Muslim Art"[25]. Yet another contribution to Islamic architecture made by Ghazni appears to have been a new type of minaret: tall and slender, with its cylindrical shaft on a usually polygon base, which appears to have emerged in northwest Iran at the close of the 10th and the beginning of the 11th century[26].

If Ghazni was the most important Muslim cultural centre east of Baghdad, the Ghaznavids themselves established its most brilliant outpost in India at Lahore. Lahore, which until this time had been only a fort, became by the end of the 11th century and the beginning of the 12th a great and famous city, referred to with great attachment by many a poet[27]. The last three Ghaznavid kings made Lahore their centre and resided here. Lahore became a centre of learning and accomplishment. A number of Muslim families came from other countries in search of livelihood, government employment or religious preaching. Local citizens also began to be converted to Islam in large numbers, and a Muslim society took shape.

Today, the early Muslim architecture of India is represented only by a number of surviving buildings at Multan and Uchch,

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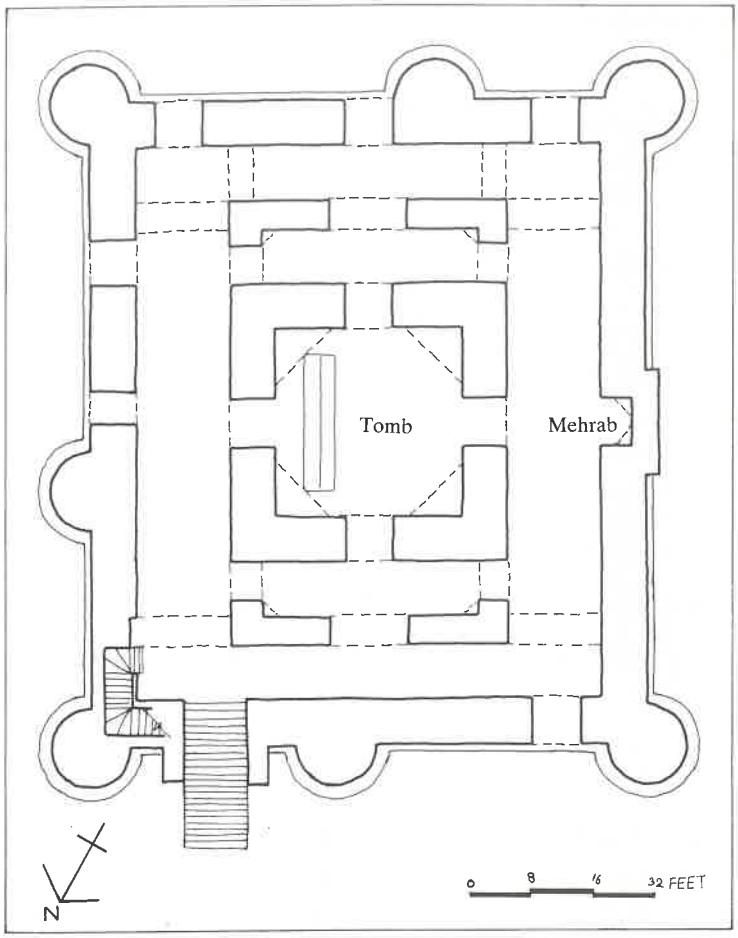
particularly the tombs of Sufi saints from 12th to the 14th centuries. Although no complete buildings from the pre-Sultanate or early Islamic period have survived, the literary and fragmentary evidence suggests that Muslim architecture in the north-western region of the subcontinent: Sind, Multan, Punjab and the North West Frontier, roughly corresponding to the present area of Pakistan, had developed as an extension of the Turko-Persian cultures to the west.

The north-south band of the Indus Valley forms a not too constant dividing line between the Indian and Persian worlds. All along the mountainous western frontier of Pakistan, the people speak some form of corrupt Persian dialect. When the Turkish tribes from South Russia swept across Persia and Anatolia, Pakistan was absorbed into the newly formed Turko-Persian cultural network. Because the emergence of this new cultural unit coincided with the adoption of Islam by its people, the earliest Muslim buildings in Pakistan, Iran and Turkey, are a product of a common architectural tradition. Practically every element of these early Muslim buildings in Pakistan identifies them with the contemporary architectural traditions of Persia and Afghanistan. This is as true of the functional types as it is of every other detail of plan, elevation, massing, materials of construction and decoration.

The predominant type of building that survives from this period is the mausoleum, with those at Multan being the most representative. But numerous other buildings at Uchch, Sukkur, Hyderabad and Thatta, even as late as the 19th century, can only be ascribed to Persian influence rather than to any Indian tradition. Usually square or octagonal in plan, with occasionally polygonal or round corner towers, they are often roofed by a large central dome. Although the use of brick was not new to this region, the manner of its employment in these buildings is certainly not indigenous. Besides, the pointed arches, the geometric patterns in relief in brickwork, the floral, geometric and calligraphic motifs of the surface decoration in glazed tiles or carved stone are all clearly an extension of contemporary Persian practice.

The similarities of the climate and materials of Pakistan and its western neighbours as well as their ethnological and frequent political associations, gives the dry steppe and desert region of Iran, Afghanistan and Pakistan a common cultural identity. But Pakistan occupies a peripheral position in regard to the main centres of Turko-Persian culture. The interests of the Ghazi Turkish warlords were necessarily orientated towards the events in Baghdad and Damascus. Equally important in their ambition and those of the Turkish and Persian bourgeoisie, however, was the enrichment of their own cities. Thus, while Bukhara, Samarkand, Isfahan and Herat became the focus of local ambitions, concern for the welfare of the universal Islamic state forced their gaze further westward.

Viewed in this light, the early Muslim architecture of Pakistan pales before the brilliance of its Russian, Afghan and Persian counterparts. But its real significance becomes apparent when



3.3 Plan, Tomb of Khaliq Walid.

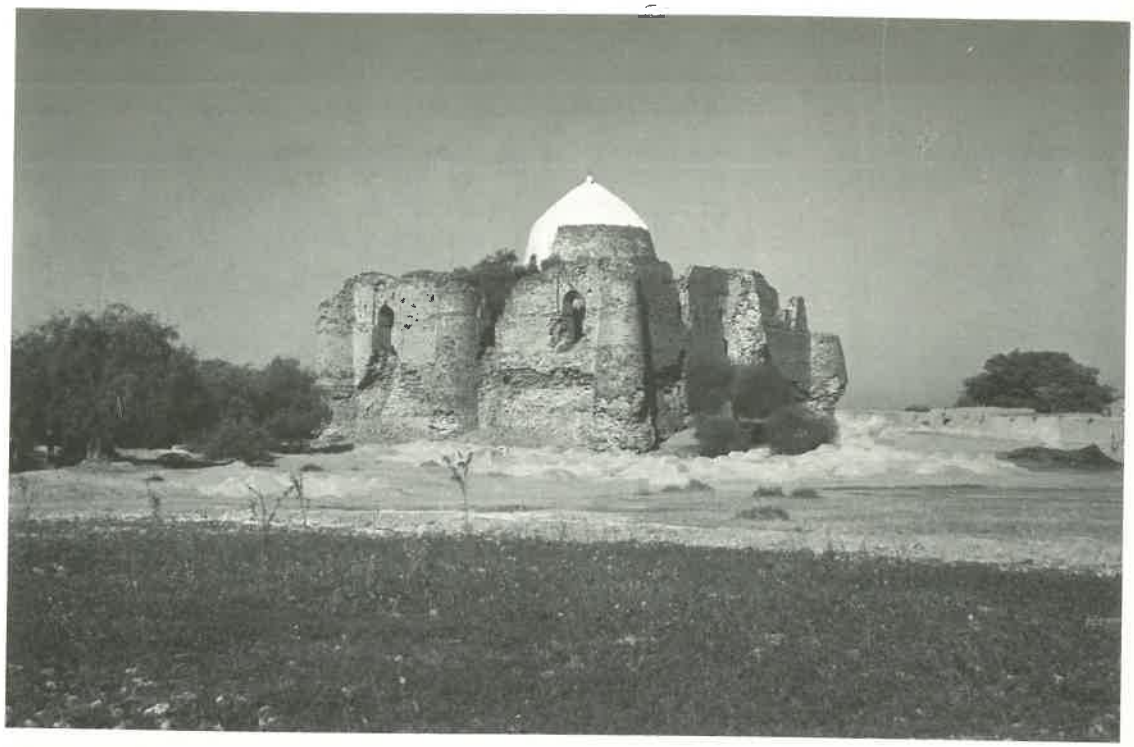
seen in the context of the architecture of the Indian subcontinent. For it is in the monuments at Multan and Uchch that we find one of the two main sources of Indian architecture associated with the Sultanate period.

Tomb of Khaliq or Khalid Walid

The recently identified tomb of Khaliq or Khalid Walid in Kabirwala Tehsil near Multan may be the earliest known Muslim funerary memorial in the subcontinent[28]. As the only surviving Ghaznavid structure in Pakistan it provides invaluable material for study.

The tomb consists of a rectangular fortified brick structure measuring about 70 feet by 90 feet, with inward-sloping rounded buttresses at each corner and similar buttresses in the middle of three outer walls. On the fourth, the west wall, the round buttress is replaced by a rectangular projection marking the *mehrab* within. The south and east walls are punctuated by three generous windows with pointed arches; the west wall is windowless, while the north wall contains the entrance, placed off-centre between two buttresses.

A generous flight of steps leads through what must have been an imposing high gateway, up to the floor which has been raised some fifteen feet above natural ground level. Inside, the whole



3.4

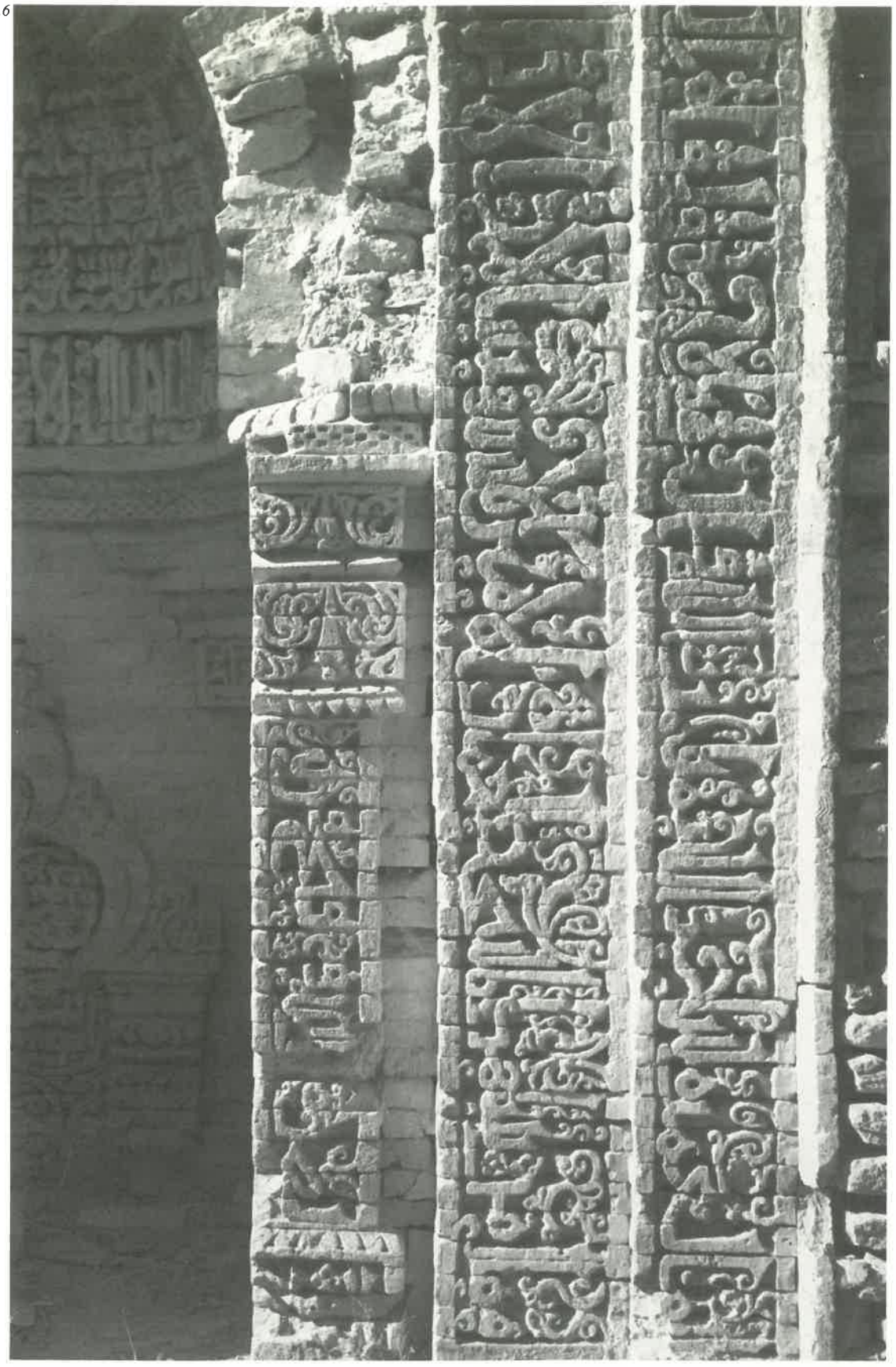
3.5

3.4 12th Century Tomb of Khaliq Walid, near Multan, may be the earliest known Muslim funerary memorial in the sub-continent.

3.5 Motifs such as trefoil arch, pilasters and capitals in the Tomb of Khaliq Walid are reminiscent of Kashmiri or Hindu Shahiya temples.

3.6 Tomb of Khaliq Walid. Detail from Mehrab inscription.

3.6

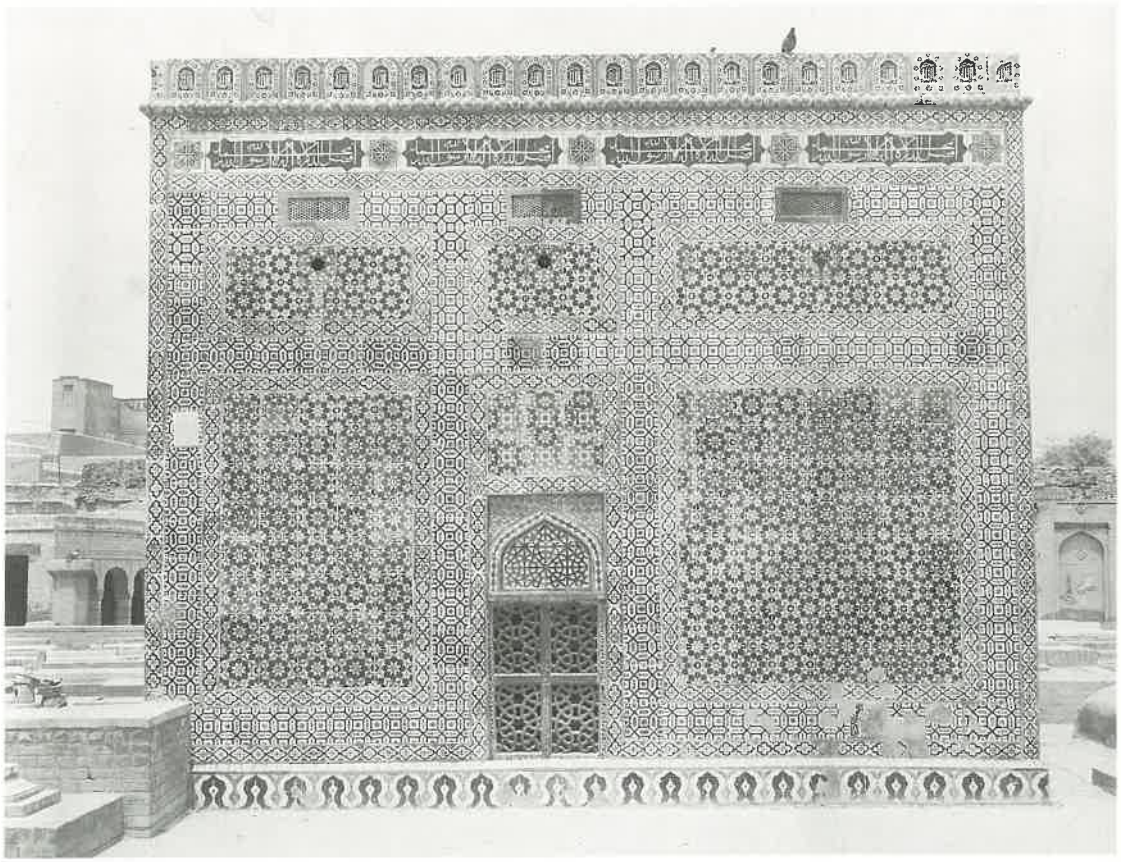


area appears to have originally been roofed, although only the tomb chamber is now covered. The space is divided into a series of galleries forming an outer ring or ambulatory around three inner chambers: the tomb chamber in the centre flanked on the north and south by two smaller rooms. The oblong gallery or hall on the west contains a *mihrab* which is particularly significant. The rich cut-brick patterns in relief include calligraphic inscriptions in a foliated Kufic script and a number of motifs such as the trefoil arch, pillasters and capitals which are reminiscent of the Kashmiri or Hindu Shahiya temples.

The tomb itself lies in the central chamber which is a square of about 24 feet on each side. The zone of transition to the dome above is formed in two stages. Beginning at a rather low level, wide arches in each corner of the square, springing from about five feet above the present floor, make an octagon at a height of about ten feet above the floor. At this level a set of miniature squinch arches convert the octagon to a sixteen-sided drum over which is the circular dome. Externally, the dome appears to have been given an exaggerated pointed slope, presumably to lend it extra height.

Even in its present dilapidated condition the structure provides a sufficiently clear illustration of the basic features of Ghaznavid architecture. It is also an important landmark in the evolution of the domed mausoleum represented at Multan by three succeeding examples: Sheikh Baha ul-Din Zakariya (died 1262), Shadna Shahid, (died 1270) and Shah Shams Sabzwari

3.7 The most predominant type of surviving buildings from the Sultanate period is the mausoleum. Those at Multan being the most representative. Shah Yousef Gardezi's Tomb may represent an early stage in the evolution of the tomb from a modest single storey with a flat roof on timber columns and beams.



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3.8 and 3.9 The essential form of the Tombs of Shah Baha ul-Din Zakariya and Shah Shams Sabzwari with their square plans, octagonal drums, a central dome and corner minarets, establishes a type of mausoleum building which was to endure for 700 years.

(died 1276), all built within a period of fifteen years. These are also rectangular in plan but rise in three stages, the lowest of which is square, above which is an octagonal second storey and finally a hemispherical dome. In the pocess of evolution it appears that the central tomb chamber was enlarged and the dome raised higher to dominate the entire scheme, whereas the ancillary chambers were reduced to a secondary position or eliminated altogether. The outer wall eventually became part of the supporting structure of the central dome.

Tomb of Shah Yousuf Gardezi

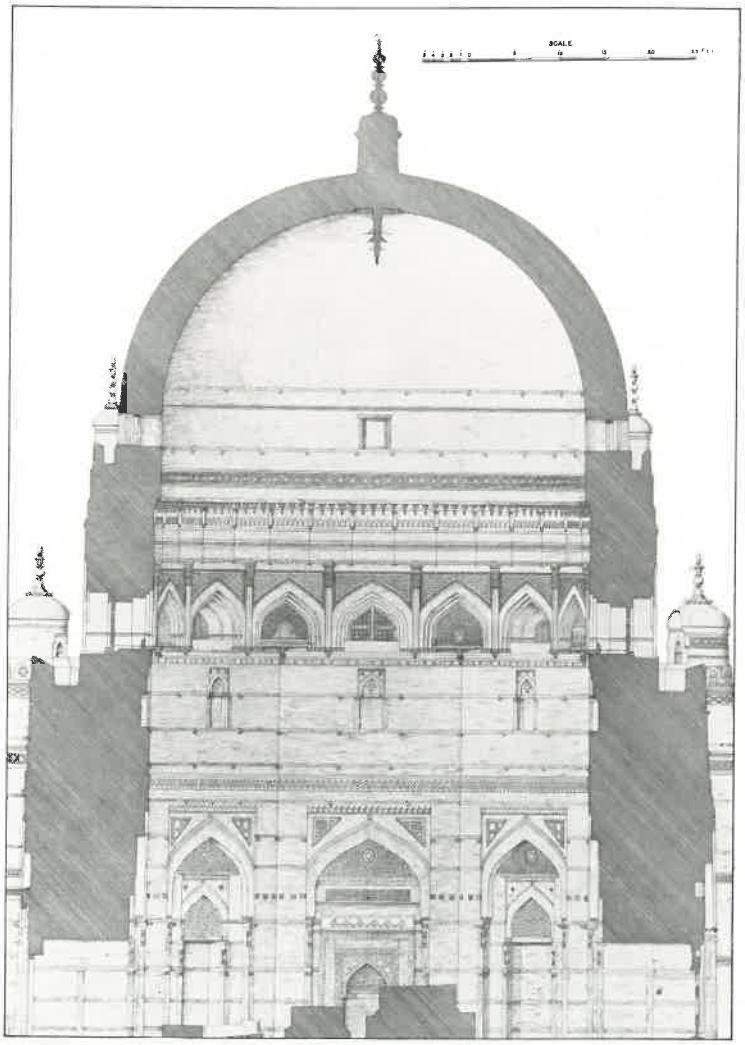
Glazed tiles are one of the most characteristic of the decorative crafts of the lower Indus region, and one of the most striking applications of this technique is on the small tomb chamber of

Shah Yousuf Gardezi. This simple cubical structure is entirely covered with dazzling blue and white tiles, which, though replaced from time to time, probably retain the character of the original as it was built in 1152 some 400 years after the death of the saint whose grave it covers.

The tomb of Yousuf Gardezi represents the flat-roofed type of tomb structure, and if the claim of this tomb to being one of the earliest of the group of tombs in Multan[29] is to be accepted, then it would appear that the two types — domed and flat-roofed — enjoyed an equal antiquity in this region.

Tomb of Sheikh Baha ul-Din Zakariya

The most elegant of the Multan shrines is the tomb of Sheikh Baha ul-Din Zakariya. The low front pavilion is probably a later addition and the austere simplicity of its lines has been further exaggerated by the continuous application of plaster and whitewash which have gradually obscured much of the detail on the external surfaces. However, the essential form of this early example, with its square plan, octagonal drum, a central dome and corner minarets, establishes a type of



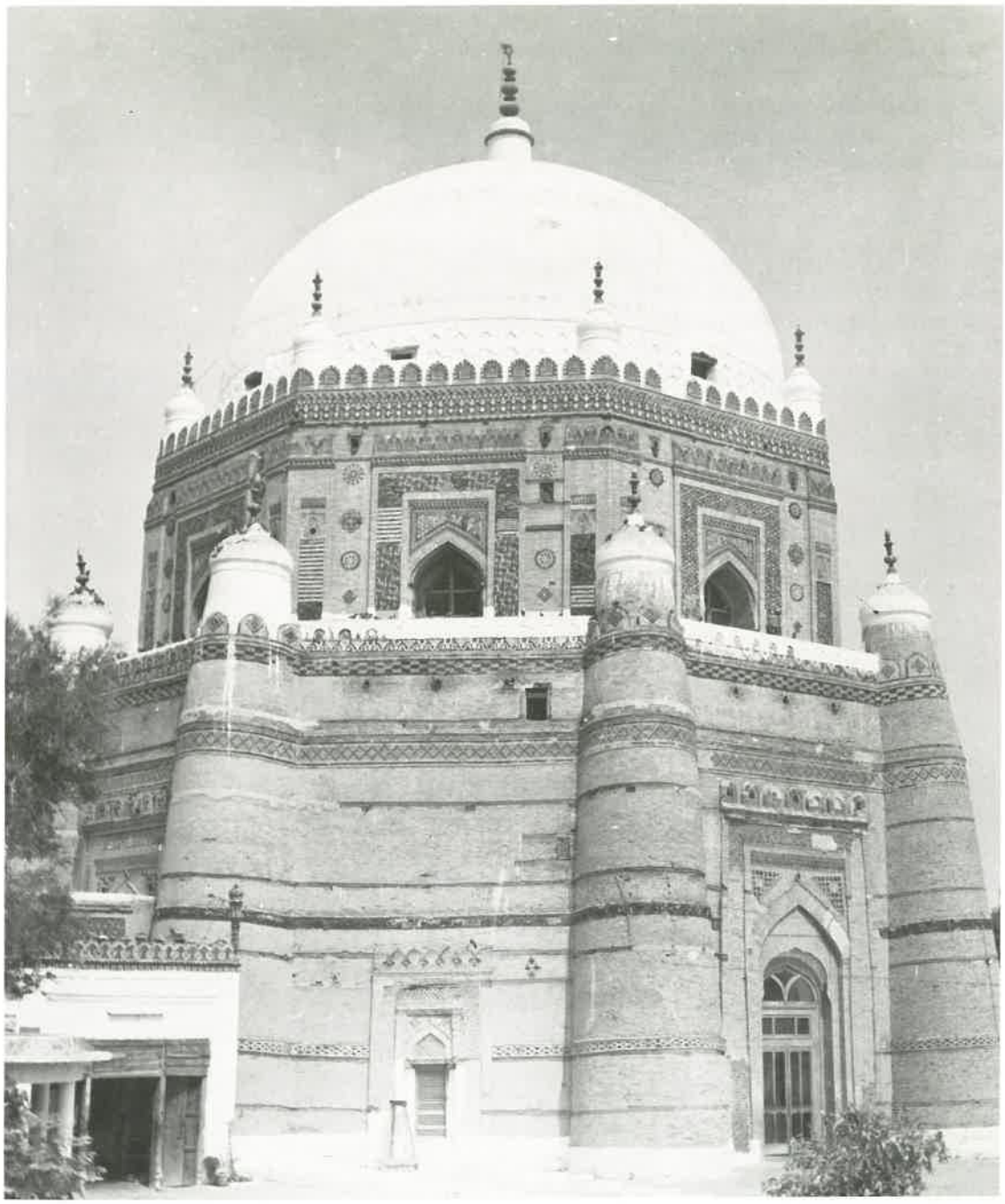
3.10 Cross section, Shah Rukn -i-Alam, Multan.

mausoleum building which was to endure in the lower Indus Valley for 700 years.

Tomb of Shah Rukn-i-Alam

Half a century later an undertaking commenced which became the tour de force of its type and the finest achievement of the Multan builders. The mausoleum of Shah Rukn-i-Alam is popularly believed to have been executed to the order of the Delhi ruler, Ghias-ud-Din Tughlaq, between the years 1320 and 1324. Possibly it was initiated by the Sheikh himself and completed by his disciples after his death.

3.11 The tour de force and the finest achievement of the Multan builders is the mausoleum of Shah Rukn-i-Alam. Its octagonal plan and battered walls provided the model for Tughlaq architecture at Delhi. The structural system of thrust and counter thrust of the dome and buttresses is emphasised by the exaggerated slope of massive rounded corner turrets.



Unlike its predecessors the plan is not square but octagonal, an early, if not the initial, appearance of this form in the Islamic architecture of the subcontinent, nearly fifty years before it was accepted at Delhi. Another feature of this mausoleum, the battered walls and sloped turrets, seem to have attracted the attention of that enthusiatic builder Firoz Tughlaq, who some twenty-five years later reproduced it in his own buildings at Delhi[30].

The structural system of thrust and counter-thrust of the dome and buttress is emphasised by the exaggerated slope of the massive rounded corner turrets, the boldness and directness of the materials of construction — brick and bands of timbering at intervals — adds to the strength of its form, while the sparing introduction of decorative brickwork and glazed tiles lends an appropriate note of restraint. Its octagonal base measures 90 feet in diameter, and its height including the finial, is 115 feet. The height of the first storey is 50 feet and the second 25 feet, while the dome is 50 feet wide inside.

Uchch Monuments

The architecture of the numerous mosques, tombs and *madrassahs/khanqahs* at Uchch has been described as an extension of, or a derivation from, the better-known monuments of Multan. However, while these two centres did have close cultural and political ties, the characteristics of the Uchch monuments are sufficiently distinct to be identified as a related but independent building tradition.

There are two distinct types of buildings to be found at Uchch: flat-roofed and domed. Both also exist in Multan. But while the brick-domed structures might well have been inspired by Multan precedents, the reverse might equally be true of the flat-roofed timber forms. These flat-roofed structures are represented by the tombs of Jalal Din Surkh Bukhari, Abu Hanifa,

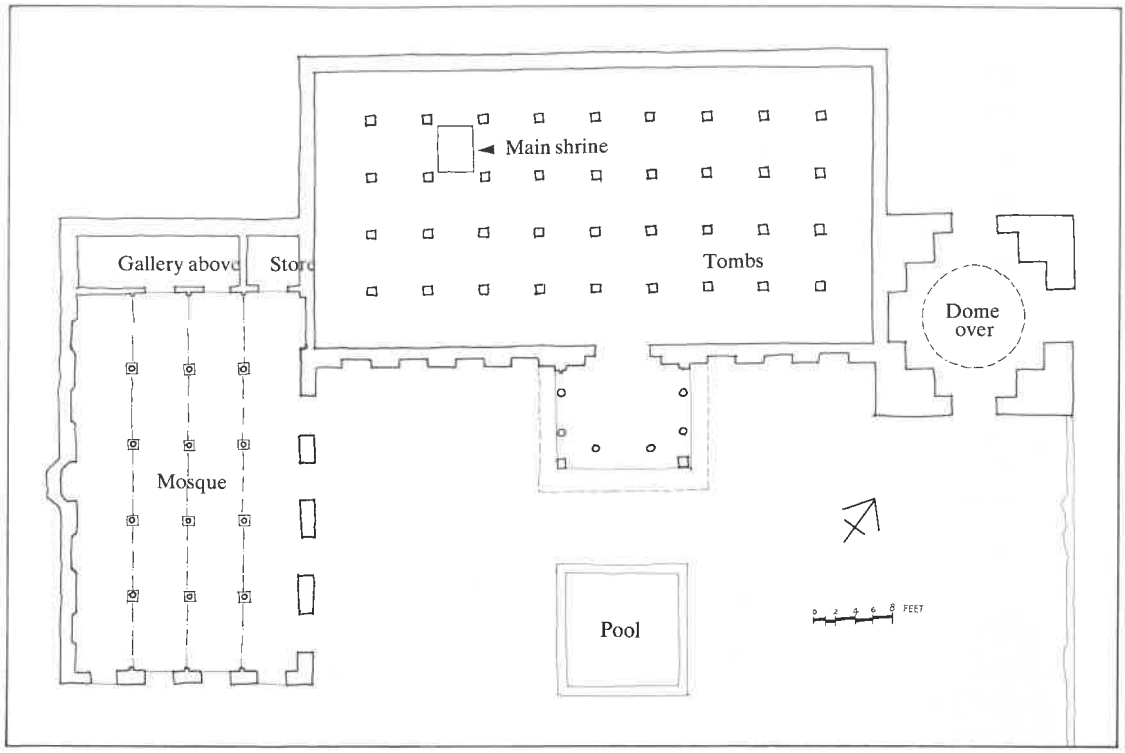
3.12

3.12 Tomb and mosque of Jalaluddin Shah Bokhari Uchch. Amongst the earliest surviving structures of the Muslim period are at Uchch in the form of large rectangular halls with richly decorated timber columns, beams and ceilings.

3.13 Plan, Syed Jalaluddin Shah Bokhari Tombs and Mosque, Uchch.

3.14 Timber structure. Tomb of Makhdoom Jahania Jahangasht, Uchch. Art and decoration can make even man-made objects an occasion to reflect, to see beyond their immediate materiality, to remember and to focus upon the greater reality.

3.13


Main shrine
Gallery above
Store
Tombs
Dome over
Mosque
Pool
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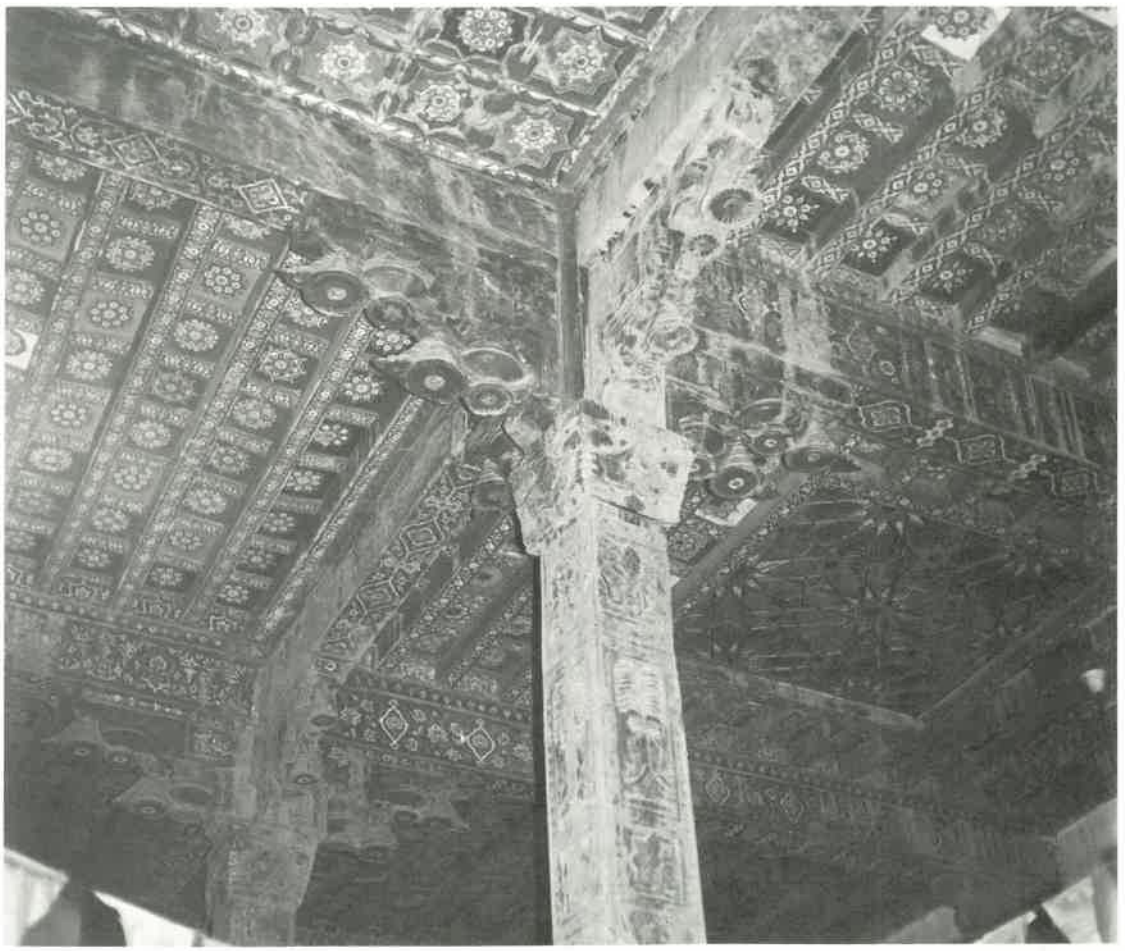

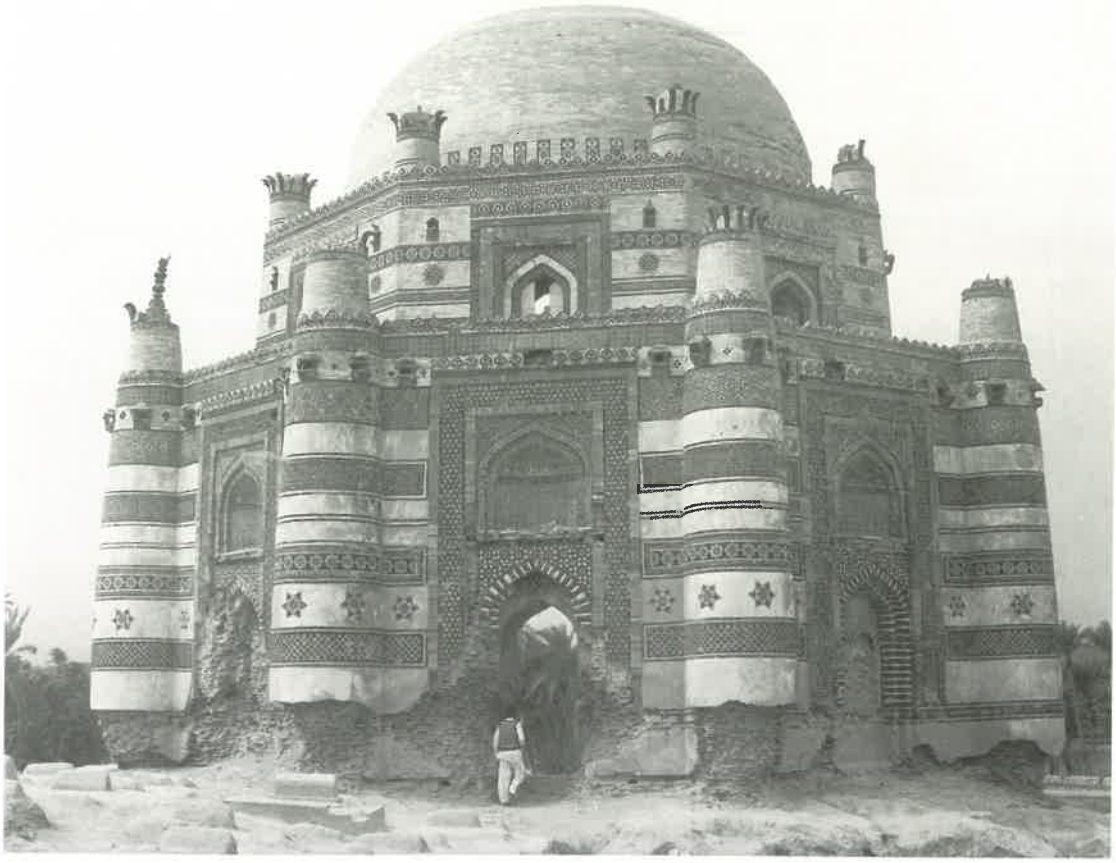

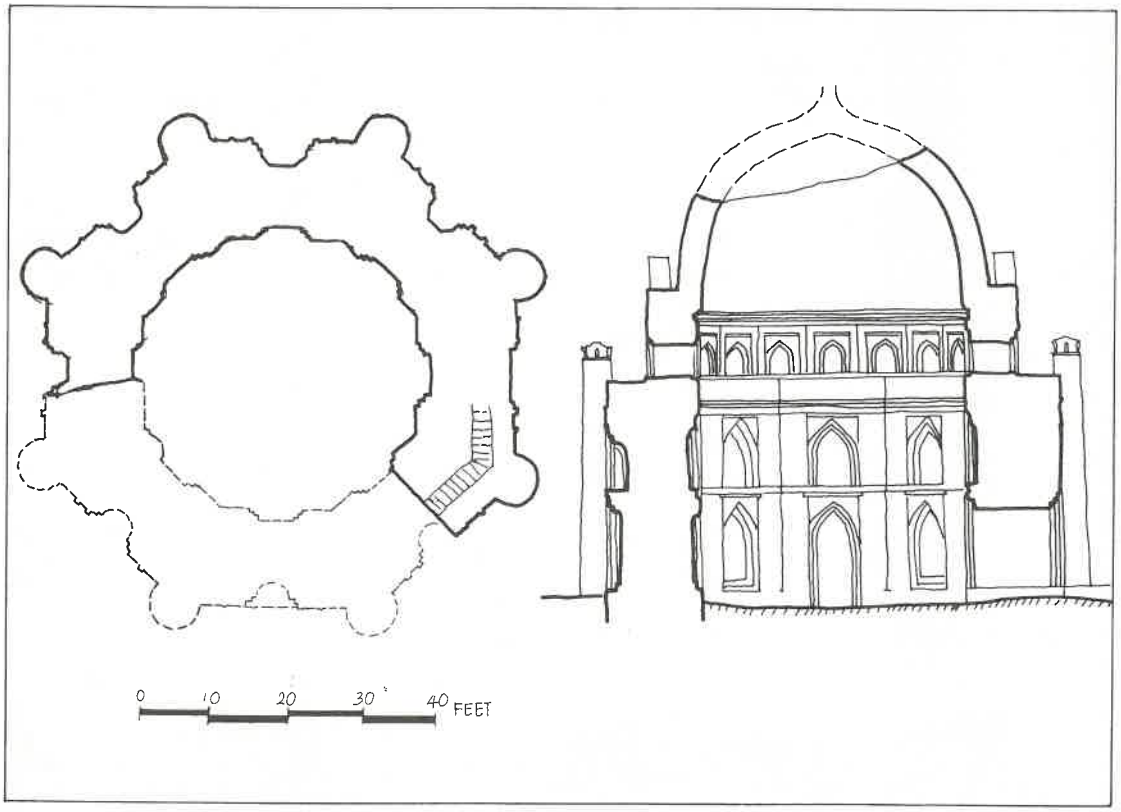
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Jahaniyan Jahan Gasht and Rajan Qattal. The dates of original construction in most of these are not certain, and most of them were restored or rebuilt during the 19th or early 20th centuries. Nevertheless, even in their present form they faithfully represent the originals built in the 13th and 14th centuries. This is borne out by inscriptions on the tombs recording the restorations, and is confirmed by the remaining structure of the tomb of Abu Hanifa, which has survived in its original shape without major repairs[31].

Typically, these structures consist of rectangular halls, with flat timber roofs made up of boards on purlins carried on timber beams spanning from column capital to column capital in both directions. The column capitals themselves are elaborately-carved brackets supported on slender square, round or octagonal posts. The interior woodwork is painted or lacquered with brilliant yellow and white floral designs, usually on a brilliant red or orange ground. The enclosing external walls are in fine burnt-clay bricks, often in mud or lime plaster, cut and dressed into a variety of geometric patterns. The walls are sometimes slightly battered, and occasionally reinforced with timber courses. The entrances are usually marked by a generous projecting porch, also in timber, with projecting eaves. These details are characteristics also of the domestic architecture of the region as it survived into the 19th and early 20th centuries.

3.15 Tomb of Bibi Jivinda, Uchch. Buildings such as the tomb of Bibi Jivinda at Uchch continue the tradition of the 13th century tombs of Multan. To the original prototype have now been added a number of minor but unmistakable Mughal details.

The use of brick domes was usually restricted to mausolea, but may on occasion have been employed for a *zavia* or *madrassah*. Typical of the domed mausolea at Uchch are those of Baha al-Din Uchchi (also known as Baha-al-Halim), Bibi Jawindi, Ustad Ladla and Musa Pak Shahid[32]. The development of this type of tomb structure has been traced from the Tomb of Khaliq or Khalid Walid near Multan to a similar tomb at Bela in Baluchistan, to the tomb of Shah Gardez at Adam Wahan in Bahawalpur, to the tomb of Baha ul-Din Zakariya at Multan (1262), to the mausoleum of Shah Rukn al-Din Rukn-i-Alam (1320–25)[33].

Although none of the domed mausolea at Uchch have survived without major damage, the features of a distinct local style are evident from the remaining structures. These consist of an approximately hemispherical, slightly-pointed dome on an octagonal drum over a square or octagonal chamber, with round corner towers, slightly tapered towards the top and sloped inwards. Externally, the surfaces are decorated with striking bands of blue glazed tiles, alternating with broad bands of lime plaster. Each of the round corner towers and smaller turrets on the octagonal drum appear to have been crowned with elaborately sculptured floral forms. The tombs of Baha al-Halim and of Bibi Jawindi are probably the best examples of the domed mausolea at Uchch.

Among the other extant buildings of this period are the much-altered tombs of Baba Farid-ud-Din Shakar Ganj and Ala-ud-Din Mauj-e-Darya at Pakpattan (Ajudhan). The latter was built by Shah Mohammad Tughlaq in 1335[34].

3.16 Plan and section.

[1] Pathan, Mumtaz Husain, *Arab Kingdom of Al-Mansura in Sind*, University of Sind, Hyderabad, 1974, pp. 34–36 on the authority of Al-Istakhri and Ibn Hauqal.

[2] Ibid, p. 38, from Baladhuri.

[3] The delta region of the Indus. For a discussion of the name of the region and the location of its two ports etc, see Fatimi, S. Qudratullah, "the Twin Ports of Daybul," in *Sind Through the centuries*, OUP, Karachi, 1981, pp. 97–105.

[4] Pathan, pp. 84–85.

[5] "Bhambore," *Pakistan Archaeology, No. 5*, 1968, p. 176.

[6] *Pakistan Archaeology No. 5*, Government of Pakistan, Karachi, 1968, pp. 176–185.

[7] Ibid.

[8] Ibid.

[9] Ibid, p. 197.

[10] Ibid, p. 180.

[11] Ibid, p. 181.

[12] Ibid.

[13] *Pakistan Archaeology, No. 1*, Government of Pakistan, Karachi, 1964, p. 53.

[14] Pathan, Op. cit. p. 102.

[15] Ibid, pp. 186–202.

[16] Ibn Rustah, Mas'udi, Istakhri, cited by Khan, Ahmad Nabi, "*Multan — History and Architecture*" Islamic University, Islamabad, 1983, p. 34.

[17] Khan, Ahmad Nabi, Op. cit. p. 34.

[18] Ibid, p. 35, & Pathan, p. 116.

[19] Ahmad Nabi Khan, Op. cit. pp. 35–37.

[20] In 977 Subuktigin became master of Ghazni, in neighbouring Afghanistan, and started expanding the kingdom by annexing adjacent areas in Khurasan, Sistan and Lamghan. Subuktigin died in 997 and was succeeded by his son, Mahmud. Having established his authority over Balkh, Herat, Tirmiz and Bust and his supremacy over the Samani ruler of Khurasan, Mahmud turned his attention to the east.

In the spring of 1006 Sultan Mahmud ransacked Waihund while enroute to Multan. After a siege of seven days the fort of Multan was carried by assault. The Sultan accepted the people's plea for mercy and spared all the inhabitants except the Ismailis. The Jami' mosque of the Ismailis was also raised to the ground.

The Raja of Waihund, meanwhile, had obtained help from the Hindu Rajas of Ujjain, Gwalior, Kalinjar, Kanauj, Delhi and Ajmer. Although Mahmud defeated the Hindu confederacy, antagonism towards his rule was not subdued. Mahmud finally returned to India, defeated the Hindu confederacy and annexed the Punjab to his dominions.

[21] From 1009 to 1027 Mahmud undertook a series of military expeditions whose objective seems clearly to have been to assert his authority of over those Indian rulers who had challenged his authority.

In 1009 the fort of Nagarkot in the Kangra hills fell to Mahmud. In 1010 he attacked Multan, and in 1014 he took the field against Trichnolpal and his allys. In 1018 he embarked on his campaign against the central power of the confederacy that had opposed him at Waihund under Anandpal. On his march towards Kanauj, he captured all the forts along the way. In 1019, when Mahmud appeared before the gates of Kanauj, the ruler, Rajyapal, submitted without a fight.

In 1021–22 Mahmud returned to deal with Gwalior and compelled the Raja to submit. Next, he proceeded towards the fortress of Kalinjar, where the prince saved himself by promising to pay the annual tribute.

[22] *See Naqoosh — Lahore Number*. Idara-e-Farogh-e-Urdu, Lahore, 1962.

[23] Scerrato, Umberto. *Monuments of civilisation, — Islam*, Cassell, London, 1976, p. 63.

[24] Ibid, p. 64.

[25] Ibid, p. 65.

[26] Ibid, p. 65.

[27] See Professor Mohammad Baqar, Lahore, history of its establishment and name, in *Naqoosh — Lahore Number*, Idara-e-Farogh-e-Urdu, Lahore 1962, pp. 26–38.

[28] Ahmad Nabi Khan, *Multan*, Islamic University, Islamabad, 1983.

[29] Brown, Percy, *Indian Architecture (the Islamic Period)*, Bombay, 3rd edition, p. 34.

[30] Ibid.

[31] Khan, Ahmad Nabi, Uchch — History and Architecture, National Institute of Historical and Cultural Research, Islamabad, 1980, p. 55.

[32] Ibid, pp. 54 et seq.

[33] Ibid, p. 60.

[34] Chughtai. Dr Abdullah, Muslim Architecture in West Pakistan, pp. 3, 4.

4 IMPERIAL MUGHALS

1539	ROHTAS FORT
	ATTOCK FORT
1556 — 1674 AD	LAHORE FORT
	SHAHDARA
1620 — 1634 AD	SHEIKHUPURA
1642 AD	SHALAMAR BAGH
1674 AD	BADSHAHI MASJID

Although the Mughals were but one of a succession of Central Asian clans which descended upon the Indian plains between the 10th and 16th centuries, they differed from the others in their choice of India as the focal point of their imperial ambitions. Their building activity was prodigious. And as well as housing the apparatus of the imperial administration, the buildings served to express the greatness of the imperial court through their grandeur and sophistication, and were an ever-present reminder of imperial might and power. The real strength of the Mughals, however, lay in their self-reliance and confidence in themselves. They believed that they were the architects of a new world, and that theirs was a golden age of which they themselves were the fountainhead.

This faith enabled them to experiment with impunity and inventiveness. Even their eclecticism was not an awe-inspired submission to a glorified past, but rather a magnanimous acceptance of tributes and new ideas which could be exploited to advantage in the service of the court. As *Babar,* the founder of the dynasty, states in his memoirs, considerable building was undertaken during the five years he spent in India. These were mostly decorative gardens which, being of a secular nature, have long disappeared through neglect. Babar's son and successor, Humayun, built little, having spent fifteen years in exile, mostly in Persia, as a result of his conflict with Sher Shah Suri.

It was not until the reign of the third Mughal emperor, Akbar, that the building activity of the Mughals really began in earnest. Although Akbar built much, little of his work remains in Pakistan. The grand tradition of architecture initiated by him was continued and developed not by his son, Jahangir, who is known more for his patronage of painting, but by his grandson Shah Jahan. However, of the Mughal buildings in Pakistan, the most monumental — the Badshahi Masjid — was undertaken by the last of the great Mughals, Aurangzeb.

The buildings produced under the patronage of the Mughals belong to a single continuous tradition which can best be appreciated if seen in its entirety. The forts at Attock and Lahore are only two of the numerous fortresses established by Akbar. The fort at Lahore contains a number of smaller buildings whose red sandstone carvings are perhaps the finest and most imaginative example of the early period of transition from

the Hindu craft traditions to the formulation of a new conception. These have survived only in fragments conveying nothing of Akbar's considerable architectural accomplishments, the greatest of which is his capital city of Fatehpur Sikri, in India.

Similarly, Jahangir's tomb at Shahdara must be seen together with the tomb of I'timad-ud-Daula at Agra as a stage in the transition from the sculpturesque red sandstone architecture of Akbar to the delicate refinement of the white marble architecture of Shah Jahan. The crisp geometric patterns in white marble against the dark sandstone on both these tombs mark a move away from the monochromatic towards a polychromatic decorative treatment of external surfaces. The delicate *pietra dura* floral designs on white marble in the same buidings are a prelude to such exquisite and elegant treasures as the Bangala or Naulakha in the Lahore Fort and the Taj Mahal at Agra, and the arrangement of the tomb structure in the setting of a large walled formal garden must be seen as part of the Persian garden tradition first introduced in Humayun's Tomb. In fact, the love of nature and a fondness for formal gardens was characteristic of this Timurid family, and the Shalamar Garden in Lahore was only one of the many resorts built on the Persian and Afghan pattern with running water, fountains and parterres, of which the most delightful were those in Kashmir.

Also borrowed from the Turko-Persian cultures to the west was the decorative system of design with floral and geometric patterns brought to India earlier by the Pathans. But while the Persian and early Muslim designs maintained a taut formalism, the Mughal eye for detail and direct observation of nature brought to this system a degree of relaxed ease and naturalism which is both refreshing and unique. These flowers and leaves are not mere abstractions, but particularised representations of nature in frescoes, precious stones and coloured tiles.

Where the Mughals were incomparable was in the grand conception of their designs on a truly monumental scale. Nor was their monumentality dependant solely on sheer size. For even in their largest enterprises, as, for instance, in the Shalamar Gardens, the Badshahi Masjid, or in the tomb complex at Shahdara, it is never grandiosity of scale which impresses, but the sensitive cordination of every part making up the unified orchestration of a grand scheme. The technical skill employed in surface decoration and the Mughal builders' structural abilities were no doubt phenomenal, but these by themselves do not produce architecture. It is rather a complete integration of every detail of decoration, structure, mass and space in the service of a single paramount idea which produces the best examples of Mughal architecture.

ROHTAS FORT

The Persian-Afghan building traditions which formed the basic springboard of Mughal architecture were not new to Pakistan. But the attempts of the early Muslim rulers to incorporate

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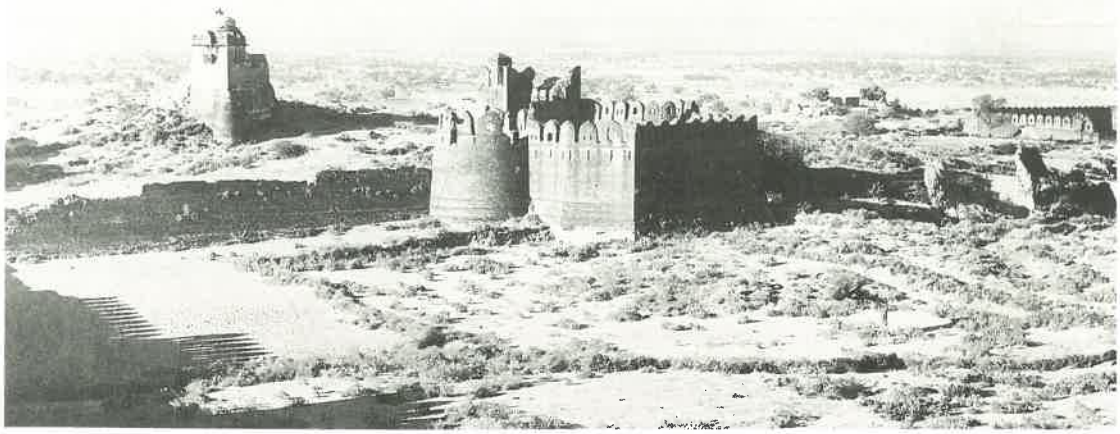

4.2

4.1 The northern ramparts, with Rajah Man Singh's Palace at Rohtas provide a commanding view of the route from Kabul into the Punjab plains.

4.2 Sohaili Darwaza, Rohtas. Built entirely of a grey ashlar masonry on a good square mile of land, the sprawling walls of Rohtas present a splendid example of Suri military architecture. The Sohaili Gate guarding the south-west is the best preserved of its richly carved gateways.

indigenous Indian forms and building crafts into their architectural vocabulary were either timid and weak or forced and contrived, never producing a harmonious unity of expression between the Persian and Indian forms. Only in the works of Sher Shah Suri do we see the early flowering of a genuinely new Indian expression which in its sureness of purpose, its fresh vigour and grand conception, held for a while the promise of greatness. His great fort at Rohtas, even in ruin, is among the few reminders in Pakistan of Sher Shah Suri's short interlude in India.

Built in 1539[1] entirely of a grey ashlar masonry on the rolling hills twelve miles northwest of Jhelum and enclosing a good square mile of land, the sprawling complex of Rohtas presents an example of military architecture comparable to Akbar's fort at Attock. The most impressive feature of the fort is its massive

wall which meanders and turns with the undulating contours of the hill. With a perimeter of about three miles, the wall is in places 30 to 40 feet thick[2] and 30 to 50 feet high. It is furnished with forty-eight heavy semi-circular bastions, twelve gates and the usual battlements, shooting galleries and loop-holes required for its defence. Its utilitarian military character is impressive, but the fort is not without a touch of delicacy and refinement in such details as the simple rounded moulding which runs along the top of the wall or the richly carved gateways. Of these gates the Sohaili Gate guarding the soutwest wall is in fair condition and is an exceptionally fine example of the architecture of this period. It is a two-storeyed structure with oriel windows and pavilions and several carved stone inscriptions adorning the facades. The other gates are known by the names of Kabuli, Badshahi, Langar Khani, Talaqi, Khawas Khani, Gatiali, Beriwala, Pipalwala and Shishi[3].

The fort divides into three main zones: the upper citadel in the high ground of the northwest quadrant; the central zone which now contains the village of Rohtas; and the lower zone with open fields, a *baoli* (step-well) and a water reservoir. The citadel area includes the Shahi Darwaza, Rajah Man Singh's *haveli* and the Shahi Masjid, and appears to have been reserved for official residence. This sector is separated from the rest of the fort by a subsidiary inner fortification wall.

The *haveli* of Rajah Man Singh in the inner sanctuary or *andarkot* is believed to have been built by this Hindu Rajput prince of Akbar's court. The present double-storeyed building consists of a square room on the ground floor with another room on the first floor and is surmounted by a bulbous dome with lotus cresting. The gateways of the fort contain as many as 24 inscriptions carved in stone. Of these, sixteen are to be found on the Shishi Gate. Carved mostly in the *naksh* script, they are mainly verses from the Quran but some also give dates and other historical information about the fort.

ATTOCK FORT

The magnificent fort on the Indus at Attock in the North West Frontier Province is a fine representation of the military architecture of Akbar. Its stone walls rhythmically dotted with battlements and machicolations march in step with the contours of the hill down to the river, ending in an elaborate gate on the river front. This fort is still in use by the army, and is therefore not easily open to inspection. The student of architecture must turn to the more accessible fort at Lahore.

4.3 Kacheri and Garden, Attock.

Architecture under the Mughals, developing in the service of the emperors, produced its finest examples at the seat of imperial power. This seat fluctuated between Lahore and the Indian cities of Delhi, Agra and Fatehpur Sikri. Thus Lahore alone in Pakistan falls truly within the mainstream of the grand tradition of Mughal architecture. Strategically placed at the conjunction of the roads to Kabul, Multan, Kashmir and Delhi, Lahore was convenient both as a station for the court on longer journeys

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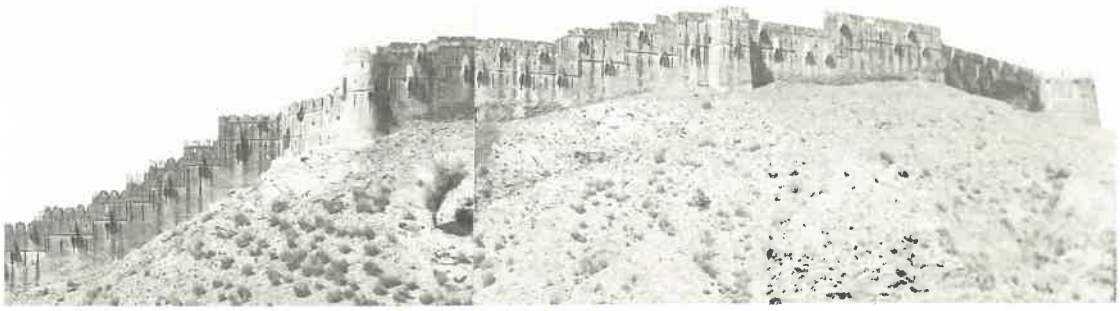


4.5

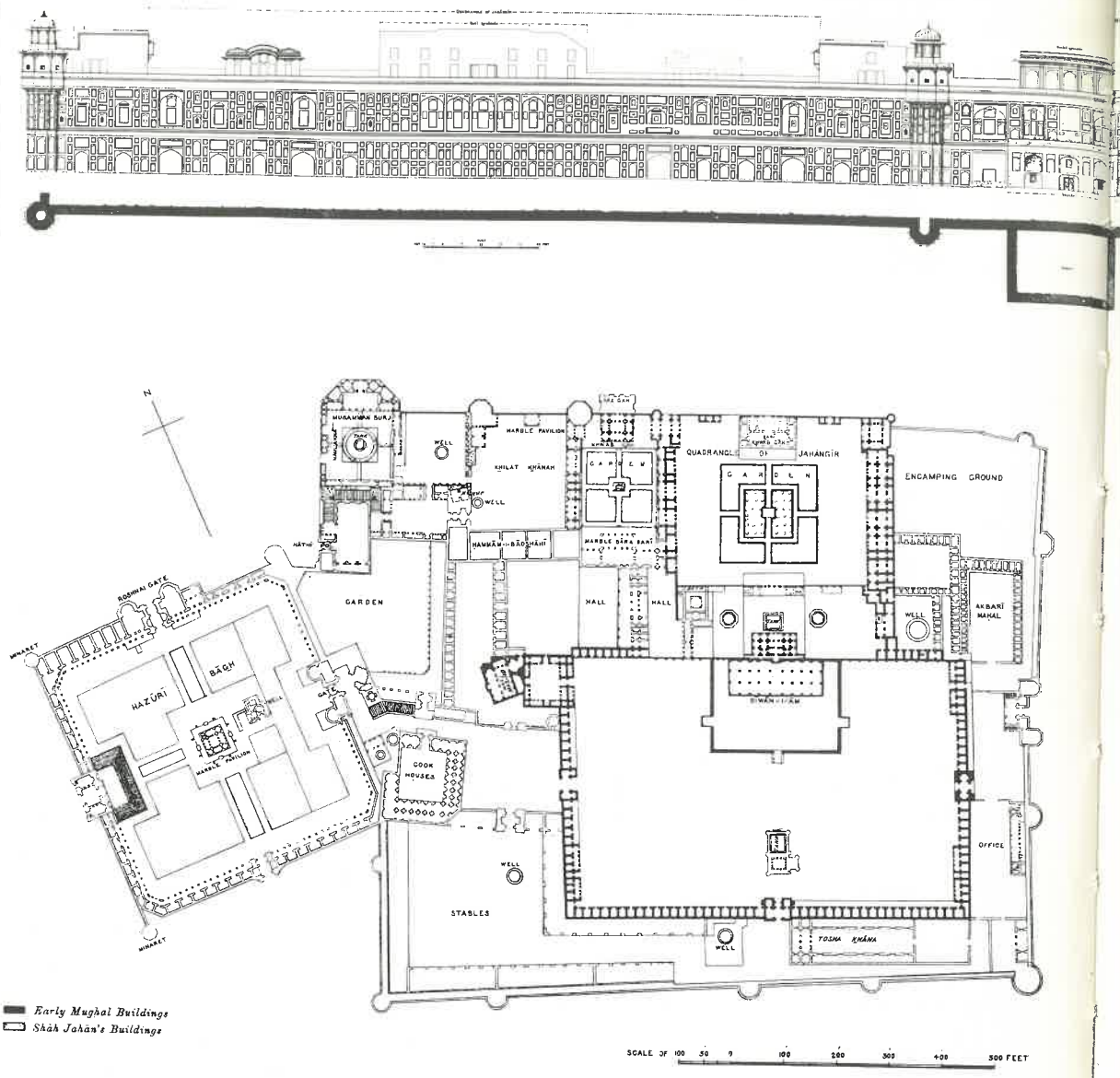
4.4 General view, Attock Fort.

4.5 Among the few buildings of Akbar in Pakistan are the Kacheri and Garden at Attock. Others in the same place are the Begum Serai and the magnificient Fort.

and as a centre of government. The buildings erected at this provincial capital by Akbar, Jahangir, Shah Jahan and Aurangzeb as well as the numerous constructions by the governors and courtiers associatd with the Mughals, form a complete chronicle of the architectural activities of the Mughals. The largest collection of Mughal buildings in Lahore are located in the fort.

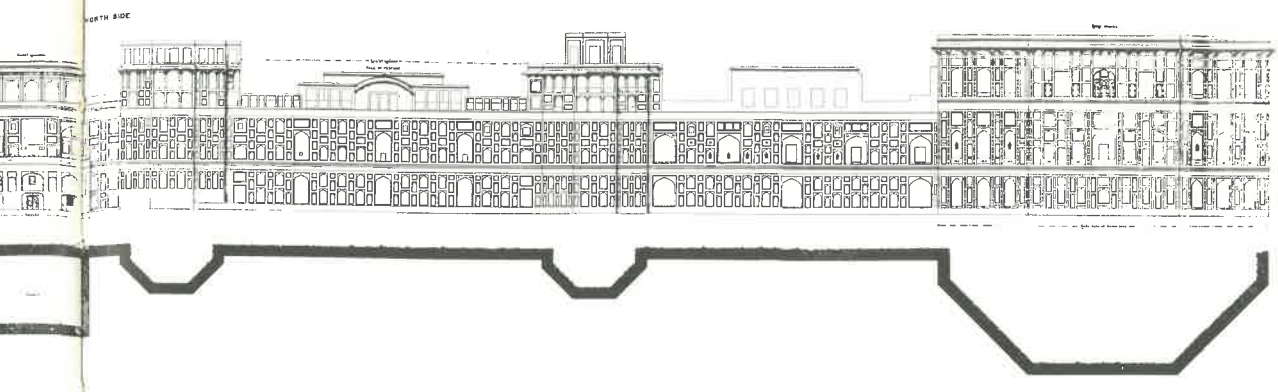
LAHORE FORT

The early history of the Lahore Fort is still obscure. However, five distinct periods, the British, Sikh, Mughal, Ghaznavid and Hindu, have been established by excavations on the site. Amongst the earliest structural remains encountered was a twelve-foot high mud brick wall, probably representing the mud



brick fort which was sacked by Sultan Mahmud Ghazni in 1021. Historical references indicate that in the course of the following five centuries the fort was successively destroyed and rebuilt or repaired four or five times over, until some time before 1556, the Mughal emperor Akbar finally demolished the mud fort and rebuilt it in burnt brick[4]. Before this reconstruction the mud fort and mound appears to have been a rectangle, twice as long as it was wide, lying south of the present Diwan-i-Am. Akbar extended this area northwards by building up the low-lying area on a system of basements and fortified the whole area with a massive brick wall and semi-circular bastions. But except for the eastern wall, the fortification wall of Akbar has been drastically transformed by successive modifications, extensions and demolitions by the Mughal princes themselves and the later Sikh and British rulers.

As the River Ravi shifted its course, a second fortification wall was added on the north by Ranjit Singh (1799). The Sikh ruler



4.6 and 4.7 Elevation and plan, Lahore Fort.

also added a number of minor structures such as the marble Athdara Pavilion outside the Shish Mahal and several upper storeys such as those over the Shish Mahal, Mai Jindan's *haveli* and Kharak Singh's Palace. Besides these constructions the Sikh rulers were responsible for much of the destruction of the Mughal edifices, stripping many of them of their marble and semi-precious stones. Even more catastrophic was the occupation of the fort by the British in 1846. In order to demilitarise the fort they demolished the south fortifications and replaced them with wide ceremonial steps and terraces. Modern buildings mushroomed all over the fort and older buildings were brutalised with alterations and additions to make them into barracks, hospitals, godowns and so forth. The lawns in front of the Diwan-i-Am were covered with barracks; the Diwan-i-Am itself was given a verandah on the south and converted into a hospital; similar verandahs were added to many of the buildings on Jahangir's Quadrangle, and its central court, including the tank, was filled up to make a tennis court. The northeast tower of this quadrangle and the Diwan-i-Khas were converted into churches, the Royal Hammam became a kitchen, and the Lal Burj a liquor bar.

MASTI GATE The main entrance into the fort was through the Masti or Masjidi Gate. This gate derives its name from its location facing the Maryam Zamani Masjid or mosque. It is defended by a pair of semi-octagonal bastions equipped with battlements, loopholes and machicolations. There was probably a second gate on the west, later replaced by Aurangzeb's Alamgiri Gate.

JAHANGIR'S QUADRANGLE Begun by Akbar, this quadrangle was completed by Jahangir in 1617–18. Three sides are taken up by buildings in the typical Akbari style, whereas Jahangir's own contribution is represented by his *khwabgah* (literally, room of dreams) or sleeping room. Although its front is a British reconstruction, it probably conforms with the original and illustrates the simple and austere character of the buildings of Jahangir's period.

MAKTAB KHANA (CLERK'S ROOM) The same undiluted application of the Persian brick building tradition characterises the Maktab Khana in the Moti Masjid Courtyard. In plan too, the

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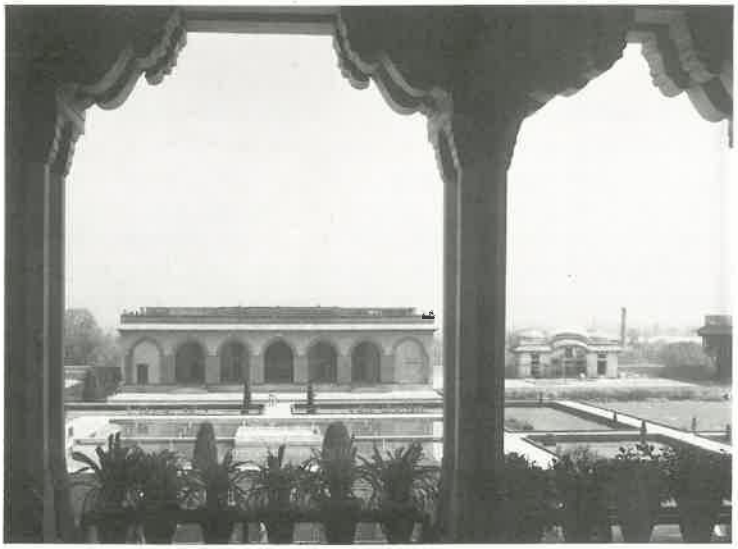

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4.8 Jahangir's Quadrangle, The Quadrangle has some of the best examples of the building style of Akbar, characterised by carved red sandstone with animal motifs and a trabeated form of construction.

4.9 Khwabgah, Jahangir's Quadrangle. Jahangir's own contribution to the quadrangle is represented by the Khwabgah or sleeping room.

4.10 and 4.11 Maktab Khana and Maktab Khana Court. These buildings of Jahangir in the Fort are in the austere Persian tradition of brick buildings based on a cloistered court, arcades and four ewans.

4.12 Commenced by Jahangir in 1624, the Picture Wall below the Shah Burj was completed by Shah Jahan in 1632. It is more an exercise in the two dimensional art of illustration than the three dimensional art of building. The motifs range from floral and geometric designs to animals, human and mythical figures.

Maktab Khana follows faithfully the Persian models of cloistered courts, with simple-pointed arches forming an arcade on the four sides, each punctuated in the centre by a taller arch marking the *ewan* or entrance gateway.

The name and function ascribed to the Maktab Khana are controversial. The term *maktab khana* is a corruption of *makatib khana*, a "clerk's room", which would imply that it served as an entrance gate where the *muharirs* (clerks) sat recording entry into the palace. However, a Persian inscription above its principle entrance records the construction of this building under the supervision of Ma'mur Khan in 1717–18, and calls it the Daulat Khana-i-Jahangiri, the "residence of Jahangir"[5].

PICTURE WALL Jahangir's love for nature was matched by an equal interest in the arts of painting and illustration. Indeed, his most significant architectural undertaking in the Lahore Fort, the Picture Wall, is more an exercise in the two-dimensional art of illustration than the three dimensional art of building. Com-

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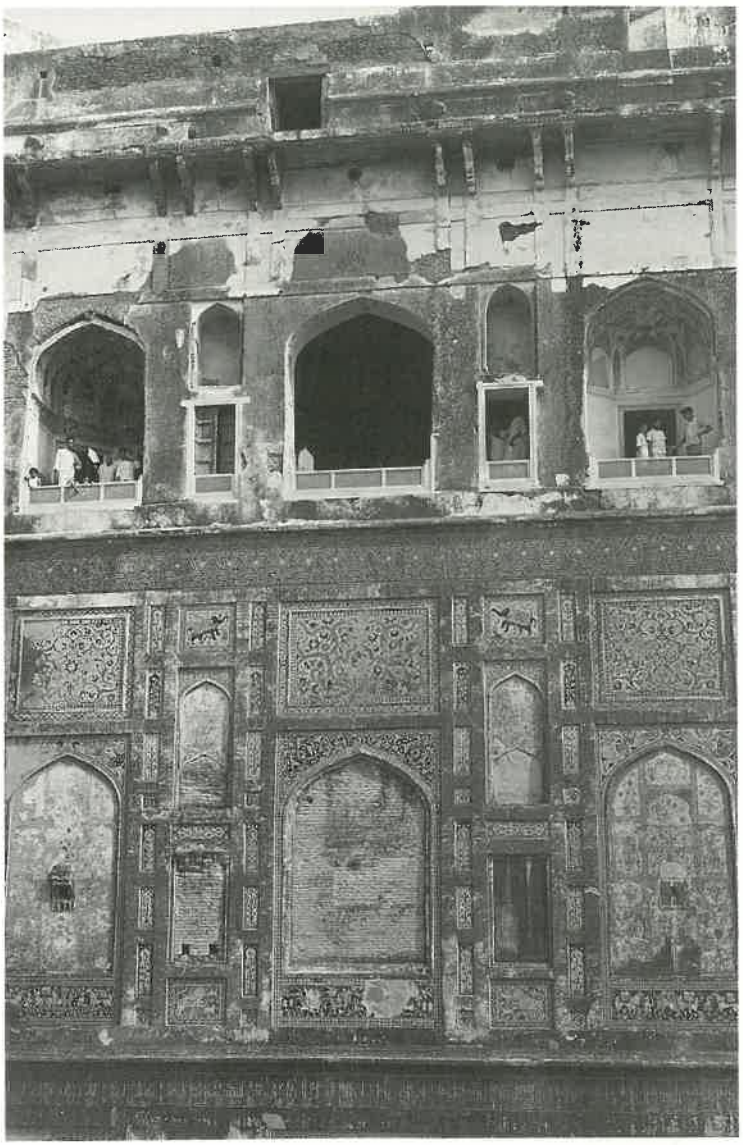

4.12

menced by Jahangir in the 19th year of his reign, 1624–25, the Picture Wall was completed by Shah Jahan in 1631–32. Starting from and including the Shah Burj Gate, this wall extends northward and, turning the corner below the Shah Burj, includes a good portion of the north wall of the fort, making a total decorated surface area of some 8000 square yards. This area is divided into rectangular and arched panels defined by subtly recessed planes, and filled in with vividly coloured glazed-tile mosaics. The motifs range from floral and geometric designs to animal, human and mythical figures. The human and animal figures usually depict sporting and other events at the Mughal court such as elephant, camel and bull fights and a game of *chaugan* (polo), often with an amazing realism in the treatment of such details as dress and casual gestures.

The period of transition from the monochromatic red sandstone of Akbar and the simple plastered brick structures of Jahangir to the white marble buildings of Shah Jahan is represented by Nur Jahan's buildings at Shahdera rather than any structures in the fort. At the fort itself, the period of Jahangir is followed by the full flowering of Mughal architecture as represented by the buildings of Shah Jahan. These include the Moti Masjid, the Khwabgah-i-Shahjahan, Diwan-i-Khas, Hammam-i-Shahi, Khilwat Khana, Shah Burj, Hathi Paer and the Shah Burj Gate.

MOTI MASJID (PEARL MOSQUE) An earlier mosque on the site of the Moti Masjid is said to have been built by Jahangir as a private chapel serving the emperior's own residence, the Daulat Khana-i-Jahangiri, also called the Maktab Khana. Be that as it may, the Moti Masjid as it now stands was built by Shah Jahan in about 1654 and is the earliest of three such mosques built during Mughal rule. These mosques are called *moti* or "pearl" mosques, because of their pearl-like marble veneer and small size. Of the other two, one lies at Agra, built by Shah Jahan in 1654, and the other at Delhi, built by Aurangzeb in 1662.

The Moti Masjid in the Lahore Fort is entered through a small chamber in the south-western corner of the Moti Masjid Courtyard. At the entrance a sharp turn to the right leads into the north-east corner of the diminutive court of the mosque, which has an atmosphere of striking calm and serenity. The effect of quiet seclusion is created by the mosque's compact size, unassuming proportions and purity of lines, as well as by the pearly whiteness of its surfaces. Its impact is made all the more powerful by the element of surprise created by the asymmetrical arrangement of its entrance.

The narrow rectangular courtyard is barely as wide and not much deeper than the main prayer chamber. There is a shallow rectangular niche in its northern wall and another curved niche in the eastern wall. Opposite this niche, the western side is closed by the prayer chamber itself. In elevation this chamber consists of a high, pointed central arch flanked on each side by two engrailed arches. Each of these five bays is delineated with rounded mouldings which frame the arches. Above them is a low parapet with delicately coloured *pietra dura* work. The roof

line is punctuated by three domes on high circular drums and constricted necks. Internally the space is divided by engrailed arches, and the alternate bays between the circular domes are roofed by rectangular *qalamdani* vaults.

KHWABGAH-I-SHAHJAHANI (SHAH JAHAN'S SLEEPING ROOM) While proceeding from Lahore to Kashmir, Shah Jahan ordered the construction of this *khwabgah* in 1633 and entrusted the work to Ilmud-Din — titled Wazir Khan, Viceroy of the Punjab. Located opposite the Diwan-i-Khas, it occupies the southern end of Shah Jahan's quadrangle, and consists of a row of five rooms. Deprived of its decorative veneer it is of little architectural interest except for the white marble *jalis* (screens) in its openings on the south and traces of some fine stucco tracery work inlaid with pieces of mirror. The frescoes of Radha and Krishna in the central room and that of a Sikh Prince with his wife on a jamb of the western-most room are of the Sikh period.

DIWAN-I-KHAS (HALL OF SPECIAL AUDIENCE) The hall was built by Shah Jahan in 1645. It is a graceful pavilion, 53 feet by 51 feet, built entirely in white marble. Placed upon a raised terrace and open all round, this pavilion has a remarkable quality of lightness and airiness. Its roof and wide projecting eaves are raised on slender marble columns, and the openings are spanned by thin slabs of marble cut in the shape of engrailed arches. Its parapet is decorated with *pietra dura* work and the openings in its northern side are filled in with skillfully-cut marble screens. Its floor of marble intarsia of different colours laid in geometrical patterns with its centre occupied by a delightful small cup-shaped cistern inlaid with *pietra dura* work is a fine example of the refined architecture of Shah Jahan. The marble slabs of the ceiling are suspended by means of beams passing through their abutting ends. In 1904–5, the whole building, then used as a military church, was taken to pieces and reconstructed.

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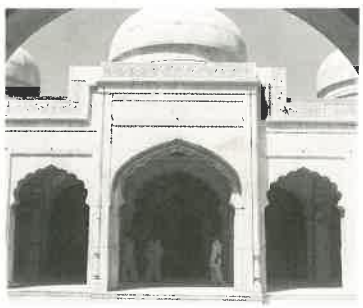

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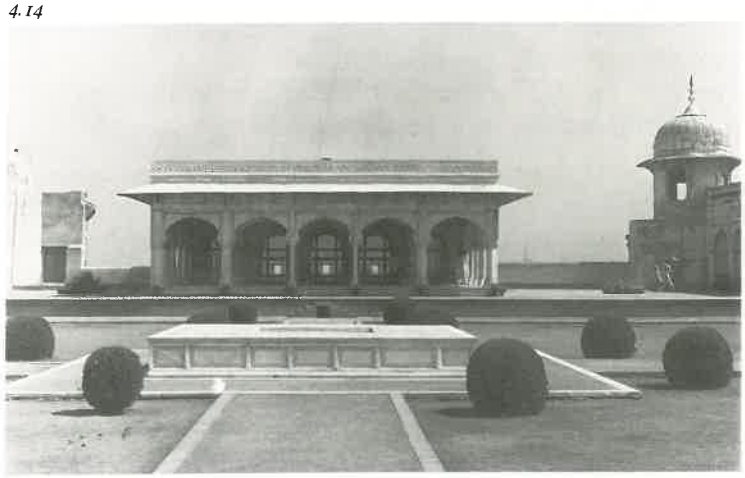


4.13 Moti Masjid, Lahore Fort. The Moti Masjid in the Lahore Fort, built by Shah Jahan in 1654, is the earliest of three such mosques built by the Mughals.

4.14 Diwan-i-Khas or the Hall of Special Audience, built by Shah Jahan in 1645, entirely in chaste white marble.

LAL BURJ (RED PAVILION) Octagonal in plan, this summer pavilion lies adjacent to Diwan-i-Khas and forms the northwest corner of Shah Jahan's Quadrangle. It is a part of the north wall

of the Fort decorated with beautiful tile mosaic and filigree work. The pavilion was built between 1617–31. It is in three storeys, the top-most being a Sikh addition while the rest, together with the basement chamber, are the works of Jahangir and Shah Jahan. The present name of this building derives from the Sikh period. The interior frescoes are also mostly from the Sikh period. On the middle level a cement concrete floor from the British period has been recently removed to expose the central basin and the channels on the sides with their fountains. This building still retains, in its northeast staircase, a piece of original honey-combed cornice remarkably decorated in gilt and paint work which shows how richly and lavishly this whole pavilion was originally embellished.

HAMMAM-I-SHAH (ROYAL BATH) Built by Shah Jahan in about 1633, the Royal Bath lies immediately west of Shah Jahan's *khwabgah* and is now almost in ruins. It is in the Turkish bath style comprising three stages: *jama kan* (dressing room), *nim garm* (warm bath), and *garm* (hot bath). The centre of the first stage is occupied by a small water tank finished with variegated marble, and on its four corners there were originally single baths or private rooms out of which only the two on the south-west and northwest corners now exist. In the southwestern corner room, the original tessellated marble flooring is still intact, and here can also be seem the terracotta water supply pipes built in the wall. The heating arrangements are at the western end where the Baitul Khala (toilet) is also located. There are indications that the whole of this bath was originally paved with marble, removed during the Sikh period.

KHILWAT KHANA (ROOM OF SOLITUDE) Built by Shah Jahan in 1633, it was also called Ghusl Khana. Its court is divided into two parts: the front or southern portion and the private and personal residence of the Emperor. Mughal Emperors did not generally reside in the Harem proper, but in a separate court adjacent to it. The only surviving building of this court is a pavilion in the middle on the north side. Its plinth and door frames are of marble and it has a curvilinear roof. In front of the pavilion is a water tank, 29 feet square and 4 feet deep. The rest of the buildings of this entire court have disappeared, leaving only the foundations which indicate that both portions of this court were originally surrounded on all sides by a row of rooms intended for guards and other retainers. This part of the court is also connected on its east and west with a number of basements (*tah khanas*) and at least one cold chamber (*sard khana*). Along with other uses, the basements were necessary for security. In the southwest corner is a ruined mosque originally built in red sandstone and marble, and specially meant for the ladies of the court. Thus, this court, the residence of the Emperor, was quite self sufficient.

PAIEN BAGH (LOWER GARDEN) The chief characteristic of such a garden, for the ladies of the Harem, was the provision of a number of paved paths or walks. Fragrant flowers, cypresses and dwarf fruit trees such as small oranges were planted. The middle of the garden is occupied by a spacious platform built in

fine cut brickwork with a water basin in the centre. On either side of this platform there are two squares, each divided into four small lawns with a water basin in the centre of each. Each of these side squares was originally surrounded by a red sandstone railing.

KALA BURJ (BLACK PAVILION) This *burj* or summer pavilion built between 1617–31, which is similar in many respects to the Lal Burj described above, occupies the northwest corner of Khilwat Khana. Little remains of its original form, particularly inside. Its present name appears to be from a later period. The top storey is an addition from Sikh times, while the floors and some of the roofs are from the British period. To this period also, when the Burj was used as a liquor bar, belongs the entire interior plaster, covering the paintings and other decorations from the Mughal and Sikh periods. The eaves (*chajja*) of this as well as other Burjs are constructed in interlocked brick-work supporting the projections without any reinforcement.

SHAH BURJ GATE (KING'S PAVILION GATE) Immediately behind the postern, in the northwest corner of the fort stands the magnificent Shah Burj Gate. The inscription over this gate records the completion of the Shah Burj in 1631–32 the 4th reignal year of Shah Jahan, under the supervision of Abdul Karim, who is mentioned as Ma'mur Khan in the inscription over Makatib Khana. This gate was the private entrance of the Mughals, used exclusively by royalty, and leads to Shah Burj (Shish Mahal), the Harem portion of the fort. Externally it is decorated with glazed tile mosaics in delicate floral designs and forms an important element of the Picture Wall.

HATHI PAER (ELEPHANT PATH) Entering the fort through the Shah Burj Gate and turning sharply to the left, one passes under a high arch to ascend by way of a flight of giant steps called *Hathi Paer* (literally, Elephant's Feet) or Elephant Path.

4·15 Hathi Pol, Lahore Fort. The royal passage from Hathi Pol gate to the outer court of Shish Mahal was built by Shah Jahan in 1632. It includes a flight of giant steps called Hathi Paer or Elephant Path.

This passage, starting from Hathi Pol Gate and ending at the ruined entrance of the outer courtyard of Shish Mahal, was built by Shah Jahan in 1631–32. It is a staircase with fifty-eight low and broad steps, constructed of small country bricks covered with lime plaster, and meant for elephants carrying royalty to and from the palace. Flanking the staircase on either side are high panelled walls decorated with imitation brickwork in red, white and green. The western wall is provided with niches both in the lower and upper storeys wherein used to stand the *khwaja sara* (eunuch) and the *naqib* (announcer) to announce the goings an comings of royalty. The upper gallery was the *ghulam gardish* (servant's gallery), connected through a door with the Shish Mahal, and probably served as a passage to the royal kitchens to the south. The high panelled walls on the west and south collapsed in 1841 when Sher Singh besieged the fort (held by Rani Chand Kaur, wife of Kharak Singh), and bombarded it with light guns and matchlocks. The bullet marks can still be seen on the walls.

4.16 Courtyard, Shish Mahal, Lahore Fort. Shah Burj, built by Shah Jahan in 1632, was the residence of the Empress. The channels of flowing water along the two principal axes, intersecting at a central pool alludes to the theme of the Paradise garden. The interior decoration of the main hall with mirrors gives it the popular name of Shish Mahal.

SHAH BURJ (KING'S PAVILION) Passing through a series of outer courts one climbs a ramp to enter the southeast corner of the Shah Burj or Shish Mahal Courtyard. Built by Shah Jahan in 1631–32, this was the residence of the Empress when she stayed at Lahore. This courtyard and the several buildings within it probably come closest to matching the popular image of the royal Mughal harem in all its glittering splendour.

The court itself is an elegantly proportioned square, with an intimacy and grace appropriate to the residential quarters of the Empress. The south and east walls of the court are formed by long narrow galleries or loggias running the length of these sides. In the centre of the southern gallery is a small *abshar* (cascade) with a tiny cistern, built in variegated shades of marble arranged in a pattern, causing gentle ripples as the water flowers over them. The water from this cascade flows through a channel in the floor of the courtyard to a large shallow pool. Three other channels, one from each side, cross the floor of the court, dividing it into four symmetrical quarters. The centre of the pool is occupied by a low square platform connected to the edge of the pool by a little causeway. The entire floor of the court and the pool is paved with a variety of marbles, making a curving floral pattern in the pool and a more rigid geometric design around the edges.

In the centre of the western side of the court is a quaint little marble pavilion with a double curved roof after the fashion of a Bengali bamboo hut, from which it derives its name *Bangla*. Popularly called *naulakha*, or the edifice which cost nine *lakhs* (900,000 rupees), it is best known for its extremely delicate *pietra dura* work, wrought in semi-precious stones such as agate, jade, gold stone and lapis-lazuli. The beehive-shaped capitals of the pilasters are made up of miniature niches *(muqarnas)*, measuring 2¼ inches by 1¾ inches. A single floral pattern in one of these niches is formed by as many as 102 minute inlaid pieces of semi-precious stone.

The main hall or Shish Mahal opens out on the northern side of the court, flanked on either side by double-storeyed galleries, and enclosed on its north by a row of smaller rooms. The main

4.17 Naulakha, Lahore Fort. On the western side is a marble pavilion called Bangla because of the double curved roof after the fashion of the bamboo huts of Bengal. This pavilion is also called Naulakha, and is best known for its extremely delicate pietra dura work.

decorative feature of this hall and some of the smaller rooms is the convex glass mosaic workmanship (*aina kari*) with *munabbat kari* or stucco tracery, and gilt work. The spandrels of the arches and the bases of the double columns carrying multi-cusped arches are decorated with *pietra dura* work, while the openings overlooking the river are filled in with superbly cut marble *jalis* (screens).

DIWAN-I-AM (HALL OF PUBLIC AUDIENCE) In 1628, the first year of his reign, Shah Jahan ordered the construction of the Diwan-i-Am in the shape of a hall of forty pillars, to replace the awnings erected in front of the *jharoka* to shelter the nobles in the time of his father. The work was entrusted to Asaf Khan and was completed in three years.

On the death of Kharak Singh and his son Nau Nihal Singh on the same day in 1841, Chand Kaur, the widow of Kharak Singh, assumed power. Thereupon Sher Singh, a son of Ranjit Singh, besieged and bombarded the fort with light guns placed on the top of the high minarets of the Badshahi Masjid. As a result, it appears, the Diwan-i-Am collapsed and had to be reconstructed by the British immediately after their occupation of the fort in 1846.

Standing on a large rectangular platform, the hall measures about 187 feet by 60 feet with a height of 34 feet. It occupies the centre of the fort with a great open court on its south. Its pointed arches with tie-rods and roof are all of the British period, but the brick-on-edge pavement appears to be of the Sikh period. The hall in its present condition, therefore, is but a skeleton of what was in the Mughal period. During its reconstruction the red sandstone pillars were erected at random so that in a number of cases the bases and their shafts do not correspond with each other.

ALAMGIRI GATE The only building by Aurangzeb in the fort was probably constructed along with the Badshahi Masjid in 1674. This impressive monumental gateway, facing the Badshahi Masjid, is flanked by two semi-circular bastions, boldly fluted and decorated with lotus petal designs at the base. The side bastions are surmounted by elegant domed towers or pavilions and the corners by *guldastas* (vases). The gateway is approached from the Huzuri Bagh by a ramp. It is robust and massive in construction and expressed the military character of its founder.

SHAHDARA

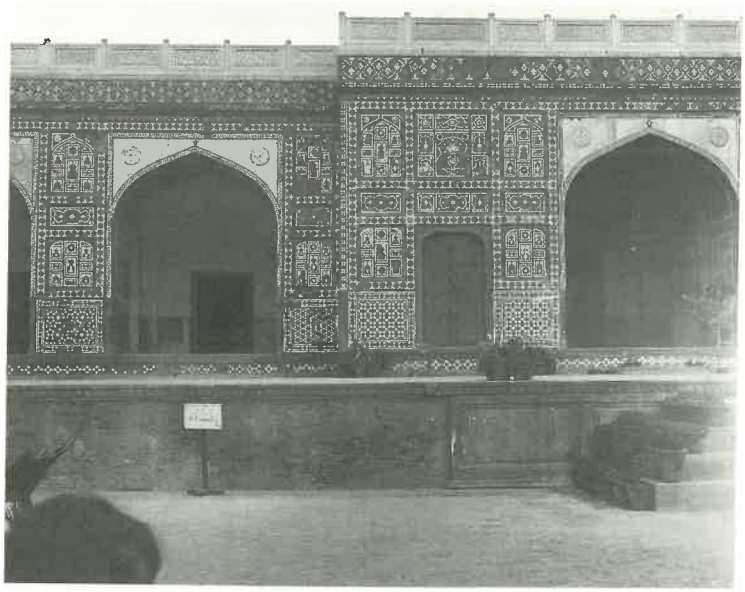
The Shahdara complex is based on three rectangular walled gardens adjacent to each other and aligned on a common axis. The Akbari Serai occupies the central court, while the two flanking gardens each contain a tomb — the Emperor Jahangir's on the east and his brother-in-law Asif Jah's on the west. A third tomb, that of Nur Jahan, lies outside the walls of the gardens and does not appear to form an integral part of the main garden complex.

4.18 The Alamgiri Gate was built by Aurangzeb as a ceremonial entrance to the fort from the Huzuri Bagh and Badshahi Mosque.

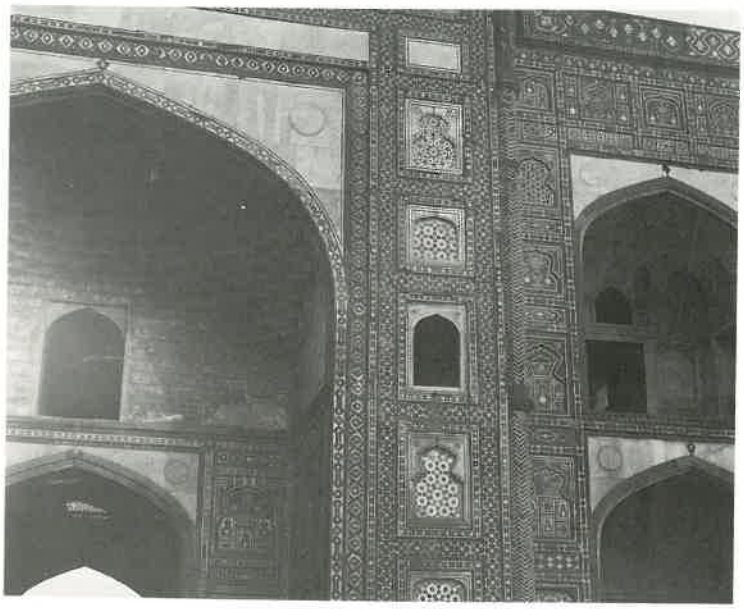
AKBARI SERAI Jahangir's Tomb is approached through a spacious *serai* (inn) which, contrary to its name, was not built by Akbar[6]. The open courtyard is flanked on all sides by a raised terrace, on which are built rows of small cells — 180 in all with a verandah and a common open passage running in front of them. The court and flanking rows of cells are enclosed within four high walls; the centre of each wall contains a stately *ewan* or gateway after the typical Persian model. The south portal serves as the main entrance. The east leads to the main garden court of Jahangir's Tomb, the west serves as a *mehrab* for a mosque, with Asif Jah's Tomb beyond, and the north portal completes the symmetry of the design. The *serai* served as an inn for travellers and also accommodated the establishment looking after the tomb[7].

MASJID SERAI The mosque within the *serai* at Shahdara belongs to the period of Islam Shah Suri (c.954 A.H.). The front facade is covered with red stone with marble design workmanship, while the niches generally have been decorated with marble calligraphic work. The domes above each of the three arched entrances have fairly long necks and are double internally[8].

JAHANGIR'S TOMB The Emperor Jahangir was buried according to his last wish at Lahore, in Nur Jahan's old pleasure garden known as Dilkusha Garden. Nur Jahan designed his tomb,



4.19 Jahangir's Tomb, Main Pavilion, Shahdara. Jahangir's Tomb built by his wife Nur Jahan, is a stage in the transition from the sculpturesque red sandstone of Akbar to the delicate refinement of the white marble architecture of Shah Jahan.



4.20 Jahangir's Tomb, Garden Entrance. Crisp geometric patterns in white marble on dark sandstone mark the turning point away from mono-chromatic towards a polychromatic treatment of external surfaces.

taking as her model the tomb of I'timad-ud-Daula, her parents' burial place at Agra[9].

The tomb is a single storey structure on a square plan. The pavilion itself is curiously modest in height compared with the grand scale of its setting and the dominating four corner minarets. Indeed, it is reported originally to have had a second cenotaph open to the sky and occupying the centre of the raised platform on the spacious roof of the tomb. Structural evidence shows that this platform was decorated with marble railings which, together with the cenotaph, have vanished[10].

The main pavilion itself is 267 feet long and built in red sandstone richly inlaid with white marble decorative motifs. It stands in a 55-acre garden divided into sixteen sub-quarters by pathways and water channels. The surfaces of the pavilion are decorated with fresco paintings, *pietra dura* and marble motifs

such as *aftaba* (ewer), *qab* (fruit dish) and *gulab pash* (rose water sprinkler) incised in red standstone. The four corner minarets are crowned with white marble cupolas and rise in five stages nearly 100 feet above the ground. These minarets, decorated with variegated marble zigzag patterns, are the forerunners of the refined Mughal octagonal minarets. The marble cenotaph is embelished with delicate and colourful *pietra dura* work and engraved with the ninety-nine attributes of God, the Emperor's name and the date of his death.

ASIF KHAN'S TOMB Mirza Abdul Hasan, entitled Asif Khan, was the brother of Empress Nur Jahan and father of Arjumand Banu Begum, the lady of the Taj at Agra. In the 8th year of Shah Jahan's reign he was made Khan-i-Khanan and Commander-in-Chief, and a year later, Governor of Lahore. Asif Khan died in 1641 and his tomb was erected by Shah Jahan, his son-in-law. It took four years to build and was completed at a cost of three lakh (300,000) rupees[11].

The tomb is an octagonal structure with a high bulbous dome. It stands on an eight-sided podium, originally of red standstone, in the midst of a spacious garden once set with reservoirs, fountains and walks. The entire area is enclosed by a brick wall finished with lime plaster and is approached through an imposing gate on the south.

Originally, the floor of the tomb was a mosaic of various stones. The inner dado was in white marble, and the outer in river-bed stones (*sang-e-abri*) and other variegated stones. It also contained some beautiful enamelled mosaic tilework, traces of which remain. During the reign of Ranjit Singh, the dome and the interior were stripped of all their marble facings.

TOMB OF NUR JAHAN Nur Jahan, whose real name was Meherun Nisa Begum, was the daughter of Mirza Ghias Baig entitled I'timad-ud-Daula, Jahangir's prime minister. She was first married to Ali Quli Khan, surnamed Sher Khan, a great landowner at Bourdwan in Bengal. In 1611 she married Jahangir, becoming his Empress and sharing all responsibilities in the administration of the Empire. Surviving Jahangir by eighteen years, she died in 1645 and was buried in this mausoleum which she herself built.

Standing on a square platform, the tomb measures 134 feet on each side and is just over 19 feet high. It is now a shattered brickwork core deprived of all its decorative veneer, which was of red sandstone inlaid with white marble. The interior was originally finished with glazed lime plaster bearing beautiful floral fresco paintings, traces of which still exist. The present rough brick floor belongs to the Sikh period; the original floor was presumably of marble.

SHEIKHUPURA

A notable building enterprise of Jahangir's is the hunting complex at Sheikhupura, some twenty-eight miles west of Lahore, with its huge fish tank, elaborate water pavilion and towering

minar, perpetuating the memory of a favourite deer. The architecture of these buildings is in the stark Jahangiri style and the drama of their spatial organisation is heightened by their setting in a natural park. The fort at Sheikhupura is also attributed to Jahangir but its history and original form are uncertain.

HIRAN MINAR (DEER TOWER) Four miles west of the present city of Sheikhupura, this complex was built under the order of the Emperor Jahangir in 1620, and alterations and renovations were carried out by Shah Jahan in 1634[12]. The tank itself is a rectangle of nearly 882 feet by 741 feet. In the middle of each side is a wide ramp, while in each corner there is a square pavilion with flights of steps down to the water on two sides. In the middle of the tank itself is an octagonal twelve-opening pavilion (*baradari*) known as the Daulat Khana. This is a three-storeyed structure built in local bricks and lime mortar. The lower storey is massive, with an octagonal chamber in the centre surrounded by eight smaller rooms linked by narrow passages. The second storey is more airy with the central chamber surrounded by an open verandah. The third storey consists of a simple octagonal pavilion over the central chamber, with a domed roof and projecting eaves.

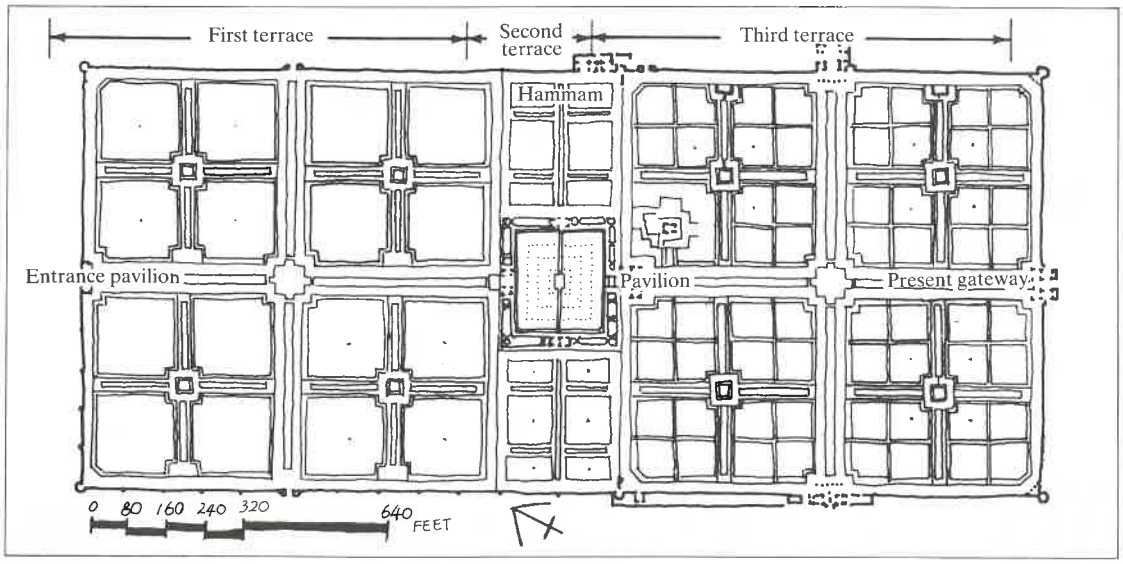
The Daulat Khana is approached by a narrow causeway and gate. On the west is the *minar* for which the resort is known. The *minar* is tapered towards the top as it rises in six stages. The lowest two are octagonal in plan, the stage above has twenty-four sides, and the upper three stages are circular or cylindrical. The third, fourth and fifth stages have small square holes, arranged in neat rows, whose purpose remains a mystery. Similarly unexplained is the absence of a crowning canopy, pavilion or cupola on top, giving the tower an unfinished appearance.

SHALAMAR BAGH

The Shalamar Bagh or Garden occupies about forty acres of land and was laid out in 1642, at the command of Emperor Shah

4.21 Plan. Shalamar Bagh.

4.22 and 4.23 Laid out in 1642 at the command of Shah Jahan, the Garden conforms to the conventional Paradise garden concept. The three ascending terraces are divided by canals with pools and fountains. The garden provided accommodation for the Emperor on visits to Lahore and was furnished with pavilions and summer houses.



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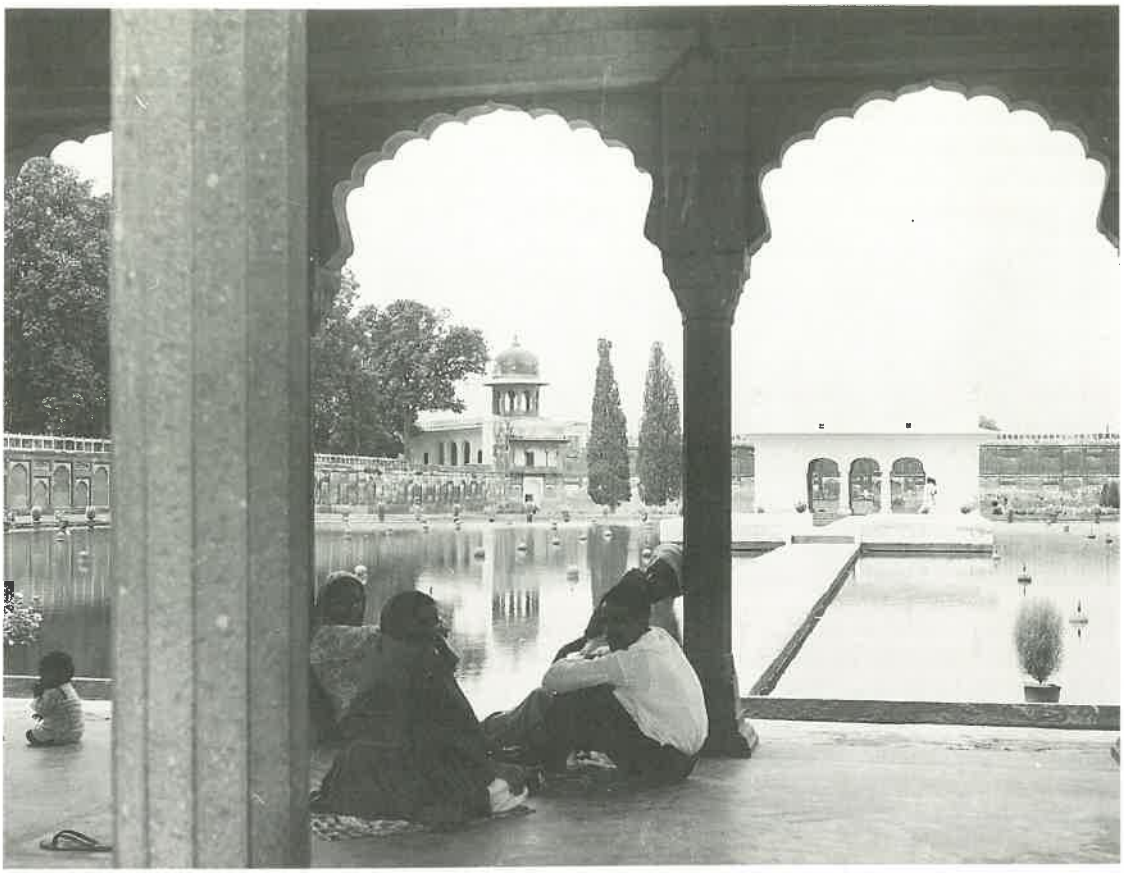

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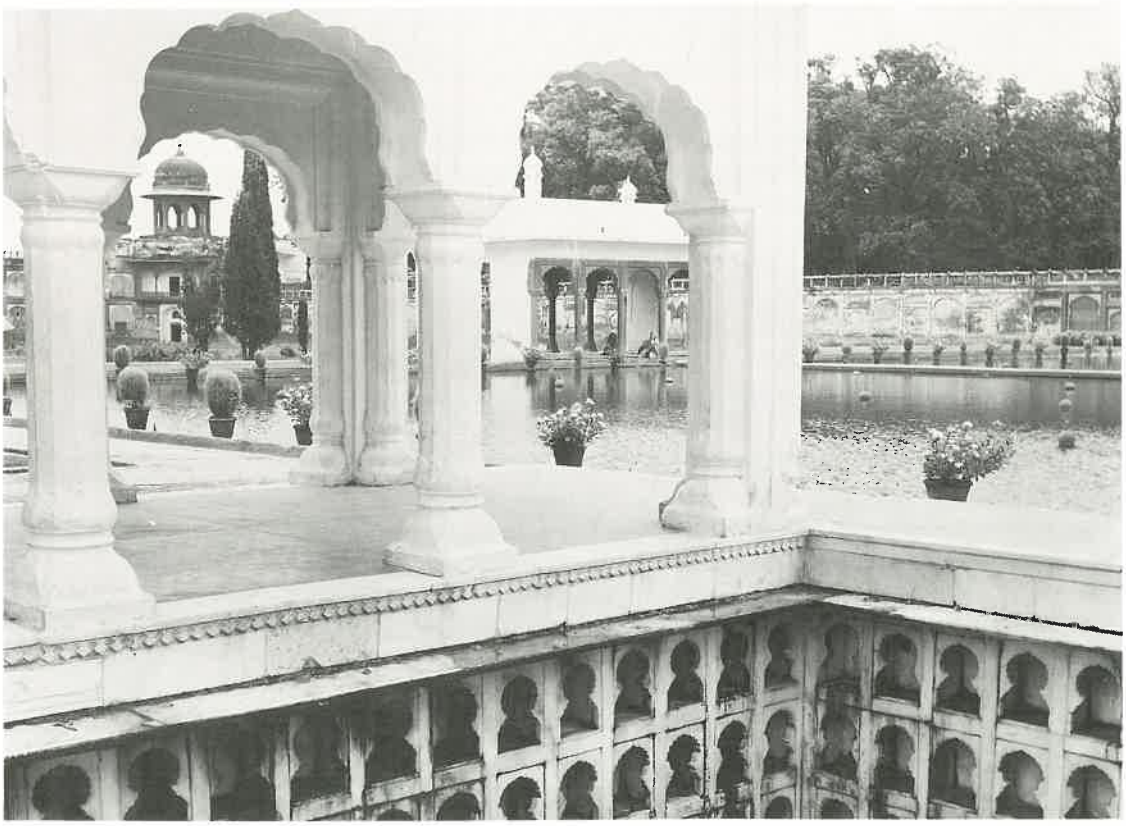


4.21

4.24 Corner of outer wall of Shalamar Bagh.

Jahan after the plan of the Royal Gardens in Kashmir. A canal, Shah Nahar, later known as the Hansli Canal was constructed to bring the waters of the Ravi from Rajpur, the present Madhupur, at a distance of more than a hundred miles. This canal was the combined work of Ali Mardan Khan, the well-known canal engineer of Shah Jahan, and Mulla Alaulmulk Tuni.

The garden consists of three terraces, rising about fifteen feet at each level to the south. The original entrance was in the north at the lowest terrace, as is customary in Mughal gardens, so that the cascades faced the visitor in his upward progress, revealing new delights as each terrace was surmounted. The uppermost terrace of the garden is called *farah bakhsh* (pleasure giving) and the middle-and lower-most terraces combined are named *faiz bakhsh* (bountiful). The first and third terraces are *char-baghs* of similar proportion and design, with canals crossing at right angles. However, the most spectacular is the central terrace. Its great reservoir contains one hundred and fifty-two fountains, and in the centre is a marble platform reached by a narrow causeway. From the southern pavilion the water flows over a marble cascade or *chadar*, at the bottom of which, overhanging the water, is the Emperor's throne. A double-paved path, with a flower parterre, runs round the whole reservoir.

The multitude of *chini-khanas* or pigeon holes beneath the cascades are said to have been decked with golden vases of flowers by day and camphorated wax candles at night. Many of the garden's estimated four hundred and fifty fountains can still be seen spouting high jets of water in the canals and tanks.

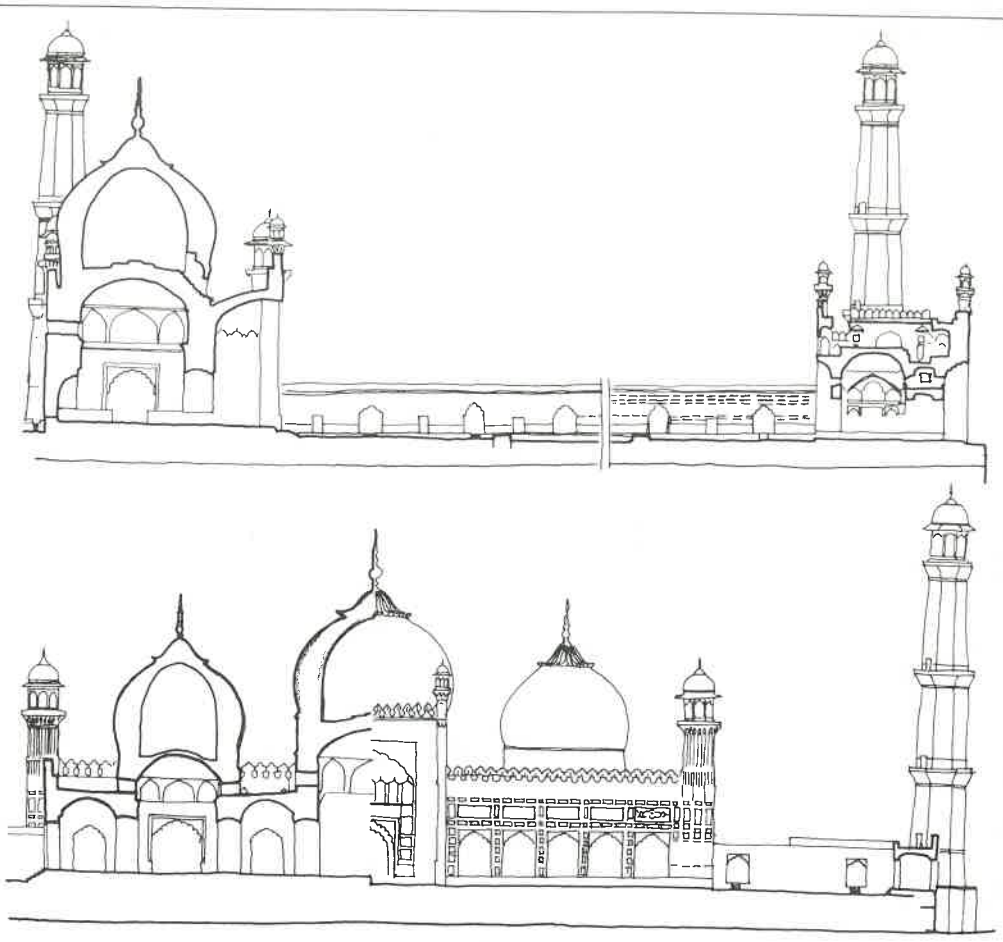
The original planting of the garden included fruit trees, ordered by Shah Jahan himself from Kabul and Kandhar and continuous flower beds with plane trees and aspens at intervals. Under the trees were grass platforms for reclining comfortably in the shade.

In addition to being a place for royal recreation, the garden provided accommodation for the Emperor on visits to Lahore. For this purpose it was furnished with a number of pavilions and summer houses. In the uppermost terrace, the present main entrance was originally the *aramgah* (rest room) of Shah Jahan. The building on the east in the same terrace, now known as the Naqqar Khana, was originally the *Jheroka-i-Daulat Khana-i-Khas-o-Am* (the Window of the Hall of Special and Common Audience)[13], and that on the west was the residence of the Empress. On the east, in the middle terrace, there is a *hammam* (bath) with hot and cold baths and a dressing room, originally decorated with *pietra dura* work. Besides, there are six corner towers surmounted by domes and four pavilions in the second terrace. In the third terrace, facing up the central axis of the garden, was the hall of private audience. The marble and agate work of these pavilions was stripped by the Sikhs to decorate the Ram Bagh and Golden Temple at Amritsar, and the present pavilions are mostly restorations in brick and plaster.

BADSHAHI MASJID

The great royal Badshahi Masjid built in 1674 adjacent to the Lahore Fort, is the largest in area of the subcontinent. In its general concept this mosque is based on the Jami Masjid outside the fort at Delhi. Unlike the Delhi mosque (which has three entrances) it has a single main entrance, and its four minarets on the corners of the court are tall and prominent while those marking the corners of the prayer chamber are relatively short. Like its predecessor at Delhi, the Badshahi Masjid is elevated on a high platform. It is approached from the east end by a flight of twenty-two steps which form three sides of a pyramid leading up to a platform in front of the main gateway. The gateway itself is relatively modest in comparison with those of the Jami Masjid. It is a two-storeyed structure with a high central arch. The flanking bays on either side have a pair of smaller arched niches placed vertically one above the other. At the corners of the square gateway are four minarets. The external surfaces are divided into panels and are sparingly carved in low relief. The material throughout is red standstone with white marble veins, embellished by an occasional rosette. A pair of slender shafts are attached to the sides of the slightly projecting central bay and terminate above the roof with white marble orbs placed in full-blown lotuses. Between these shafts and above the central arch is an elaborate array of twelve merlons which carry above them an open arcade topped by eleven white marble *gumbadis* (miniature solid domes). Between this balustrade and each corner minaret is an airy kiosk with projecting eaves and square white marble domes. The four corner minarets have projecting square platforms surmounted by similar square kiosks.

Inside the gateway is the vast courtyard of the mosque. It measures 530 feet square and is flanked all round by a wall of eighty cloisters. A change in level defines the two parts of the courtyard. The lower level is called the *fina*, where funeral



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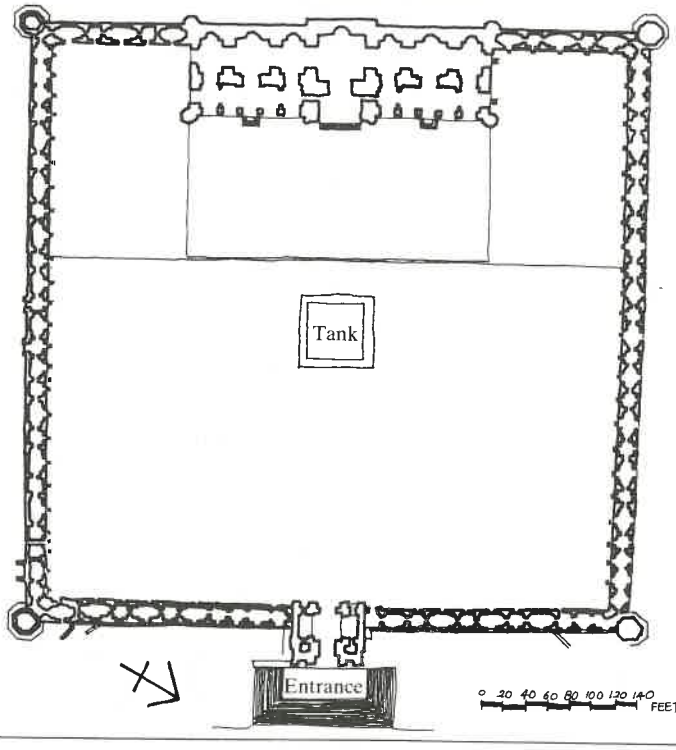
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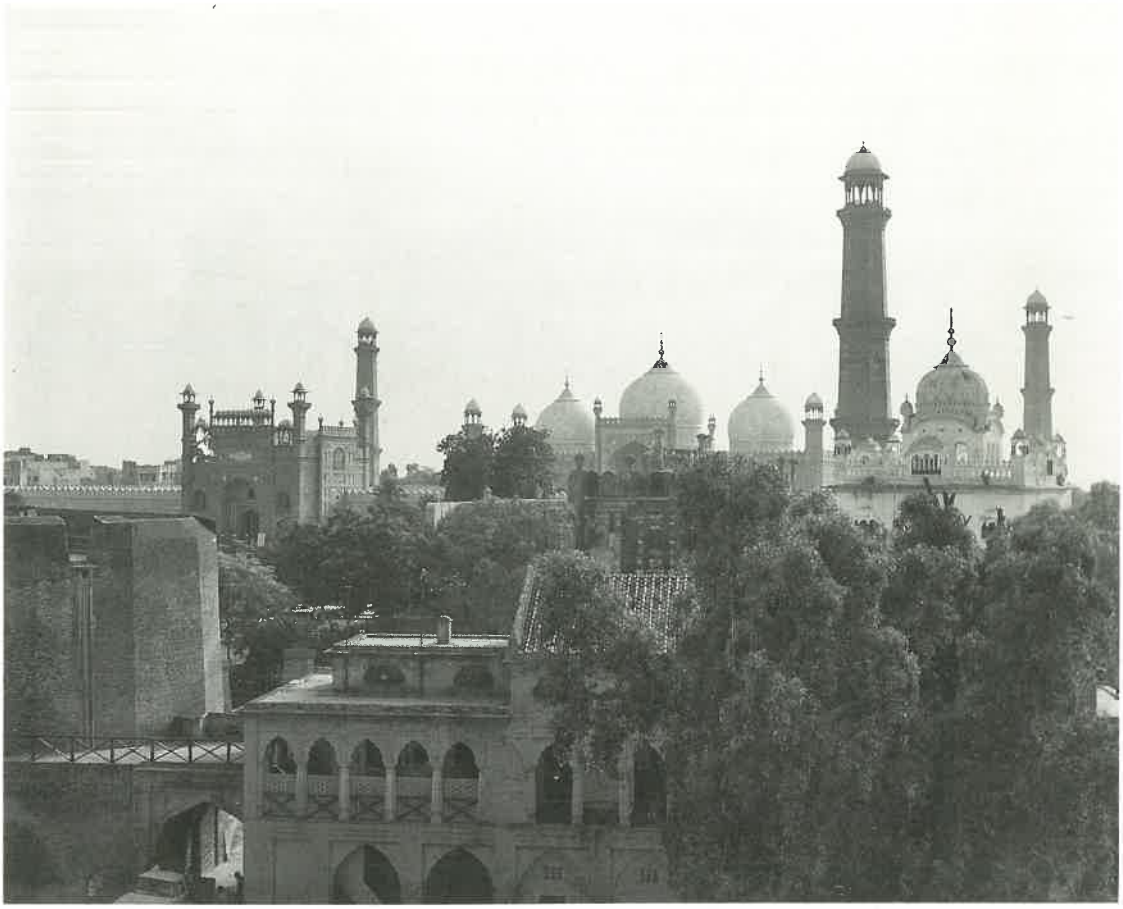


4.25 Plan and sections.

4.26 Badshahi Mosque, Lahore. Based on the Jami Masjid, Delhi, the Badshahi Mosque has a single main entrance instead of three, and its four minarets on the corners of the court are tall and prominent while those on the prayer chamber are relatively short.

prayers may be offered, and this also contains the ablution tank. The upper part is further divided into three areas, with the central area a step higher than the areas on either side. The original floor of the courtyard as well as the main prayer chamber was paved in small bricks laid on edge, making a pattern of *musallahs* or prayer mats. The surface water was carried by an elaborate drainage system under the courtyard floor into the River which flowed along the northern enclosure wall.

Raised above the courtyard in the centre of the west side is the main prayer chamber, about 275 feet in length and 85 feet deep. The surface of the red sandstone facade is treated in a similar fashion to the entrance gateway but with a more liberal use of white marble. The tall central arch rises past the general roof line and is framed in a border with a chain-like geometric design in white marble; the spandrills are filled with a flowing white marble floral design in relief. This high vault is flanked by five smaller arched openings on each side. The corners of the building are marked by four sturdy minarets with projecting platforms, surmounted by domed kiosks with projecting eaves. The parapet is formed by a horizontal row of merlons shaped liked broad leaves resembling *naga* (serpent) hoods.

Behind the high central arch is a rectangular recessed forecourt with a half domed vault above. Directly beyond it lies the central square hall, while on either side stretch out long halls or

4.27 Badshahi Mosque, Lahore, Main entrance. Elevated on a high platform, the mosque is approached from the east.

loggias. Parallel with the loggias and on either side of the central hall are two wide wings. Over the middle bay of each wing and over the central hall are three high domes of white marble which tower above the roof of the prayer chamber. All three are double domes with the outer domes raised on cylindrical drums, constricted at the necks and crowned by inverted lotus-like finials with gilded pinnacles. The rectangular bays between the domes are roofed with domical vaults with concave margins called *qulamdani*, and with central ribs. The marble and stone floor and much of the fresco work in the ceiling is later repair work.

NOTES

[1] Rajput, A.B. *Architecture in Pakistan,* Pakistan Publications, Karachi, 1963, p. 7.

[2] Khan, Ahmad Nabi, "The Rohtas Fort", in *Perspective,* February 1968, Pakistan Publications, Karachi, pp. 67, 68.

[3] Khan, Waliullah, *Lahore and its Important Monuments,* Department of Archaeology, Second Edition, Karachi, 1964, p. 12.

[4] Chughtai, Dr. M. Abdullah, *Tarikhi Masajid Lahore,* Kitabkhana Nauras, Lahore, 1974, p. 49.

[5] Khan, Waliullah, Op. Cit., p. 48.

[6] Ibid p. 49.

[7] Chughtai, Dr. M. Abdullah, Op. Cit., pp. 30, 31.

[8] Crowe and Haywood, *The Gardens of Mughal India,* Thames and Hudson, 1972, p. 131.

[9] Khan, Waliullah, Op. Cit., p. 53.

[10] Ibid, p. 60.

[11] Ibid, p. 56.

[12] Mahmood, Dr. Shaukat, "Hiran Minar — History, Architecture and Conservation", in *Environment,* October 1983, Lahore.

[13] Khan, Waliullah, Op. Cit., p. 58.

5 THE PROVINCES

1614 — 1753 AD	LAHORE SCHOOL
	Maryam Zamani Mosque
1800's AD	SIKH PERIOD
	LOWER PUNJAB
1300 — 1800 AD	LOWER SIND
	Makli Tombs
1558,	Dagbir Mosque
1644 and 1658	Jami Masjid
	UPPER SIND

LAHORE SCHOOL

The use of glazed faience tiles, rare in Mughal buildings, was restricted mainly to the Punjab and Sind, but the animal and human representations in this medium on the northern walls of the fort at Lahore are probably unique. These depict horses, elephants, camels and warriors — often in postures of sport or combat — and even winged angles or fairies. In these designs each shape is separately formed by an individually glazed tile, making up a brightly coloured mosaic. While animal and human forms are only found in the Picture Wall of the fort at Lahore, floral and calligraphic designs in this technique are abundant enough in a great number of buildings in the same city built during the middle of the 17th century.

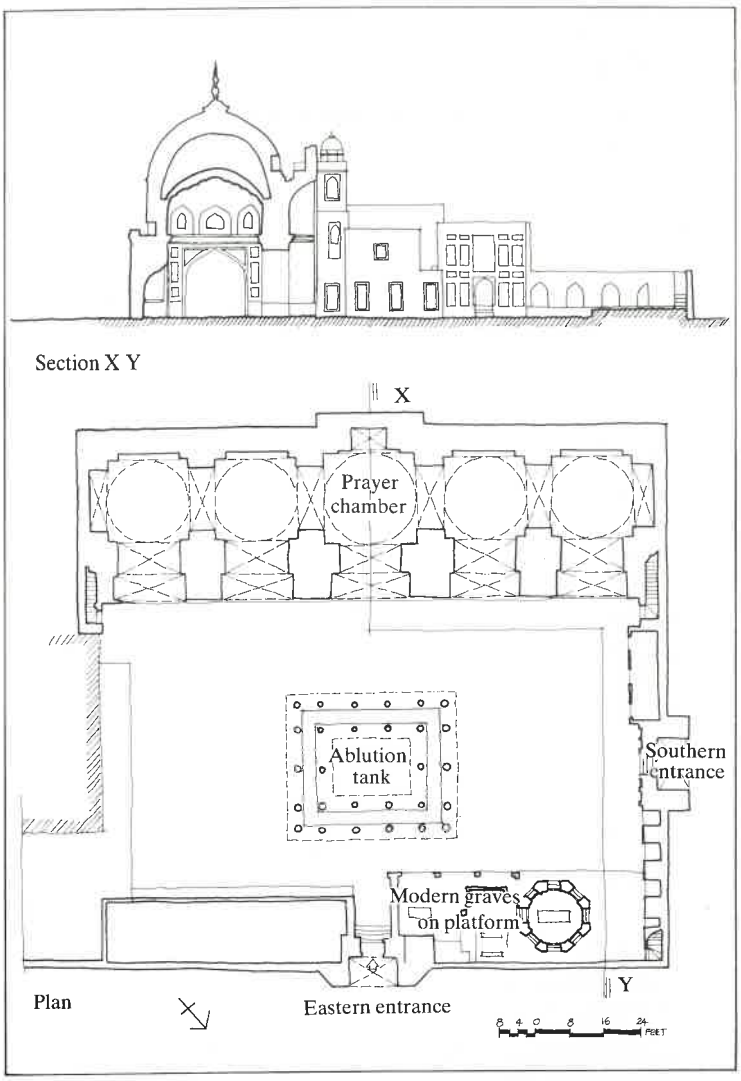
The restriction of this decorative technique to a small area in the empire as well as the architectural character of these buildings places them clearly outside the mainstream of Mughal court architecture. Indeed, there appears to have co-existed in 17th century Lahore a distinctly independent local tradition which derived its inspiration equally from Safevid Persia and Delhi. It is perhaps significant that only those buildings commissioned by the emperors themselves are in the imperial style of Delhi and Agra with a prominent use of stone and plastered external surfaces, while those built by lesser nobility or local lords and ladies have the provincial characteristic brick structures with glazed tile mosaics on the outer walls.

The finest collection of these mosaic pictures adorns the surfaces of Wazir Khan's Mosque. But here, as in Dai Anga'a Mosque, the domes follow, if anything, the earlier Pathan model, being flatter than contemporary Mughal practice allowed. Oriel windows, kiosks and pointed finials with fluted bases are the only definitely Mughal features of these buildings, while the top-heavy appearance of the non-tapering minarets of the Wazir Khan Mosque and the Chauburji, terminating in heavy projecting platforms, are reminiscent of certain Persian and Turkish rather than Mughal minars.

Maryam Zamani Mosque

Opposite the Masjidi Gate of the Fort at Lahore, stands the ancient mosque commonly called Begum Shahi Masjid. Built by

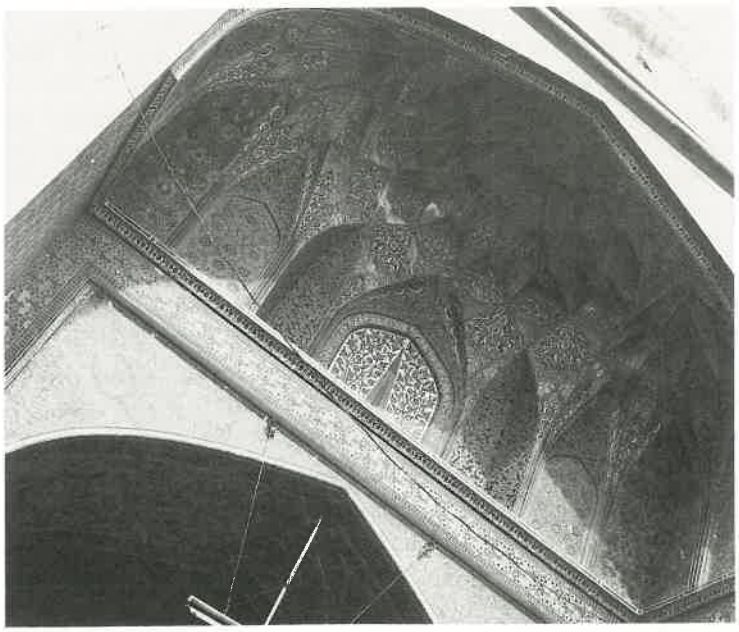
5.1



5.1 Plan and section, Maryam Zamani Mosque.

5.2 and 5.3 In the development of the mosque plan in Lahore, Maryam Zamani Mosque marks the first appearance of the five bay arrangement in the main chamber. Also known as Begum Shahi Masjid, it is the earliest dated Mughal Mosque in Lahore. Its double dome is also amongst the earliest in Lahore.

5.2



5.3

Queen Maryam Zamani, an Empress of the Mughal Emperor Akbar, it is the earliest dated mosque of the Mughal period in Lahore. It was constructed during the early period of Jahangir in 1023 A.H./1614 and is crowned with a double dome, a characteristic first seen in the historic buildings at Lahore.

The mosque is constructed in brick and rendered with plaster, and is a massive structure representing a transitional phase of architecture between the styles of the Lodhi and the Mughal periods. It has two entrances through deeply recessed arched gateways on its north and east sides. A flight of four steps in each gateway leads down to the main courtyard. The courtyard was originally enclosed by a row of cells on its north and south sides, some portion of which still exist[1]. On the east, along the gate, is a wide platform on which stands an enclosure consisting of an octagonal domed tomb and some other graves. In the centre of the courtyard is a tank for ablution.

5.4 Plan, Kashmiri Bazaar, Delhi Gate.

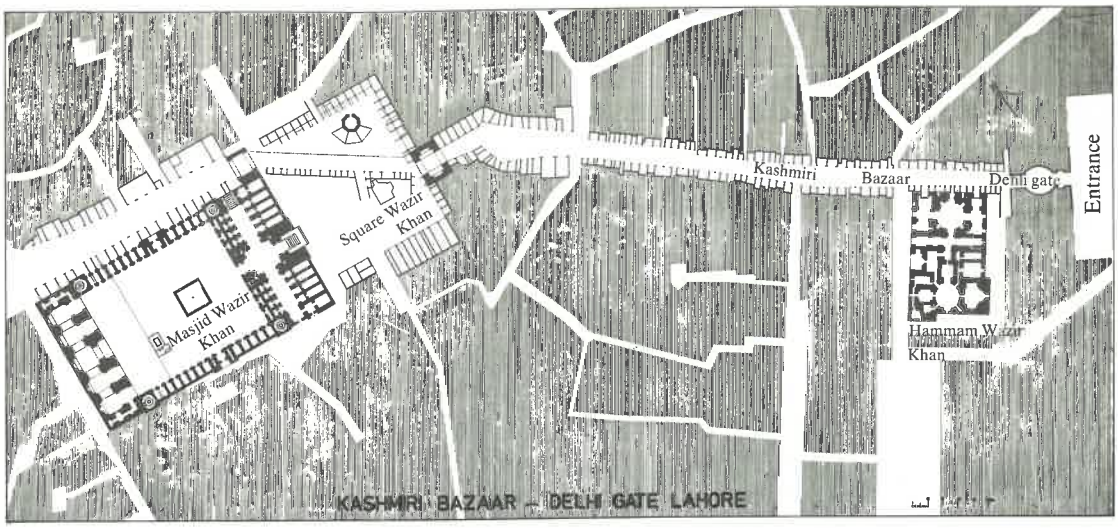
The prayer chamber of the mosque is of special interest. It is an oblong structure measuring internally over 130 feet from south to north and 34 feet from east to west. It has five compartments divided by heavy engaged arches supported by massive jambs and surmounted by domes. The central dome is the highest, placed on a high round neck. The double dome has a heavy brick outer shell with a small arched opening on the west and an inner shell of stucco. A timber frame connects the two shells for reinforcement. In the development of the mosque plan in Lahore, this mosque marks the first appearance of the five-bay arrangement, subsequently adopted for most of the major mosques in the city.

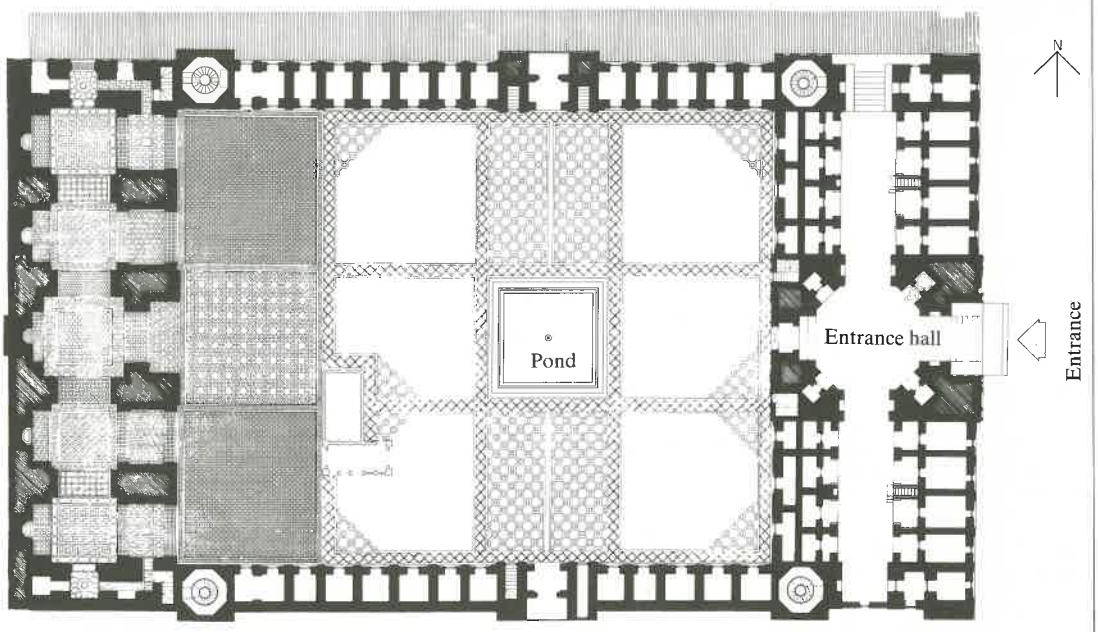
The five front openings of the prayer chamber are spanned by four-centered arches, the central one being the highest and widest with a high parapet and a projected frame. The whole outer surface of the front has been treated with thick lime plaster creating recessed decorative arched panels. Inside the prayer chamber is a series of high and deep arched recesses in the west wall of all the five compartments. The central niche, the mehrab, has an engrailed arch treated specially with profuse stucco ornamentation in geometric, floral and inscriptional designs. The half-domed niches of the central arch and the mehrab have been filled with low stalactites. The remaining four compartments though comparatively smaller and less decorative have the same engrailed arch treatment. The interior and entrance arch of the prayer chamber is richly embellished with fine fresco decoration. Over the four corners of the prayer chamber are placed small square pavilions with four arched openings surmounted by cupolas placed on octagonal drums. The cupolas originally were crowned with low crestings and finials like the five larger domes over the main prayer chamber.

Anarkali's Tomb

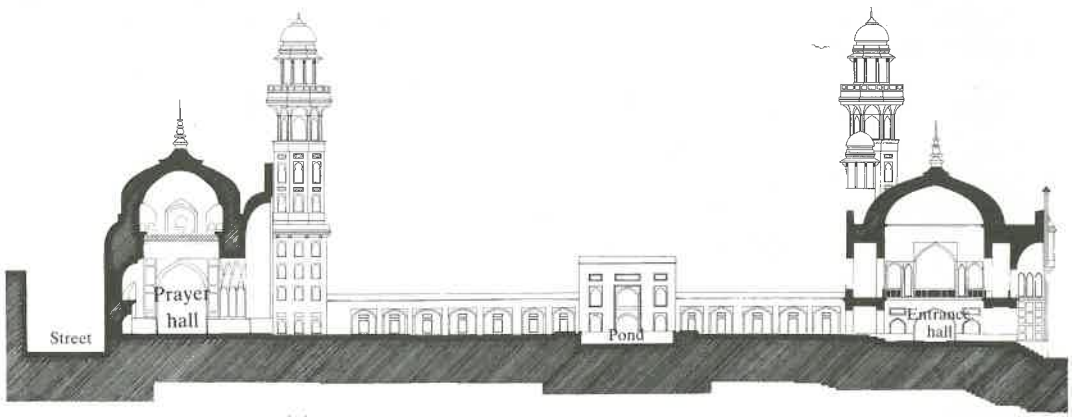
Constructed in 1615, the mausoleum known as Anarkali's Tomb stands in the Civil Secretariat. In 1891 it was converted into the Punjab Records Office.

5.5 Plan and section, Masjid Wazir Khan.





PLAN



SECTIONAL ELEVATION AT 'AA'

5.6 Wazir Khan's Mosque, Lahore. Apart from a place of worship this mosque served as a university or college.

5.7

5.8

Octagonal in plan with alternate sides measuring 44 feet and 30 feet 4 inches respectively, the building stands on an octagonal platform. On each corner there is a domed octagonal tower, and in the centre, a large dome on a high cylindrical neck. A notable feature of this massive structure is its upper storey gallery and bold outlines. It is one of the earliest existing examples of a double-domed structure in Pakistan[2]. The lower

5.7 Chowk *Wazir Khan, Lahore. The square outside Wazir Khan's Mosque formed an important part of the old city.*

5.8 The eastern entrance gateway of Wazir Khan's Mosque is in fact an elaborate forecourt which opens on to a generous chowk *or square.*

5.9 The domes in Wazir Khan's Mosque are on the earlier Pathan model, being flatter than contemporary Mughal practice allowed.

shell of the dome is constructed in small bricks in five stages or rings.

It was originally surrounded by an extensive garden enclosed by a wall with a double-storey gateway, all of which are now missing. Having in turn been occupied by Kharak Singh, the son of Ranjit Singh, given as a residence to General Ventura of the Sikh army, converted into a Christian church in 1851 and into the Punjab Records office in 1891, it has long lost its original decoration.

Wazir Khan's Mosque

5.8

Located about a furlong from the Delhi Gate within the Walled City is Wazir Khan's Mosque, which was founded in 1634 by Hakim Ilmud Din Ansari entitled Nawab Wazir Khan, a native of Chiniot, District Jhang, and Viceroy of Punjab under Shan Jahan[3]. Its eastern entrance gateway is in fact an elaborate forecourt which opens on to a generous square or *chowk*. One of its most attractive features is the colourful floral and calligraphic designs in glazed-tile mosaic work, said to be introduced into this part of the country from Thatta during the 16th century. It is in the decorated panels of this mosque that the cypress as a motif on enamelled mosaic work appears for the first time. The improved octagonal minarets, amongst the earliest of this type in Mughal architecture, are another distinctive feature of the mosque.

The Chowk Wazir Khan

This square outside the mosque probably once formed an important part of the plan of the old city of Lahore. According to Dr. Chughtai, this court or *jilaukhana* of the mosque held the entire city of Lahore in a right-angular relationship, more accurately, the mosque was so located in the centre of the city that all the major routes and bazaars were linked with it at right-angles[4].

On close examination it becomes apparent that the magnificent central gateway is a complete building in itself. The five or six steps in this wide passage lead to a platform under the front niche of this gate; another step leads to the centre of a covered octagonal court, the central domed portion of this gate. This central roofed area is connected by steps on all four sides: one enters from the east and north through a stepped passage, and from this same centre, opposite the east entrance, one crosses several steps to the west to enter the court within the mosque. To the north and south of the great octagonal forecourt stretch out bazaar-like corridors or gallleries with double rows of arcaded chambers each with a 16 feet wide passage between. This part of the mosque, which in common usage should be called a *dewrhi* (forecourt), deserves our special attention as it is a novel innovation in the evolution of the mosque plan. The central octagonal court also has double rooms in each of its four corners, probably reserved for the gatekeepers of the mosque. This arrangement of rooms is repeated on the upper storey of this portion. The northern and the southern sides of the main court of the mosque have twelve rooms each, of which those adjacent to the ewan and minars are double, and probably were reserved for the library attached to the mosque, indicating that apart from serving as a place of worship, this mosque served as a university or college[5].

Dai Anga's Mosque

Situated near the Railway Station of Lahore this mosque was constructed in 1635 by Dai Anga, the wet nurse of Shah Jahan, whose name was Zebun Nisa[6]. It is notable for its minute and refined enamelled tiled mosaic work. In plan the prayer chamber consists of three domed bays, with the central dome rising higher than the two flanking domes. All the domes are raised on high cylindrical necks with sharply recessed collars at the springing. The east facade of the prayer chamber reflects the internal plan with three arched openings framed in half-domed recessed bays by tall multi-cusped arches. The central arch is taller and wider than its two adjacent arches. Each bay is contained within a rectangular frame and the entire ensemble is flanked on either side by square towers topped by heavy projecting platforms, typical of the Lahore provincial style.

Chauburji

Located on the Multan Road, this was a gateway to a garden that has now disappeared. The garden was founded in 1646 by a lady, mentioned metaphorically as "Sahib-e-Zebinda, Begum-e-Dauran" (endowed with elegance, the lady of the age), probably Jahan Ara Begum, the eldest daughter of Emperor Shah Jahan, and bestowed upon Mian Bai who constructed the garden[7]. This gateway is notable for the glazed mosaic decoration with which its entire facade, including the octagonal corner minarets, is brilliantly embellished. The minarets themselves with their top-heavy profile are characteristic of the contemporary provincial style of Lahore.

5.10 Chauburji, Lahore. Minarets with top-heavy profile are characteristic of the provincial style of Lahore.

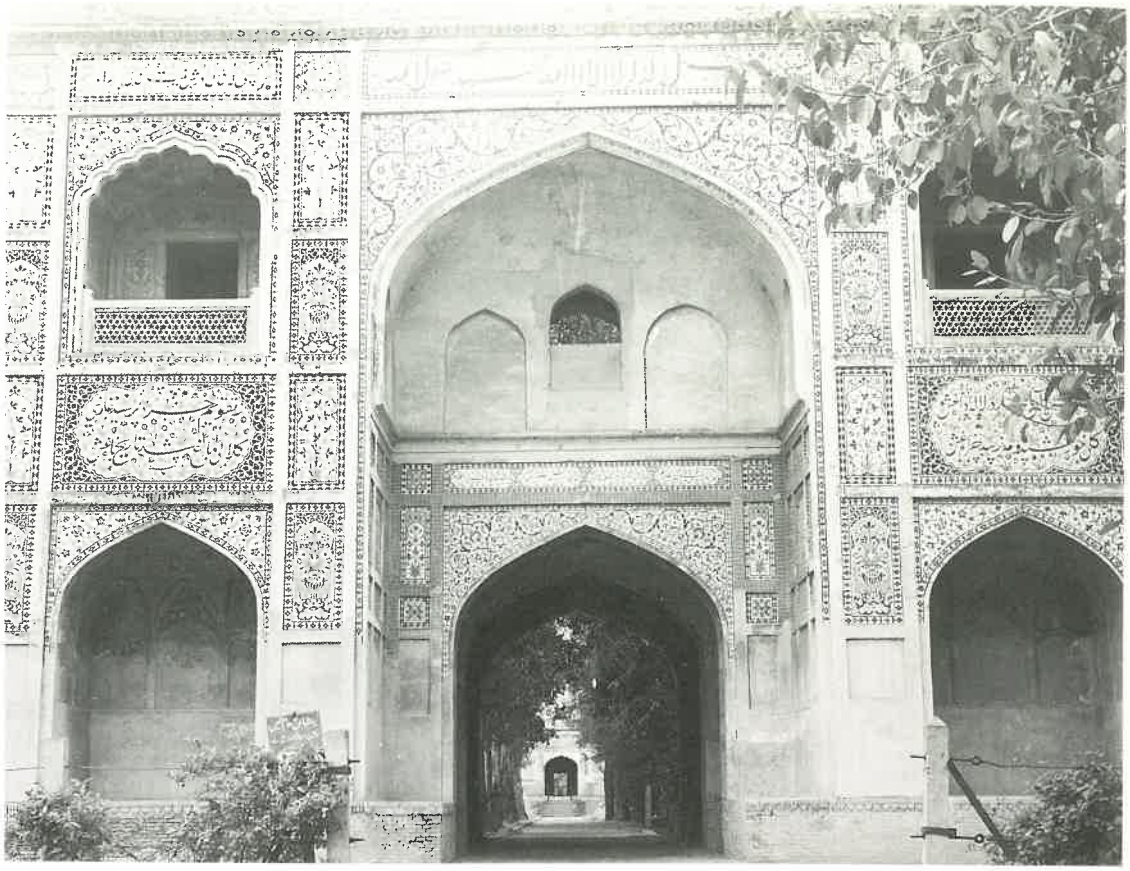
Tomb of Ali Mardan Khan

Ali Mardan Khan, Governor of Qandahar, Kashmir and Punjab, is known for his skill and judgement in the execution of public works, especially canals, such as the Shah Nahar of Shalimar Gardens[8]. He is buried by the side of his mother in her tomb, on the right bank of the canal at Mughalpura. This was once surrounded by a garden of which only the gateway has survived. This gateway indicates the excellence of enamelled tiled mosaic work which must have once adorned the tomb.

The tomb itself, a massive brick construction octagonal in plan with a high dome and kiosks on angular points, stands on an eight-sided podium each side measuring 57 feet 6 inches. Deep half-domed recesses in each side contain smaller arched openings into the central chamber. The dome was originally finished with white marble inlaid with floral designs in black marble.

Gulabi Bagh Gateway

This gateway, with its rich and vivid mosaic tile work and superb calligraphy on a plaster base, was the entrance to a pleasure garden constructed by the Persian noble Mirza Sultan Baig in 1655[9]. It is an exquisitely refined example of the form of garden gateway typical of this city. The main facade is divided into three bays, delineated by a grid of rectangular lines reminiscent of timber-framed town houses. The double-storey volume is expressed by the two pairs of arched windows in the



5.11 Gulabi Bagh Gateway is the entrance to a garden and tomb. The main facade is divided into three bays, delineated by a grid, of rectangular lines, reminiscent of timber framed town houses. The delicate detailing of its tile mosaics is matched by the subtle expression of its structural forms.

two side bays. These storey-height openings are arranged one above the other, whereas the central bay consists of a single arch rising two storeys, behind which the arched entrance is placed in a deep recess. The delicate sophistication of its tile mosaics is matched by the subtle detailing of its structural forms, such as the engrailed arches of the upper storeys and the slender octagonal shafts marking the corners of the gateway block.

Nawankot Monuments

Situated about a mile south of Chauburji on the Multan Road, this three-centred double arched gateway was constructed in cut brick-work. It is almost entirely covered with enamelled mosaic tile-work in green, blue, yellow and orange. The interior is richly decorated with fresco paintings in red and green[10]. The form of this gateway follows the standard design prevalent at the time, but the roof line is distinguished by a decorative row of castellations in the form of stylised naga hoods and airy kiosks on each of the four corners.

Dai Anga's Tomb

The mausoleum of Dai Anga, wet nurse of Shah Jahan and wife of Murad Khan, a Mughal Magistrate of Bikaner, lies on the site of the Bulabi Bagh, the garden whose surviving gateway has been described above. The tomb was probably constructed in

1671[11]. Built in brick and square in plan, the structure is raised on a low platform under which lies the actual burial site in a subterranean chamber. The mausoleum, comprising a central tomb chamber and eight rooms around it, was once elaborately decorated with glazed-tile mosaics. The central chamber is roofed by a low pitched dome on a high neck. Around it, the roof over the smaller chambers is externally flat with a square kiosk in each corner supported on slender brick pillars.

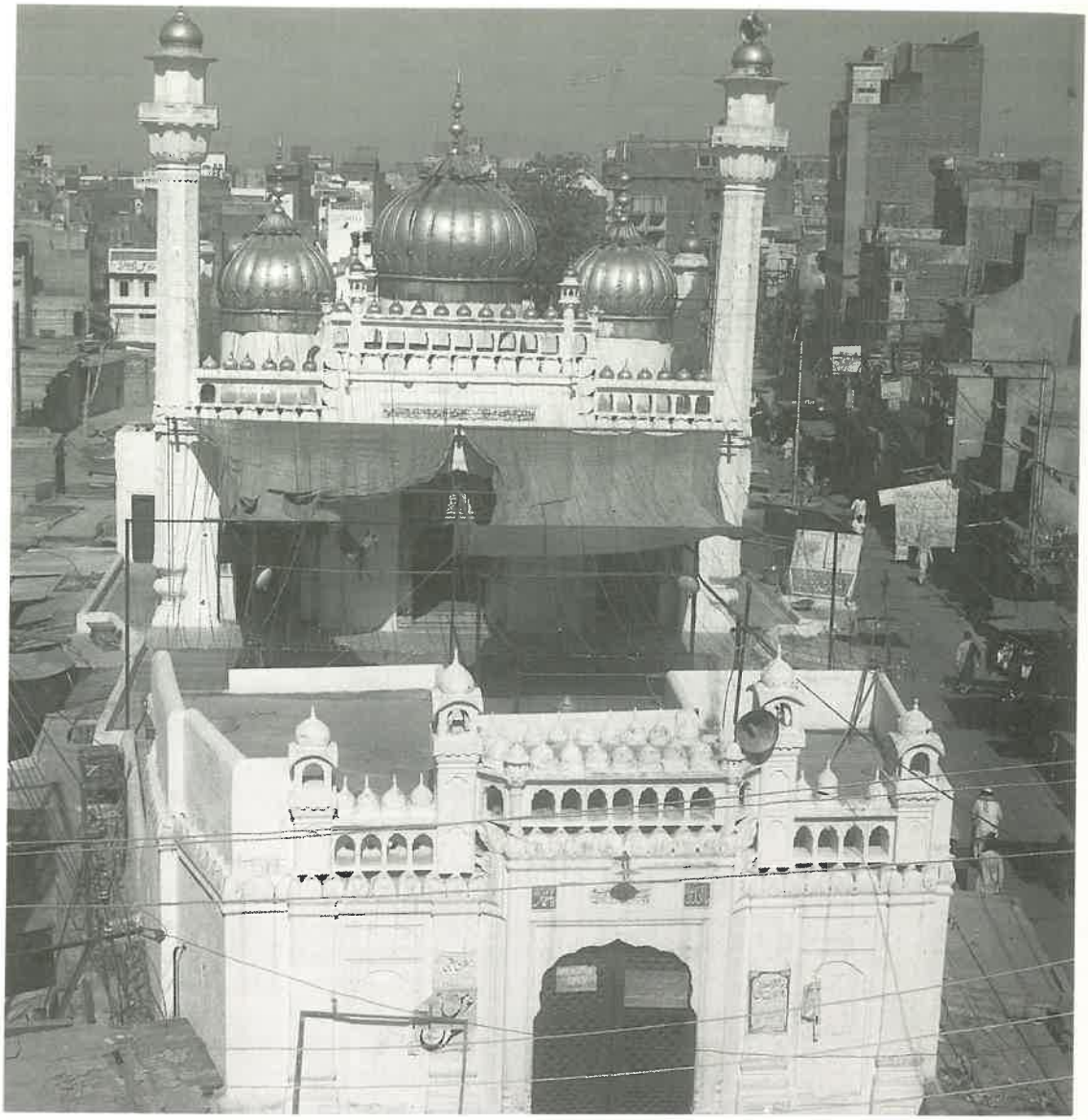
Sarvwala Maqbara

Not far from Dai Anga's Mausoleum is a solid, tower-like brick structure with generous *chhajja* (eaves) near the top and surmounted by a four-sided pyramidal low dome carried over a low double neck. This structure is the tomb of Sharfun Nisa Begum, built in the middle of the 18th century[12]. It is known as Sarvwala Maqbara from its ornamentation of cypresses — four on each side — intercepted by blooming flower plants.

The burial chamber is elevated to a height of 16 feet and is approachable only by a removable ladder. In order to shield from sight the actual grave of the pious lady. According to some sources, the tower was originally surrounded by a beautiful garden and tank.

Sonehri Masjid (Golden Mosque)

By the middle of the 18th century the mainstream of architecture in Lahore had lost its grandeur and elegance. The Sonehri Masjid in the Dubbi Bazaar area of the Walled City, built by Nawab Bhikari Khan in 1753, displays none of the characteristic features which had been the hallmark of architecture in the provincial capital in the preceding century. It was built on the site of an earlier but much smaller mosque, in what had been a public square called Chowk Kashmiri Bazaar. The little "Golden Mosque", so called for its glittering domes, make a dramatic termination as it rises on a platform at the end of a long narrow street of crowded shops and town houses. A flight of steps leads directly from the Kashmiri Bazaar to the main entrance which is elaborately adorned with an arcaded balustrade and miniature minarets, reminiscent of the gateway of the Badshahi Mosque. Beyond the entrance the long, slightly wedged-shaped court contains an ablution tank. The prayer chamber is roofed with three domes, with the central dome larger and raised higher than the two flanking ones. Externally these double domes have a bulbous fluted "turnip" form and are covered by gold-coated sheet copper. The two tall minars flanking the eastern facade of the prayer chamber are similarly topped by miniature golden domes. On close inspection the corruption of Mughal forms is revealed in every detail. The bulbous Mughal domes are now exaggerated into the form of grotesque vegetables capped with slender drooping leaves. The merlons have become naga hoods, and the columns stalks growing out of cabbages that blossom into life-like lotuses.



5.12 Sonehri Masjid, Lahore, 1753. The little "Golden Mosque", so called for its glittering domes, makes a dramatic termination at the end of a long narrow bazaar. Close inspection reveals the corruption of Mughal forms in every detail.

SIKH PERIOD

The vulgarisation of Mughal forms appears to have been carried to fantastic extremes in the half century or so of Sikh rule. Even so, the religious architecture of the Sikhs represents an interesting development of the indigenous mainstream. Taken singly, almost every element of these buildings is derived from a Mughal precedent, yet seen as a whole, these buildings are an unmistakable expression of a radically different style.

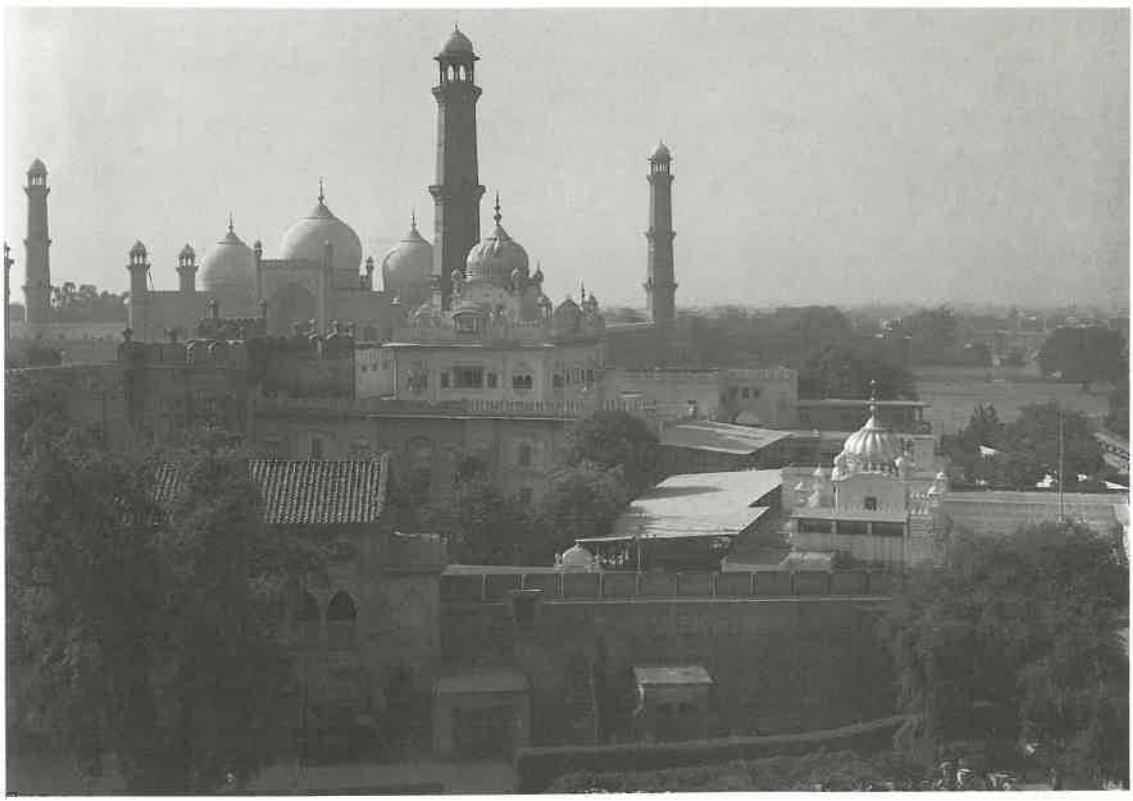
The hand of the Sikh designer seems not to be guided by the over-riding concern with the concept of a cosmic unity which inspired his Muslim counterpart. Instead, the structures appear to have been conceived more as the earthly containers of objects of veneration. These objects — an urn containing the ashes of a venerated personage, or the *Grant Sahib*, the holy book of the Sikhs — are no doubt recognised as symbols, yet the focus of attention in a *samadh* or *gurdwara* seems to be

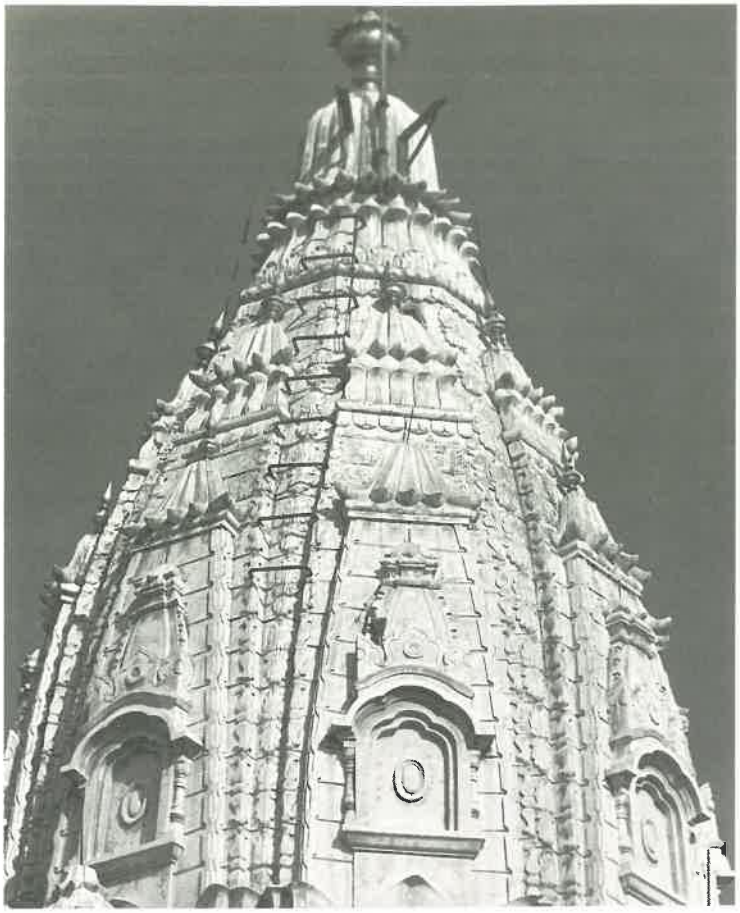
directed towards the central object of the building. Thus typically, the *gurdwara* sits in the centre of an open court or pool. The main structure is often double-storeyed on a simple square plan, with practically identical facades on each side. An inner square chamber on the ground and first floor is usually repeated on a third floor and is toppped by a fluted bulbous dome. The transition from the square room to the circular drum of the dome results in the characteristic double curve form, reminiscent of the *chauchalla* or *bangala* roof introduced into Mughal architecture by Shah Jahan. This curvilinear form, projected to form eaves (especially its wavy variant, reflecting the lines of a multicusped arch), became one of the most distinctive features of Sikh architecture.

Among the best known Sikh buildings in Pakistan are the *samadhs* of Guru Arjun Dev and Maharaja Ranjit Singh located between the Badshahi Masjid and the fort at Lahore. According to Sikh belief Guru Arjun Dev disappeared miraculously in the waters of the Ravi[13]. A small commemorative shrine was built on this site by Guru Gobind (1606–1645), but the presnt structure with its heavily gilded dome, was constructed later by Maharaja Ranjit Singh.

The *samadh* of Maharaja Ranjit Singh lies to the south west of the shrine of Guru Arjun Dev. Commenced by Ranjit Singh's son Kharak Singh, it was completed by 1848. Of the two *samadhs*, that of Guru Arjun Dev is smaller and its dome is raised on a single-storeyed lower structure instead of the more usual two-storey form. Its originally isolated position in a wide court has been lost with the addition of later structures.

5.13 The Samadhs of Ranjit Singh and Guru Arjun Dev at Lahore are typical of the Sikh shrines or temples which sit in the centre of an open court or pool. An inner space chamber is repeated on the upper floor and is topped by a fluted bulbous dome.





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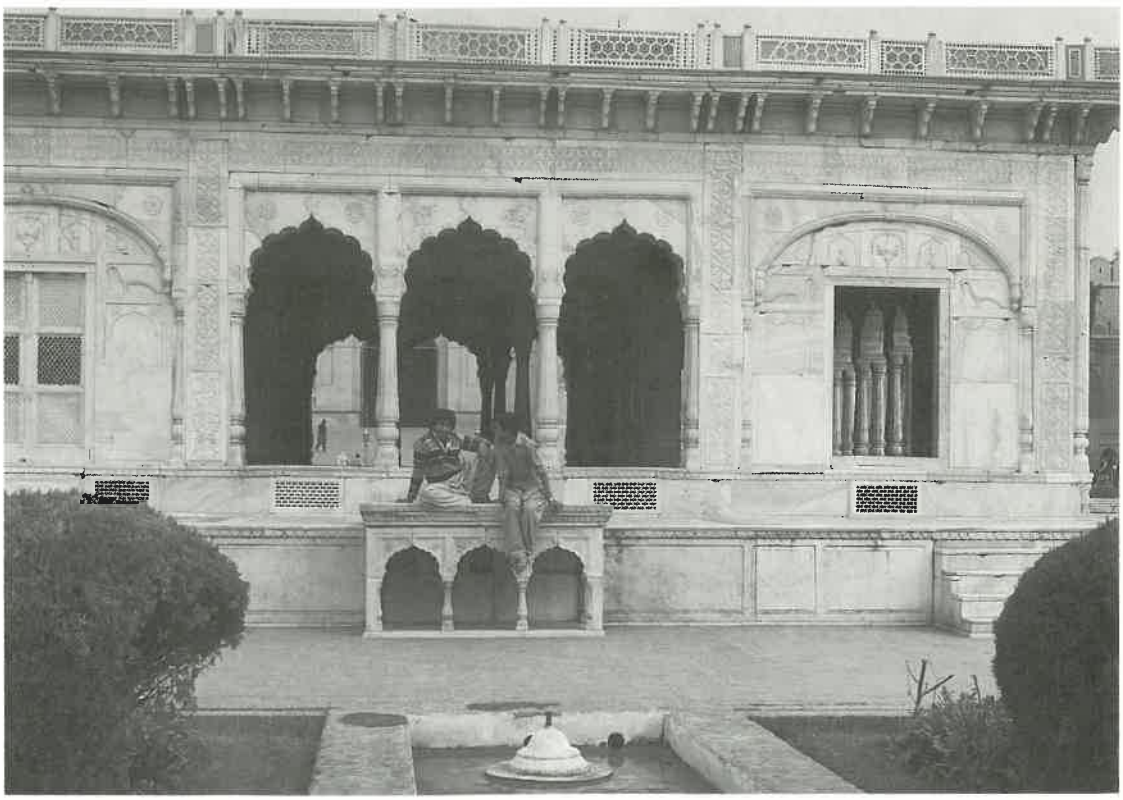

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5.14 Gurdwara Damdama, Gujranwala. Occasionally, as in the Gurdwara Damdama at Gujranwala, the dome is replaced by a tall sikhara tower, characteristic of Hindu temples.

5.15 Huzuri Bagh, Lahore. The white marble pavilion in Huzuri Bagh is a fine example of the degree of derivation of Sikh buildings from Mughal precedents.

5.16 Pavilion, Sheranwala Bagh, Gujranwala.

5.17 Buildings such as the pavilion in Sheranwala Bagh, Gujranwala, represent an interesting development of the indegenous mainstream. Yet the religious architecture of the Sikhs is an unmistakable expression of a radically different direction.

5.16

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5.18 Mai Jindan's Palace, Lahore Fort. The secular buildings of the Sikhs probably represent the last expression of the grand tradition of indigenous architecture.

Among Sikh secular buildings the white marble pavilion in the adjoining *hazuri bagh* is a fine example of the degree of derivation of Sikh buildings from Mughal precedents, while the *haveli* of Naunihal Singh in the Walled City of Lahore, is one of the most outstanding representatives of their domestic architecture. Not a fundamental departure from the conventional *haveli*, or large town house, it is an isolated double-storey structure on an approximately square plan with a central court. Its most remarkable feature is the rich surface decoration, externally in relief patterns in brick and internally some colourful frescoes on lime plaster, depicting human, animal and mythological figures.

5.19 and 5.20 The Haveli of Naunihal Singh, in the walled city of Lahore, is an outstanding representative of Sikh domestic architecture, remarkable for the rich surface decorations in brick externally, and colourful frescoes internally.

LOWER PUNJAB

Another school which can claim distinction for the quality of its glazed-tile decoration was that of the lower Punjab. Here again, these buildings belong to an architectural tradition which cannot be termed provincial Mughal, for it was as much a natural extention of the building art of Persia as it was a provincial version of the Mughal architecture of Delhi. Similar local traditions had developed independently along the length of Pakistan. Like the architecture of the Mughals, these traditions were also a compound of Persian and Indian influences. But whereas in Mughal architecture the Persian element had been imported from the west, in Pakistan this element had always formed an important part of the local culture and such Mughal contribution as there was to this provincial architecture had come by way of an importation from the east.

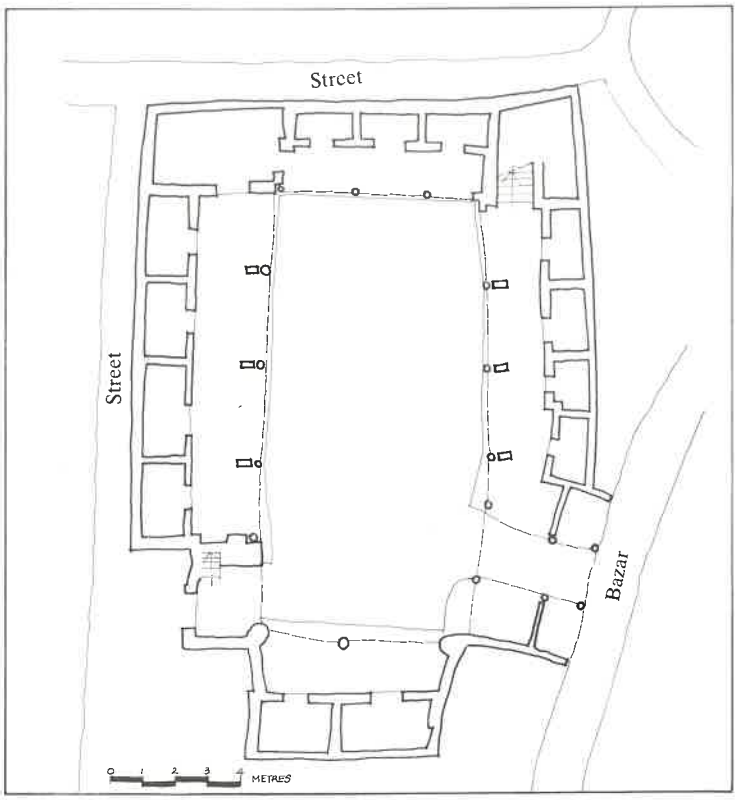
The hypostile timber halls of the mosques and tombs of Lal Shah Bokhari, Jahania Jehangashi, and Abu Hanifa at Uchch, and the brick domed tombs of Multan have already been mentioned as representing the earliest formulations of Tughlaq architecture. Later buildings such as the tomb of Bibi Jivinda at Uchch and the 17th century tomb of Tahir Khan Nahar at Muzzafargarh continue the tradition of the 13th century tombs of Multan. But to the original prototype have now been added a number of minor but unmistakable Mughal details.

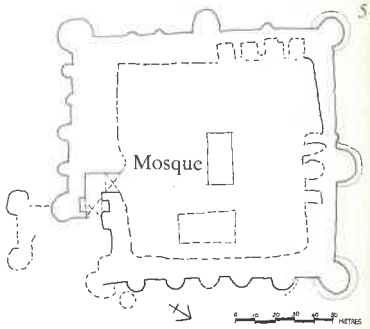
Like the provincial architecture of Lahore with the external surfaces covered with glazed tiles, there are a number of significant differences which place this work in a distinct category. For unlike the polychromatic tile mosaics of Lahore in which each tile was cut in the shape of the design and contained a single colour, the decoration in the Multan region takes the form of square or rectangular tiles, each containing a part of the larger design in seldom more than two colours, usually blue and white, the pattern being carried across the joints. Moreover, the designs themselves have none of the fluidity and ease of the Lahore mosaics, but follow a more rigorous geometric discipline.

Belonging to the same provincial tradition of the lower Punjab are the remarkable chain of forts in the Cholistan desert of Bahawalpur. While over fifty forts in this region have been mentioned by various sources, over two dozen of them, mostly of the 18th century, formed a 300-mile line of defence with the border of Rajasthan. Most of these forts are situated along the ancient bed of the Hakra river. These are all built of burnt bricks enclosing a mud-brick core. Some, however, situated deeper in the desert, are entirely of sun-dired bricks. The largest and still most imposing of these forts are at Derawar and Islamgarh.

LOWER SIND

One of the very few parallels to the successful fusion of diverse forms and techniques which the Mughals developed to perfec-



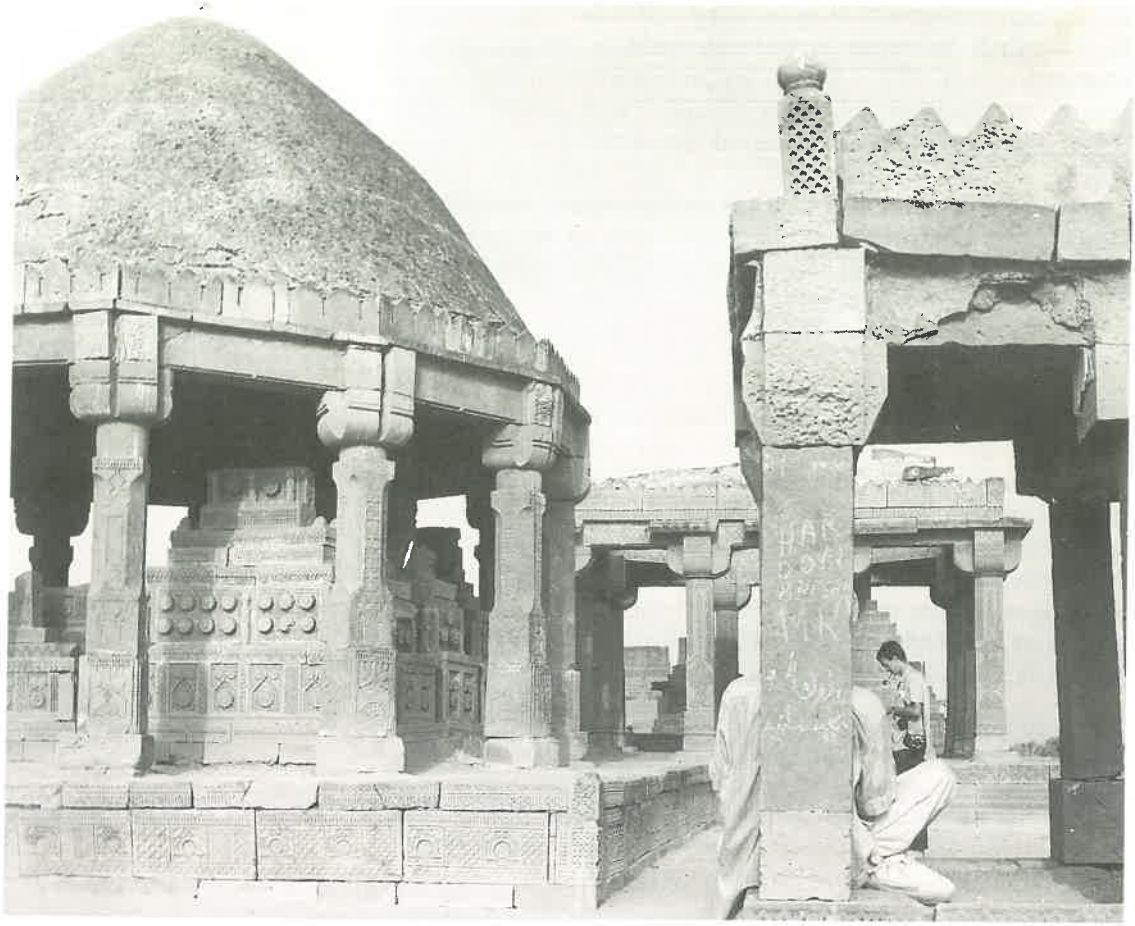


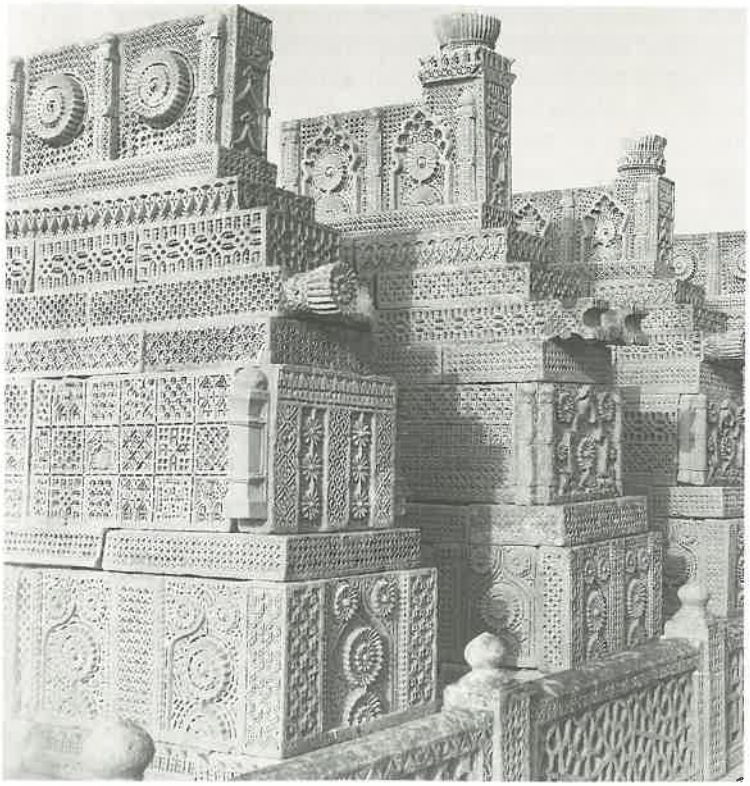
5.21 *Plan, Khwajgan Mandi, Uchch.*
5.22 *Plan, Islamgarh Fort, Cholistan.*

tion, is to be found in the contemporary but independent architecture of lower Sind. Even the richness of the surface decorations of the two are evenly matched, for what the Sindhi buildings lacked in fiscal resources they made up for by the visual wealth of their designs in colour and texture.

The architecture of lower Sind (1300–1800), was derived more from Persian and occasionally Gujrati sources than from north India. It represents an independent development which started long before the Mughals and lasted for some time after as a continuous tradition. To this tradition belong some of the most vigorously sensuous stone carvings as well as some of the most finely patterned glazed-tile work in Pakistan. The monumental and religious architecture of Hyderabad, Sukkur, Uchch, Multan and the Punjab have certain similarities in common which are not shared by the mosques and tomb structures of lower Sind. This distinction applies not so much to the brick structures, which are based on the usual Persian models, but to the stone buildings which display a strong imprint of Gujrati and Rajput traditions in their decorative carving and structural systems.

These buildings have a trabeated form of construction in which the domes are not true domes but corbelled and the arches likewise are not true arches but treated only as decorative devices. Their unsophisticated structural system is certainly one of the distinctive features of these buildings, but their chief merit, lies in the excellence of their carved decoration. The gorgeous profusion of the carving displays, however, a disproportionate amount of attention lavished on the details of the decoration, while the larger architectural conception is singular-





5.23 and 5.24 Chaukandi Tombs, Makli. The remarkable carved sandstone tombs demonstrate the existence of an independent building tradition in the lower Sind. These buildings have a trabeated form of construction in which domes are not true domes but corbelled and the arches likewise are not true arches. Their chief merit lies in the excellence of their carved decoration.

ly lacking in sensitivity of scale and proportion. The exception to this rule is the tomb of Isa Khan Tarkhan, the younger, at Makli.

Makli Tombs

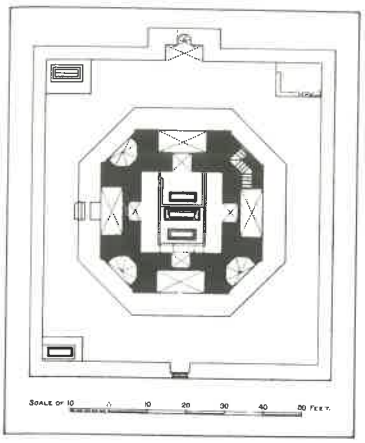
The Makli Hill necropolis contains the largest concentration of structures representative of the architecture of this period in lower Sind. Other examples are located in the adjacent town of Thatta and in the numerous graveyards dotted widely over the region, including some carved sandstone tombs known as Chaukandi.

TOMB OF MUBARAK KHAN About a mile and a half north of the rest house at Makli, one of the earliest extant structures of the necropolis is the tomb of Mubarak Khan, the distinguished general of Jam Nizamuddin (d. 1490). It is little more than a quadrangle, built on a high plinth, enclosed by high stone walls, but even these magnificent walls, decorated sparingly with arabesque and floral devices[14], demonstrate the existence of an independent building tradition in the lower Sind as early as the end of the 15th century.

TOMB OF JAM NIZAMUDDIN To the northeast of Mubarak Khan's Tomb is the tomb of Jam Nizamuddin, an important Summa ruler who ruled from 1461 to 1509. It provides a vivid illustration of the Hindu and Gujrati influence in lower Sind, but it is doubtful that material from an earlier Hindu temple was employed in the construction of this building, which it appears was never completed.

The structure consists of an enclosure wall, containing a square chamber with a *mehrab* recessed into the west wall. The corners of the sepulchral chamber are spanned by pointed arches, springing from above the lintel height of the door. Higher up the corners of the octagon are similarly spanned to make a sixteen-sided drum; over this there was obviously intended to have been a dome. The pointed arches, as in several other stone buildings in the Lower Sind, are not true arches but are formed by corbelling out successive courses. The wall surfaces are decorated by narrow carved bands alternating with broader courses of plain stone. The carved motifs include sunflowers, full and half lotuses, geometric patterns, a row of geese, pointed arches, and calligraphy. The highlight of the decorative scheme is the richly carved projection of the *mehrab*. Its base consists of classical Hindu mouldings over which is a row of shallow niches with pointed arches. Above these is an array of deeply carved miniature *sikhara*, columns, serpentine brackets, and rosettes, mingled with pointed arches which spring from projected brackets. This ensemble is topped by a projected balcony with a free-standing arcade on carved columns.

TOMB OF SULTAN IBRAHIM (d.1558) About a mile south of the last mentioned group of monuments is the tomb of Sultan Ibrahim. Among the earliest brick structures on the Makli Hill necropolis, it is a solid octagonal form with a rather pointed dome set

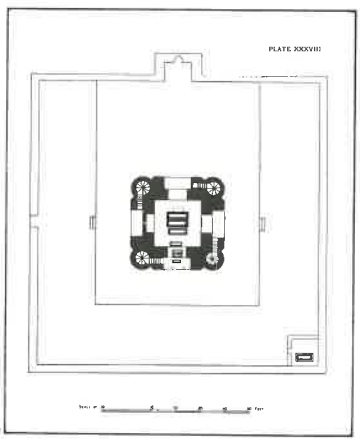


5.25 *Plan, Mirza Jani Beg's tomb at Thatta.*

upon a high drum. The eight sides of the building have deep arched recesses, those on the north and south having doors which lead in to the sepulchral chamber. The plan is similar to that of Diwan Shurfa Khan's tomb, but without the circular corner towers of the latter. Externally the building is octagonal, with a sepulchral chamber within. The dome was originally covered with turquoise-blue tiles[15].

TOMB OF MIRZA JANI BEG TARKHAN (d.1601) The mausoleum of Mirza Jani Beg Tarkhan at Makli presents a colourful sight with its alternate courses of glazed dark blue and un-glazed red brick masonry. The mausoleum stands on a terraced platform of sandstone in the centre of a courtyard which has an exquisitely carved *mehrab* in the western side. The main building is octagonal in plan, with half-domed recesses on four sides and arched door frames richly carved in geometric tracery. The dome above is curiously small compared with the circular drum. Between the drum and the dome is a ring of cofferred buttresses, indicating that there should have been a larger second dome over the present structure. Above the doorways are beautiful enamel tile panels containing Arabic inscriptions, delicately written in white on a dark blue ground. The interior of the building is splendidly covered with wall tiles[17].

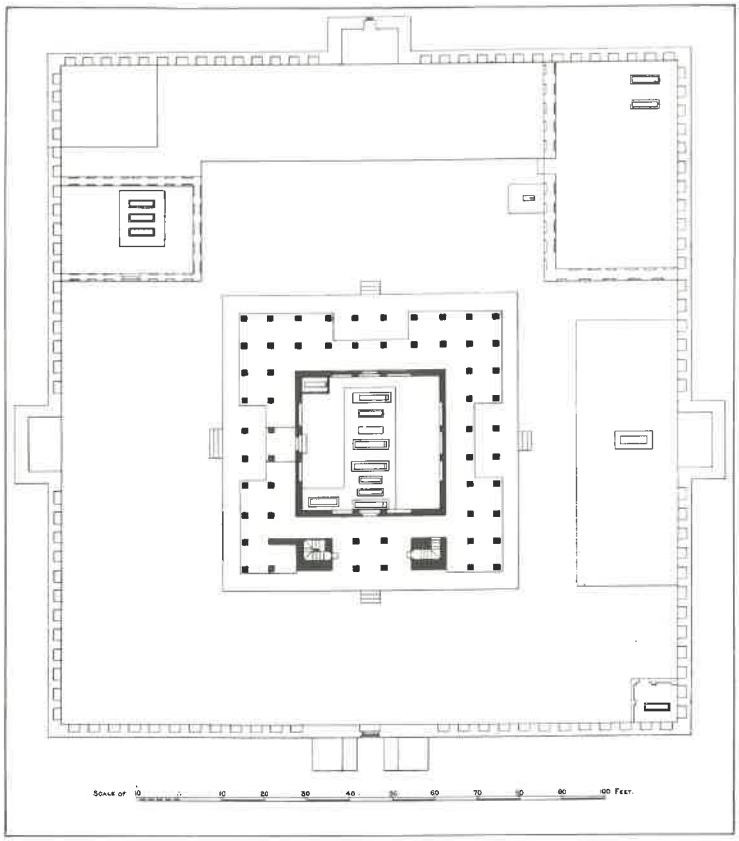
TOMB OF JAN BABA (d.1608) The small quadrangle to the south of the younger Isa Khan's Tomb, is the tomb of Jan Baba. Of the three domes which originally covered it only the central one still survives. The walls and especially the *mehrab* are decorated inside and out with surface tracery which makes them look as if they had been covered with fine brown lace. The sunflower, swastika, and other intricate geometric and arabesque designs are so harmoniously integrated that they produce a perfect visual balance between a variety of deliberately asymmetrical patterns. The twelve-pillared porch on the south at the main entrance is a later addition to the tomb[18].



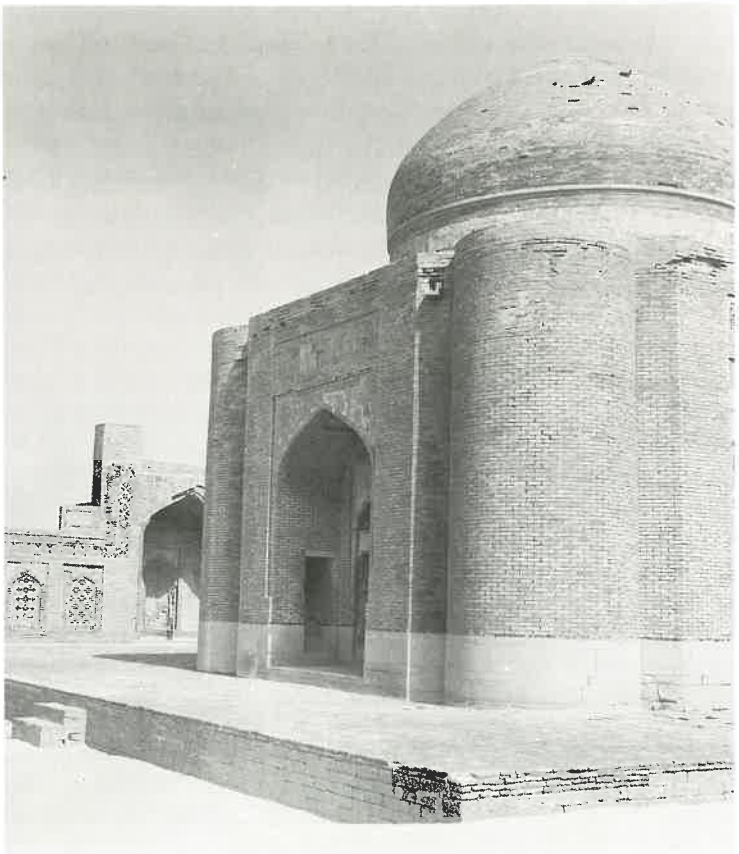
5.26 *Plan, Diwan Shurfa Khan's tomb at Thatta.*

TOMB OF DIWAN SHURFA KHAN Of the brick buildings at Makli the tomb of Diwan Shurfa Khan is the best preserved and also one of the most colourful. Standing on a platform 38 feet square, it is a massive square structure surmounted by a dome in Persian design, with heavy round towers at the corners, each having a staircase leading to the roof. The walls are made of unglazed red bricks alternating with light blue filling in the joints. This colour scheme is carried on inside, where bands on tiles have been set near the springing line of the dome. The interior of the dome is decorated with a radiating design of glazed bricks set in a chevron pattern. Externally the dome was originally covered with light blue tiles. The mausoleum and the mosque on the west were erected in the years 1639 and 1642 respectively[19].

TOMB OF ISA KHAN TARKHAN THE YOUNGER Perhaps the most impressive stone monument at Makli is the mausoleum of Isa Khan Tarkhan the younger (c.1644), Governor of Thatta, who not only built his own tomb but is credited with the construction of other tombs at Makli, including that of Jan Baba, his



5.27 Plan, Mirza Isa Khan's tomb at Thatta.



5.28 Of the brick buildings at Makli, the tomb of Diwan Shurfa Khan is the best preserved and also one of the most colourful.

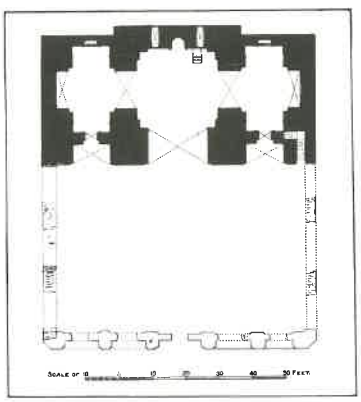
father[20]. The tomb is placed in the centre of a large square court, surrounded by high stone walls, with an arched *ewan* in the centre of each side. The western *ewan* serves as a *mehrab* and the southern is the entrance. Built of very large stones, the structure consists of a domed chamber surrounded by a two-tiered gallery. The pillars of the interior walls are almost entirely covered with surface tracery reminiscent of the work at Fatehpur Sikri. In the centre of each side, the double-storeyed pillared galleries have a group of three graceful multi-cusped arches, rising to the height of the upper storey and surmounted by a wide parapet. The lofty dome over the central chamber is flanked by a cluster of smaller domes which cover the two tiered gallery.

This building, with its ample walled court, sculpturesque domes, slender columns and inter-penetrating volumes, has that quality of spatial excitement which is rare indeed on the subcontinent. Unlike some other buildings in the same material in this area, the carving on its yellow limestone is delicate and subdued, with the whole adding up to a remarkable fusion of Hindu and Muslim techniques and forms comparable only with the similarly successful integration in the architecture of Akbar the Great.

TOMB OF MIRZA TUGHRIL BEG (d.1679) This small twelve pillared tomb and the similar canopy on the right of Jani Beg Tarkhan's tomb at Makli deserve some attention for their elaborate stone construction. The coners of these square structures have been bridged to form an octagon above the columns, with the dome supported by the two central pillars in each side. The alternate sides of the sixteen-sided figure above the octagon are supported by corbels in the angles above the capitals. The sixteen sides are further divided by cross arches up to the base of the dome. The interior of the dome is a reproduction in stone of the chevron pattern in coloured tiles set in the dome over Diwan Shurfa Khan's grave.

The pillars are richly carved with surface tracery and have honey-combed capitals similar to those of Isa Khan Tarkhan's tomb. On the western side of the platform on which the pavilion stands is a sculptured *mehrab,* with a central arch flanked by two smaller ones, and a battlement running along the top, terminated at either end by a *minar* or pylon.

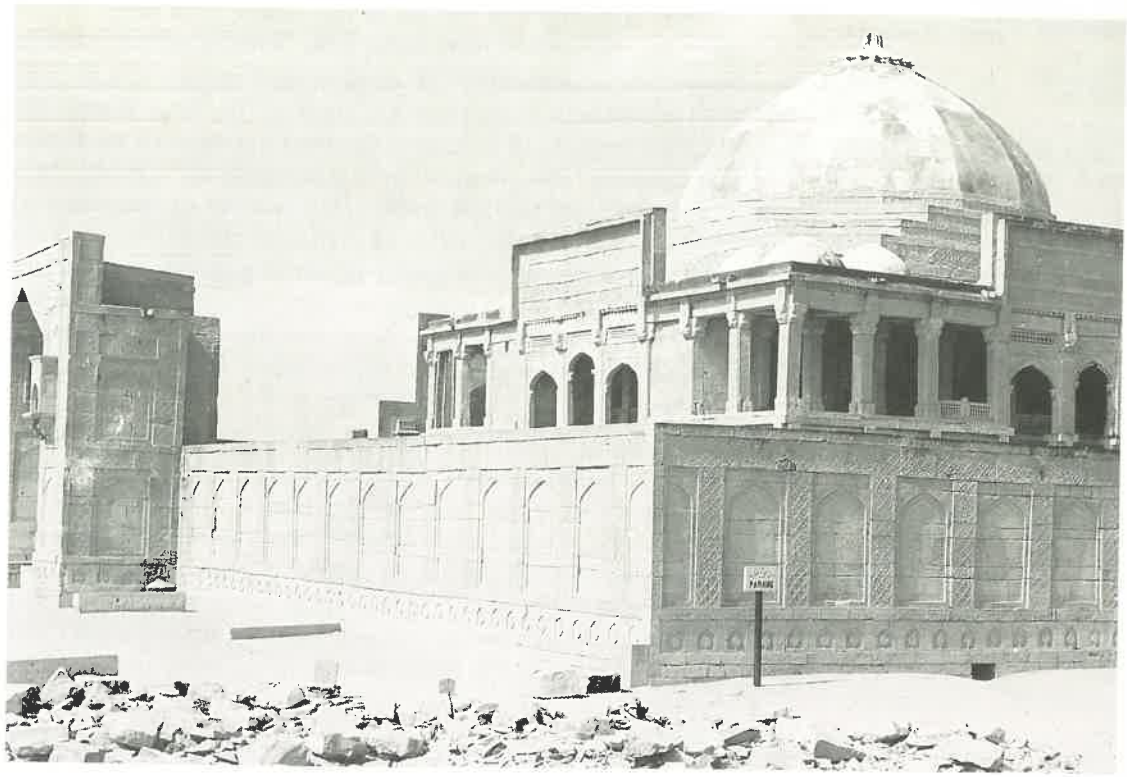
5.29 Plan, Dabgir Masjid at Thatta.

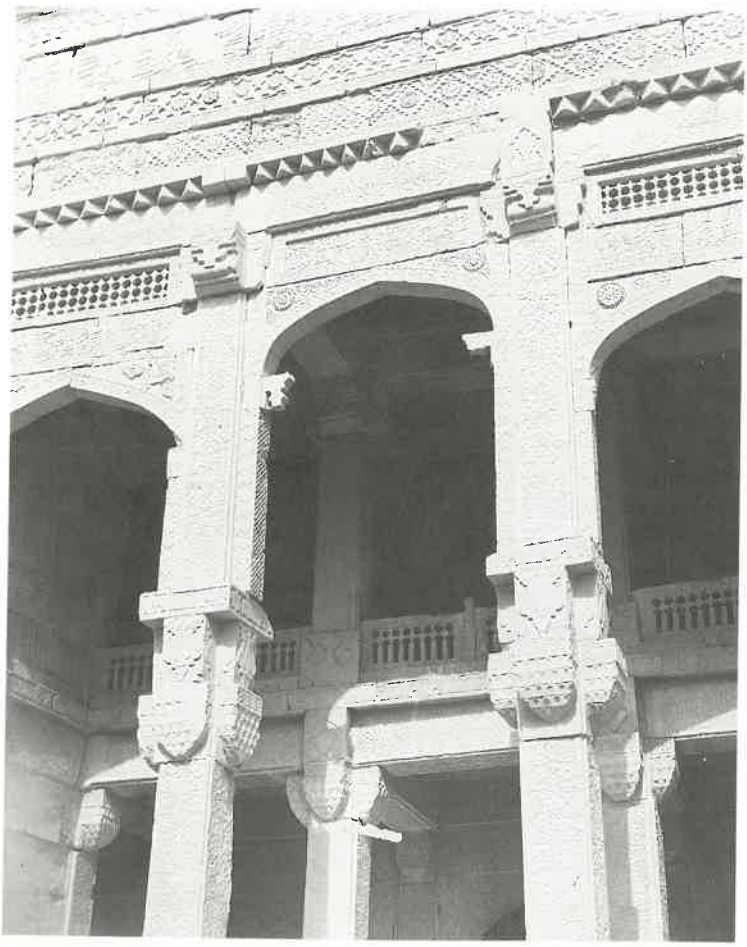


Dagbir Mosque

One of the earliest examples of tile-work in Sind is illustrated in the Dagbir Mosque (1558) at Thatta built by Amir Khusro Khan Charkas. The mosque measuring 98 feet by 48 feet, has been badly ruined. It consists of a prayer chamber surmounted by three flat domes on octagonal drums, the central dome being larger than the side ones. It still contains some superb coloured tile work which once covered all the walls and facade. Inside, the floral patterns in the spandrels and the borders around the *mehrab* in the western wall are veneered with slabs of buff limestone carved in low relief with the most delicate tracery and arabesque work.

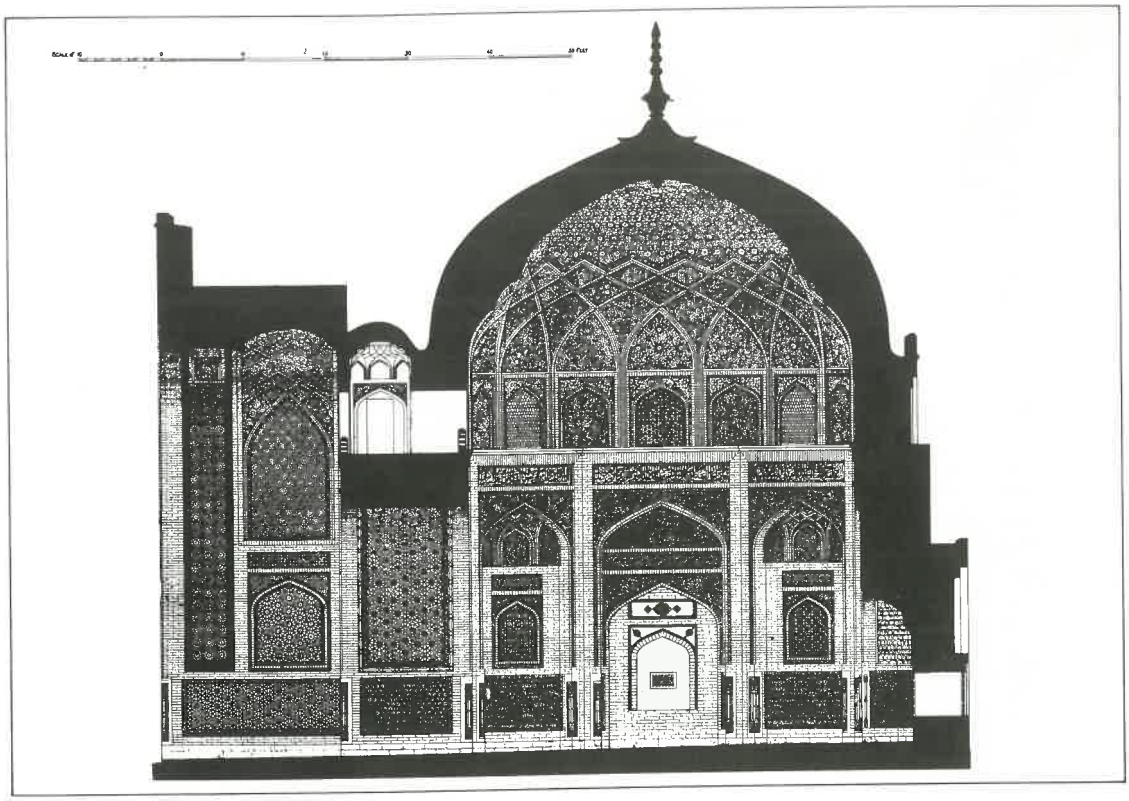
5·30





5·30 and 5·31 Isa Khan Tarkhan's Tomb at Makli with its ample court, sculpturesque domes, slender columns and interpenetrating volumes, has a rare quality of spatial excitement.

5·31

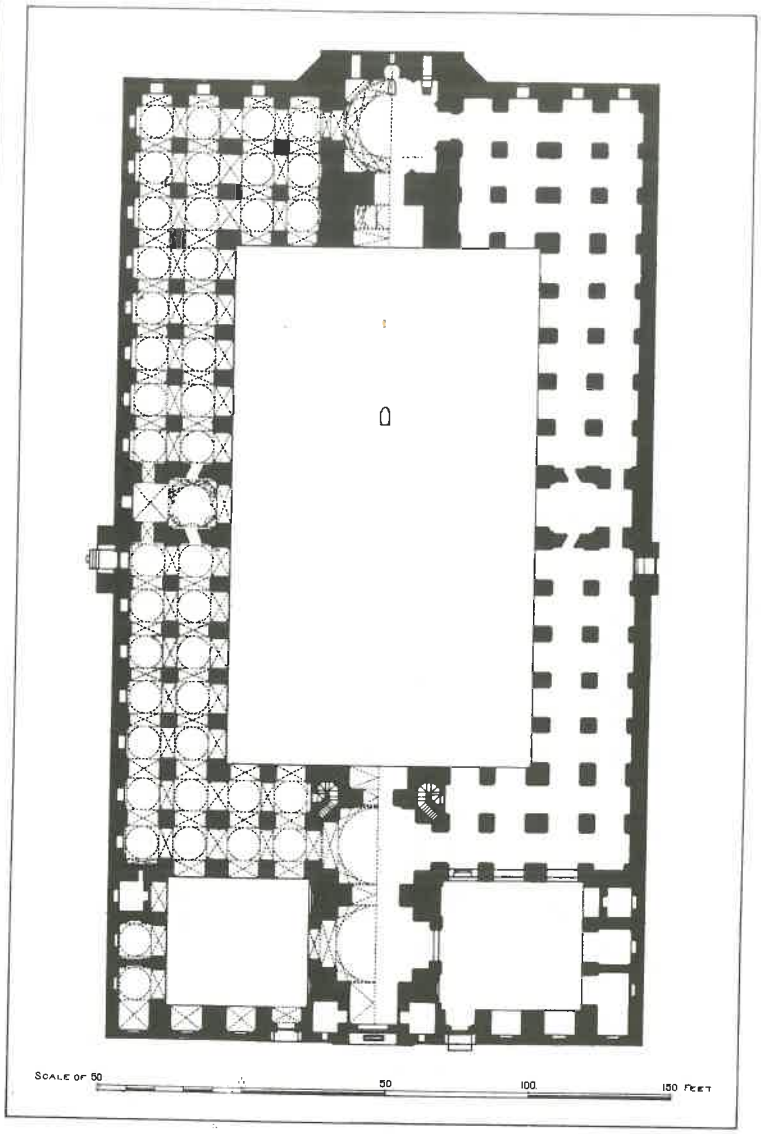


5.32 Cross section of the Jami Masjid Plan, at Thatta.

Jami Masjid

The construction of the Shah Jahan mosque, also called Jami Masjid, was begun in 1644 by Nawab Gul Baqa Amir Khan on the orders of Shah Jahan, and the eastern wing was added later in 1658[21]. It is a large complex of domed and open spaces centred round a courtyard 169 feet by 97 feet. The ninety-three domes which cover the entire structure are said to be the cause of a remarkable echo which enables the prayers in front of the *mehrab* to be heard in any part of the building. Furthermore, the mosque contains the most elaborate display of glazed-tile work of its kind in Pakistan.

Its plan appears to be an elaboration on a theme first encountered in the Wazir Khan Mosque at Lahore. The eastern *dewrhi*, with a pair of cloistered courts on either side of a central domed space, is here further articulated and the eastern domed entrance of the Wazir Khan Mosque now expanded into a series of two domed spaces. The first belongs clearly to the forecourt or *dewrhi* area, and the second is interposed as a transitional space between the forecourt and the main mosque. The eastern *ewan* and dome is echoed in the west by a similar arrangement over the centre of the main prayer chamber. Similarly the single row of cells on three sides of the central court in the Lahore mosque are elaborated at Thatta into a double-aisled gallery which runs continuously around the main court of the Shah Jahan Mosque, with the four *ewans* relieving the regular progress of domed spaces. At the western end,the gallery turns into a three-aisled hall on either side of the main domed prayer chamber.

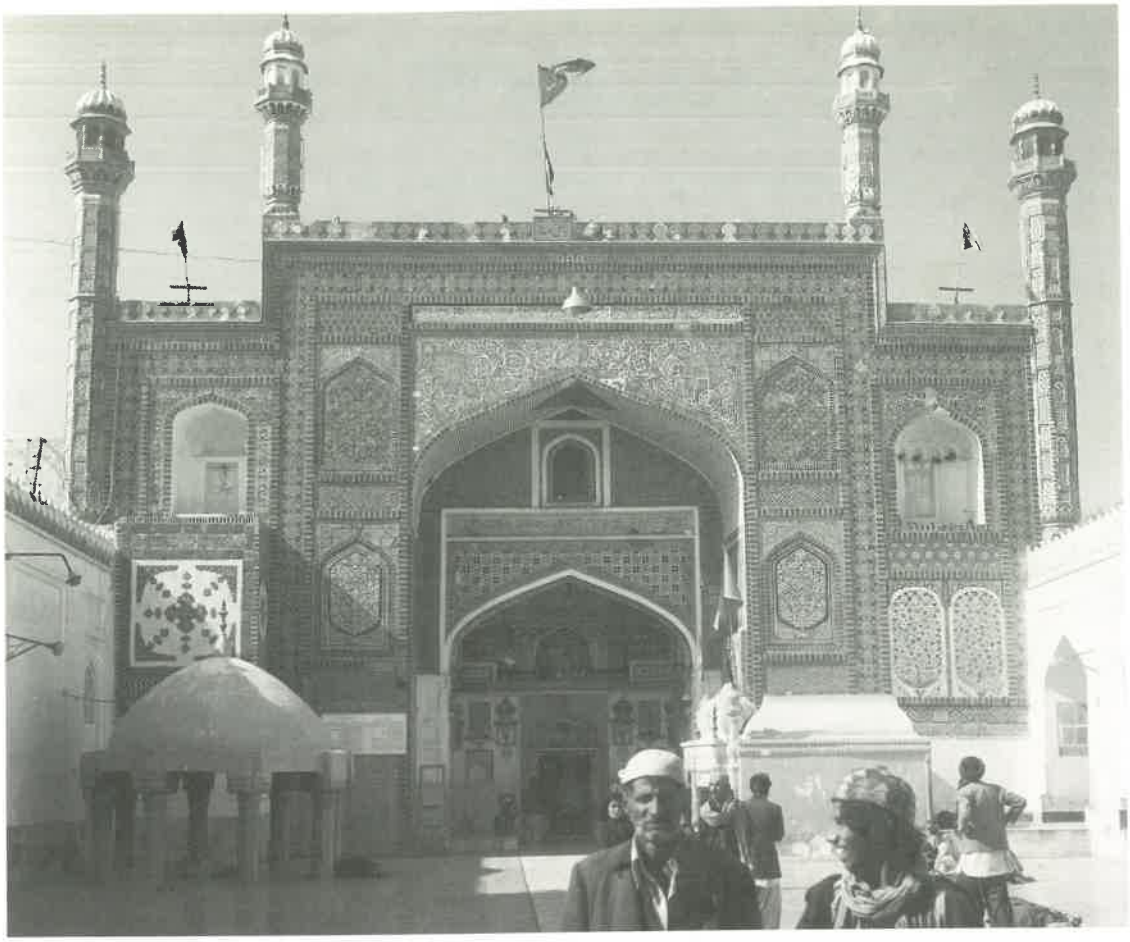


5·33 Plan, Jami Masjid at Thatta.

UPPER SIND

Considering its geographic position, it is not surprising to find in northern and central Sind a greater degree of influence from the lower Punjab region around Multan and Muzzafargarh, as well as the Indian provinces to the east. Thus the upper Sind in the 17th and 18th centuries evolved a style of architecture markedly different from that of the south.

The tomb of Lal Shahbaz Kalander at Sehwan is said to have been initially constructed by Malik Ikhtyar-ud-din in about the year 1356. It was enlarged by Mirza Jani Beg Tarkhan, added to by Mirza Ghazi Beg and completed in 1639 by Nawab Dindar Khan[22]. The process of improvement has no doubt continued to the present day, so that by now it is quite impossible to appreciate its original form. The early phase of the provincial style of architecture of Upper Sind is therefore better illustrated in the group of monuments at Sukkur, associated with the family of Ma'sumi Sayyids.



5.34 Initially constructed in 1356, the tomb of Lal Shahbaz Kalandar at Sehwan was subsequently enlarged and added to by successive rulers. The process of "improvement" continues to the present day.

The most conspicuous of these structures is a monumental tower, erected for no other purposes than the pleasure of observing the countryside around, and for the greater glory of its architect, Mir Ma'sum. However, while the tower itself is unremarkable, the personality of Mir Ma'sum deserves some comment. Born at Bakhar in Sind, he was a poet, historian, soldier, a widely travelled diplomat and courtier, a physician with an interest in alchemy, a calligraphic designer and sculptor and above all an architect whose inscriptions adorn such important structures as the gateway of the fort at Agra and the Jami' Masjid of Fatehpur Sikri[23]. It is notable that for all his intimacy and associations with such powerful monarchs as Akbar and Jehangir of India and the Safavid Abbas Shah of Iran, there is in his entire collection of verse not a single couplet in praise of a royal personage. Much of his prolific building activity was devoted to public amentities such as bridges, rest houses, inns, mosques, tanks, walls and river markers. In Mir Ma'sum we begin to discern something of a universal man not unlike the better-known Umer-e-Khayyam, and Leonardo Da Vinci. It was precisely from the genius of such men that the Mughal court and its architecture derived its brilliance and universality. Through the agency of men such as Mir Ma'sum, a wealth of ideas from the diverse regions of the subcontinent and beyond converged upon the imperial centres. And no doubt it was by

5·35 Tower and "Aram Gah" of Mir Ma'sum, Sukkur. Much of Mir Ma'sum's prolific building activity was devoted to public amenities such as bridges, rest-houses, inns, wells and river markers. The tower at Sukkur is intended for observing the countryside around. The domed octagonal 'Aram Gah' or rest-house is likewise a secular building.

the same means that cosmopolitan concepts found their way back to the provinces.

The domed octagonal building beside Mir Ma'sum's tower is called the Aram Gah (rest house) or Faiz Mahal. This building contains several of the elements which characterise later buildings in Upper Sind in particular the tall proportions, multi-storey facade with blind arched panels, decorative merlons and glazed tiled surfaces.

Among the buildings which represent the later phase of this provincial style are the Jami Masjid and the Tomb of Yar Muhammad Kalhora at Khudabad, the tomb of Shah Baharo at Larkana, of Shah Khairuddin at Sukkur, the tombs of the Kalhora and Talpur rulers and the two forts at Hyderabad. The Jami Masjid at Khudabad is a massive structure which has suffered much from neglect and vandalism. The mosque had the usual three-arched entrance with an intricate domed roof covering the main hall within. While the three tall arched openings of the entrance were unmistakably designed to reflect a single storeyed volume of the prayer chamber, the other external walls were divided into panels with blind arches, giving the structure a marked three-storey appearance. The entire building was lavishly covered with some of the most exquisite glazed-tile work in Sind and the roofline was punctuated with four stubby tapering minarets crowing the east facade. The tomb of Yar Muhammad Kalhora (d.1718) at Khudabad, is externally a square mass with a large central dome. It is similar in character to the Jami Masjid with the addition of small airy kiosks atop each of its four corners. These two buildings established the essential features of the monumental architecture of upper Sind for the next two centuries. To these elements was added the dome crowned with a lantern, first encountered in the tomb of Shah Baharo (died 1735–36) at Larkana, in the tomb of Shah Khairuddin, built between 1752 and 1761 at Sukkur, and in the Thahim tombs at Drakhan (c.1781).

5·36 Jami Masjid, Khudabad. The three tall arches of the inner facade reflect the single storeyed volume of the prayer chamber.

5·37 The external walls, divided into panels with blind arches give the structure a three storeyed appearance. The building was lavishly covered with exquisite glazed tile work.

5.36

5.37

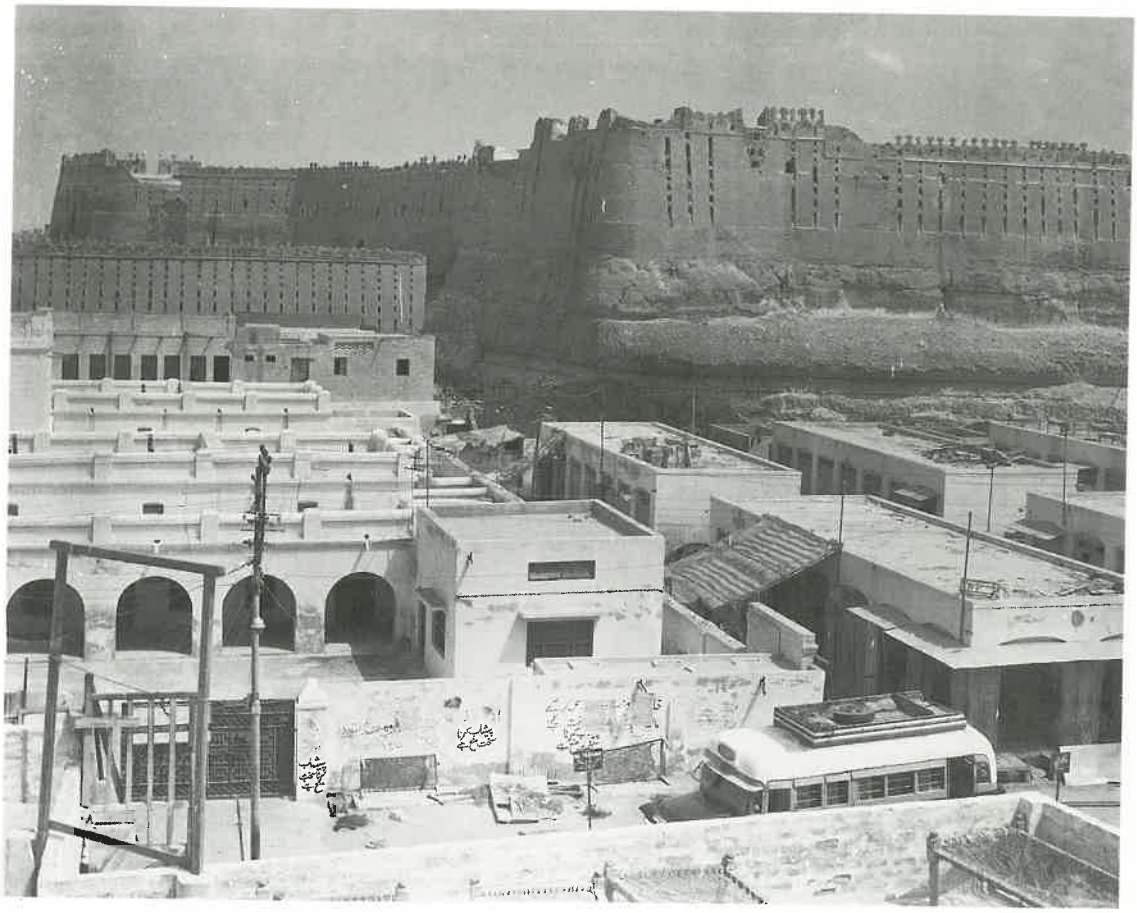
The tombs at Hyderabad of the Kalhora and Talpur rulers of Sind continued this general tradition. These tombs lie on a plateau or ridge to the north of the old city of Hyderabad. The northernmost and also the earliest of these tombs is that of Ghulam Shah Kalhora. A squat square mass externally, with a tile-encrusted three storeyed facade, this building has all the characteristic elements of the typical upper Sind mausoleum. In addition, it has a richly carved perforated screen in yellow limestone, typical of the lower Sind, forming a low parapet around the edge of the platform on which the tomb is placed. Another notable feature of this tomb is its placement within massive fort-like mud walls, with bastions and a protected entrance. Below the mud-wall enclosure, to the south, is the tomb of Nabi Khan, the brother of Ghulam Shah[24]. Internally the plan of the chamber is almost identical to that of Ghulam Shah's tomb but externally it is an octagon with four tall but shallow arched recesses alternating with smaller deep-set arched niches.

The two groups of Talpur tombs are better preserved than the Kalhora tombs. These are all the more striking for the dramatic arrangements of the tombs in each group, and the use of an oblong wagon vault for the smaller tombs. This variation in form creates a lively spatial contrast which is further enlivened by the subtly asymmetric placement of the blocks and the delicate interplay of levels occasionally defined by low parapets.

5.38 The two forts at Hyderabad, built by Ghulam Shah Kalhora, dominate the skyline of the old city.

5.39 Tombs of Mirs of Talpur, Hyderabad. The two groups of Talpur Tombs are striking for the dramatic spatial arrangements and the use of an oblong 'wagon' vault for the smaller tombs.

5.40 Plans of the two groups of the Talpur Tombs, at Hyderabad.



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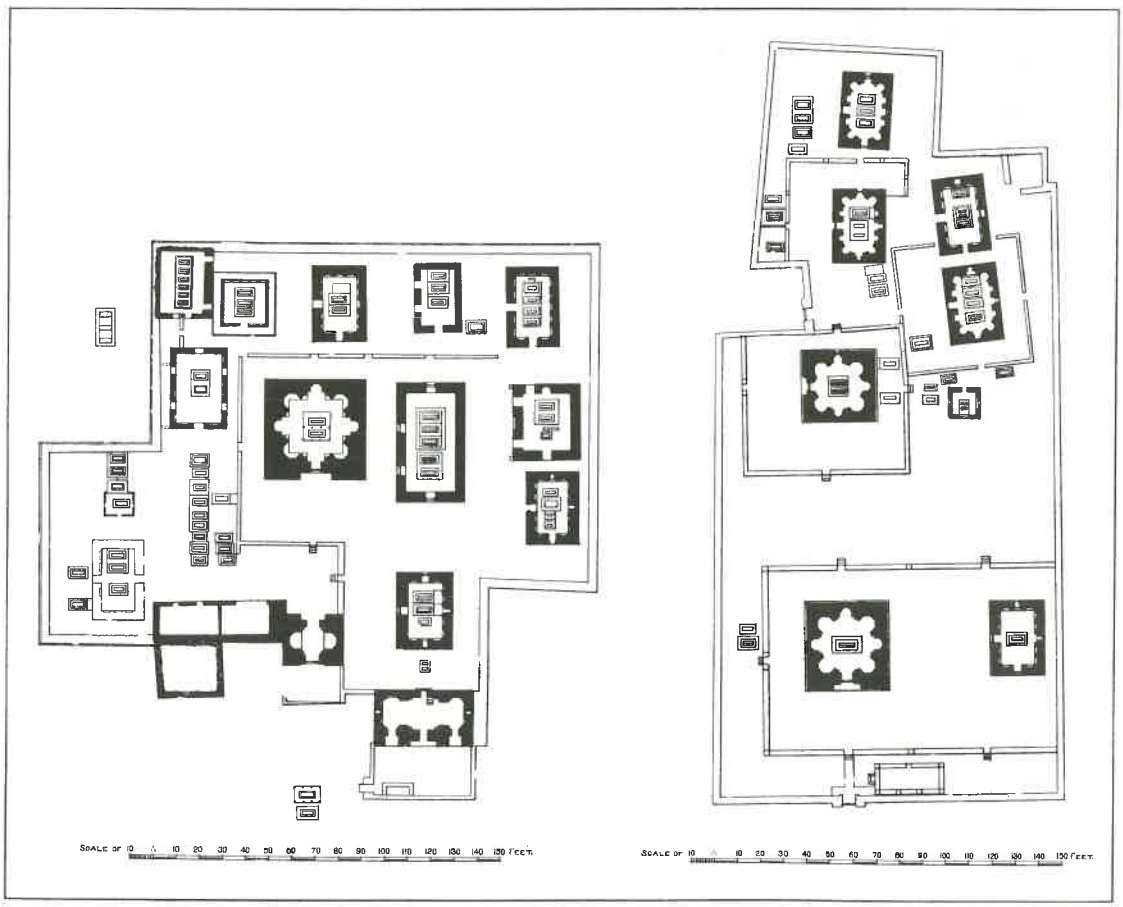
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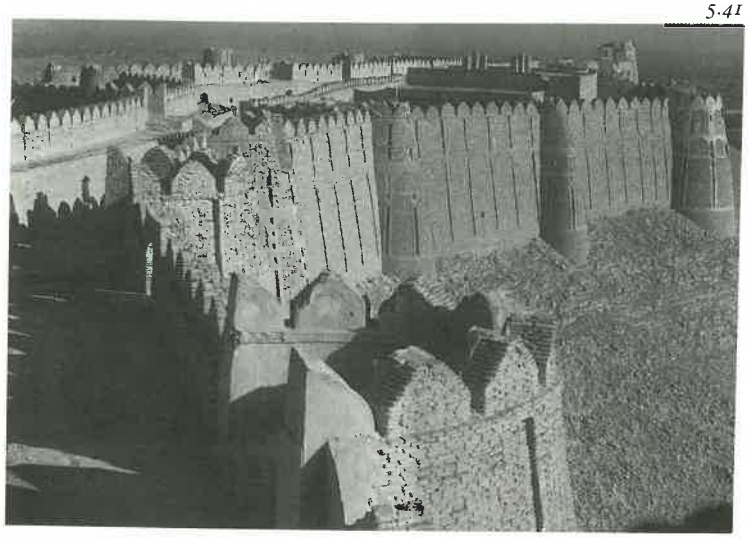
SCALE OF 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 FEET

The two forts at Hyderabad were both built by Ghulam Shah Kalhora. The larger, built in 1768[25] dominates the skyline of the old city as seen from the railway. The smaller fort, built in 1772, lies below it at some distance to the southwest. Both have the characteristic merlons with attenuated necks along the tops of the walls and loop-holes which run like deep vertical scars down the external face. The buildings that were once crowded within the main fort were nearly all cleared away by the British in 1857. It was subsequently used for the accommodation of troops, military stores and as an arsenal, while part of the palace of the Mirs was converted into public offices[26]. Some of these buildings have now been restored and made into a museum.

5.41



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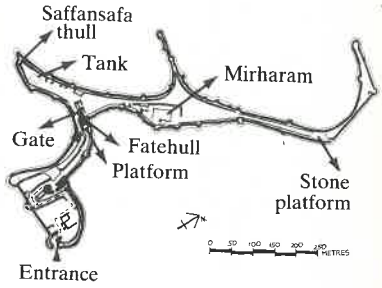


5.41 The fort at Kot Diji was constructed by Mir Suhrab Khan (1803–1830), along a high ridge. The walls are of burnt brick and equipped with three gates, semi-circular bastions and battlements. It included a residence, Miran Haram, for the royal family.

5.42 Plan, Kot Diji Fort.

NOTES

[1] Khan Ahmad Nabi, "Restoration of Fresco Decoration at the Mosque of Maryam Zammani at Lahore". In Pakistan Archaelogy No. 7, 1970, p. 121.

[2] Khan, Waliullah, Lahore and its Important Monuments, Department of Archaeology, Second Edition, Karachi, 1964, pp. 43, 44.

[3] Ibid, p. 45.

[4] Chughtai, Dr. M. Abdullah, Tarikhi Masajid Lahore, Kitabkhana Nauras, Lahore, 1974, p. 57.

[5] Ibid, p. 59.

[6] Khan, Waliullah, Op. Cit., p. 47.

[7] Ibid, p. 62.

[8] Ibid, p. 64.

[9] Ibid, p. 66.

[10] Ibid, p. 67.

[11] Ibid, p. 68.

[12] Ibid, p. 81.

[13] Khan, Mohammad Waliullah, Sikh Shrines in West Pakistan, Department of Archaeology, Karachi, 1962, p. 32.

[14] Siddiqui, Idris, Thatta, Department of Archaeology in Pakistan, Karachi, 1963, p. 17

[15] Ibid, p. 11.

[16] Ibid, p. 9.

[17] Ibid, p. 10.

[18] Ibid, p. 18.

[19] Ibid, p. 11.

[20] Ibid, p. 17.

[21] Ibid, p. 10.

[22] Cousens, Henry. The Antiquities of Sind, Oxford University Press (second edition) Karachi, 1975, p. 139.

[23] Baloch, Nabi Bakhsh, editor, Tarikh-e-Ma'sumi. Urdu translation, Sindhi Adabi Board, Karachi, 1959.

[24] Cousens Op. cit. p. 134.

[25] Ibid, p. 131.

[26] Ibid, p. 136.

6 BRITISH COLONIAL

ARTS AND CRAFT TRAINING

1800's The Colonial Perspective

1850—1890 The Early Schools

1875 The Mayo School of Arts

1880's—1920's Bhai Ram Singh

1850—1930's ANGLO-INDIAN STYLE Building Examples

1889 The Punjab High Court

Aitchison College

ARTS AND CRAFT TRAINING

The Colonial Perspective

The colonial administration's concept of architecture being synonymous with period styles gained currency even in the Indian mind, for the Indian bourgeois measured his superiority by his ability to mould himself after the white sahib's fashion. However, only an aristocratic brown sahib could go to the extent of actually employing a European architect to design him a flawless Renaissance Palazzo. For those desirous of instant culture at bargain prices there were the numerous prefabricated accessories, from cast iron Corinthian columns to cast iron angels and fountains made in England, or, equally good but cheaper, those made in Calcutta in a British foundry. But those who wished to exercise their imaginations and their creative abilities could, and did, build their own versions of European architecture.

The soul-destroying influence of the British on both the artisans and upper-class native patrons, had been bitterly noted by Birdwood more than a decade earlier. He even went so far as to identify the government of India as the chief cause of the depravation of the Indian arts.

"...The worst mischief is perhaps done by the architecture foisted on the country by the Government of India, which, because it is the architecture of the government, is naturally thought to be worthy of all imitation. The Nawab of Bahawalpur was installed the other day on the throne of his ancestors, and in anticipation of the auspicious event the Indian Government built him a Palace, which is the ghastliest piece of bare classicalism it is possible to imagine...This sort of thing has been going on all over India ever since the establishment of the British peace in 1803–6 and in 1818–19, and is the fountain head and origin of all the evils we deplore"[1].

Writing of Indian architecture of the time, Kipling correctly identified the quarter in which the grand traditions of Indian art and architecture could still be found, preserved in however debased a form.

"The upper and moneyed classes have no more intelligence and appreciation of art in India than they have in other countries; the educated classes — i.e., those who have been taught English —

dislike indigenous forms, and the trading and moneylending classes alone now seem to be the support of the mistry or native builder and architect. In Gujrat, Kattiawar, Rajputana, Nothern India, and the Punjab this individual is the sole repository and trustee of the principles and traditions which form the roots of Indian art"[2].

Futher in the paper, which refers to the efforts of Growse, a British officer who was attempting, almost single-handed, an interesting revival of Oriental methods of design in Balundshahr District, he gives a delightful account of a native gentlemen who was having an elaborate house front built for himself in the "English Fashion".

The reply of the proprietor to a suggestion by Mr Growse, that a design more in harmony with the national precedent might well have been adopted, expresses perfectly the feelings of many of the upper classes with reference to the art we would fail preserve. Referring to the buildings in the native method which Mr Growse has been instrumental in raising at Muttra, Khurja, and Balundshahr, this native gentleman...said
"the works which are carried out under your direction, however, pleasing in themselves, have the one fatal drawback that they are not stamped with official approval. In fact, one of them was denounced by a competent departmental authority as an absolute eyesore. Nothing in the same style is ever undertaken by Government. Your buildings fitly express your own peculiarity of temperament, but this personal predilection for Indian forms is only a weakness or accentricity; such designs would be out of harmony with my own more advanced views, which are all in favour of English fashions. The trading classes do well to adhere to Hindustani types, but the landed gentry prefer to range themselves with their rulers, and thus to emphasise their distinction from the vulgar"[3].

Growse thus remarks on these conditions in the field of architecture:

"If the mercantile classes of native society are distinguished by their conservative adherance to ancestral usage, the landed gentry, who are on visiting terms with European officials, cherish equally strong aspirations in the opposite direction. To relieve the monotony of their eventless life, many of them spend large sums of money every year in building, and keep a native architect as a regular member of their domestic establishment. But he is warned that nothing in the Indian style can be tolerated; and some government office in the civil station, or the latest new barracks in the nearest military cantonments, are the palatial edifices which he is expected to emulate"[4].

The Early Schools

The indigenous architectural development which had produced the finest buildings of the Mughals had already petered out by the end of the 18th century, along with the bankruptcy of the imperial system as a whole, based on a feudal agricultural

economy[5]. With the disintegration of the cosmopolitan centres, architecture, as much as the other arts and learning, followed its new patrons into the provincial decadence of the princely courts. At the same time, the surplus rural population, which the feudal agricultural economy could no longer support, began moving towards the cities in search of other economic activities. In the cities themselves the guilds of craftsmen, the weavers and metal workers, were beginning to organise themselves into manufactories and cooperatives[6]. This nascent urbanisation and industrialisation was, however, arrested and even reversed by colonial occupation before it could find any form of cultural expression.

In the global battle for supremacy amongst the European nations, Britain emerged most successful in India, and by 1857 she proclaimed the sub-continent part of Her Majesty's dominions.

Whatever may once have been the state of the arts and sciences amongst the natives of India, they are now confessedly at a very low ebb. Their architecture is tame, monotonous, mixed and irregular; their carts, cumberous and rickety, their drawing and painting set at defiance of form, perspective, light, shade and harmony[7].

Numerous other accounts of the state of the arts in India in the middle of 19th century present a similar picture of decay, and a general decline in the various branches of handicraft and industry.

In fact, feudal conditions had begun to decay much earlier than the 19th century. The structure of feudal society in northern India, as elsewhere, was based upon the foundation of an agricultural economy. By the 17th century, when to all appearances the Mughal court shone brilliantly atop the feudal edifice, the stage was being prepared for its collapse. The gradual accumulation of wealth by merchants, moneylenders and traders on the one hand and the steady migration of surplus manpower from the countryside to the towns had provided the two prerequisites for the transformation of a feudal agrarian society into one based upon capitalist industry. The manufactures of India, rather than its agricultural products, were indeed the prize for which the European colonialist powers had fought in the 17th century. And it was this European trade and market for Indian manufactures, which initially accelerated the twin processes of urbanisation and primitive industrialisation, bringing individual weavers and artisans together into small manufactories[8].

Thus we see in India by the 18th century the existence of an embryonic capitalist society preparing to overthrow the rapidly decaying feudal order. Meanwhile, industralisation in Europe had advanced at a faster pace, and by the later half of the 18th century, it was Britain which was looking for markets for *its* manufactures and seeking sources of raw materials. The shift in British interests and policy were disastrous to the independant evolution of Indian economy and society. By the end of the 18th century and beginning of the 19th, the process of industralisa-

tion had been reversed. The rush to grow cash crops produced a catastrophic depopulation of towns, voluntary or forced abandonment of manufacturing industries, famines and untold miseries. British trading policy and law was adjusted and readjusted to match the changing requirements of industrial development in Britain[9]. In a curious way it was the very disaster caused by such policies that led to the formation of four schools of art in British India, among them the Mayo School of Arts at Lahore.

British policies in the 18th century, designed to eliminate competition against its own growing industry, reduced Indian manufactures to the extent that there was nothing left of value to the "home market" with which India could pay for an increasing volume of imports. It was when the British Indian trade itself began to suffer in the 19th century that the government decided to take action. A solution was devised, which, while leaving the Indian home market to the mercies of Western competition, might slowly increase the competitive power of Indian goods. The solution adopted was ludicrous. It was nothing less than the establishment of a college of art.

In May 1850, a school was opened in Madras, "as a private concern, by Dr Alexander Hunter, with the object of improving the taste of the native public as regards beauty of form and finish in the articles in daily use among them. The success of the school during the first year of its existence encouraged him to open an industrial department in 1851". This school was brought to the notice of the government in March 1852, and by 1855 it came under the control of the Director of Public Instruction[10].

In Bombay "The Sir Jamsetji Jijibhoy School of Art was founded to give technical instruction in the decorative arts. It began with a drawing class in 1857. Later in about 1862 some instruction was given for a short time in elementary modelling and casting" and a "class for Architectural Drawing was formed in 1863"[11].

In 1854 "a school of industrial art was founded in Calcutta. Its programme was more ambitious, and besides holding classes in industrial techniques, it included a course for training general draughtsmen, elementary drawing masters, industrial art workmen and designers in perspective and architectural drawing, painting and lithography, and another for painters of various classes and for sculptors"[12].

The Mayo School of Arts

The subject of the establishment of a school of Industrial Arts at Lahore first appeared on the official records in November-December 1863, when certain papers on the subject by Doctor Hunter were received from Madras[13]. In February 1864, in an official response to a proposal for "a school of arts and industry" with a model farm, W. Taylor Esquire was told that "an institution of this kind" had "for a considerable time past been in contemplation"[14]. However, the question of the school of

arts appears to have been put aside until some eight years later, when the assassination of a viceroy was to lead to the establishment of the Mayo School of Arts. At a meeting in April 1872 the residents of Lahore and Mian Mir resolved to establish a memorial in honour of the late Earl of Mayo[15]. A collection of nearly Rs. 70,000 was made during that year, and "in compliance with a general wish", was "devoted to the foundation of a school of Art and Design"[16].

Lockwood Kipling, father of Rudyard Kipling, arrived at Lahore in 1875 to organise the School of Industrial Art as its first principal. The school opened, presumably in the Exhibition building with 88 pupils. Among them were Ram Singh of the School of Carpentery which had been opened the previous year, and Sher Muhammad a Luhar, hereditary blacksmith[17].

During 1880 the new school of art building, designed "in the late Mughal Style"[18] by Kipling with the assistance of Ram Singh, began construction, and the school was able to move into its own premises the following year. Further additions designed by Kipling and Ram Singh in 1888 to the building were constructed in 1891.

Defining the principles of the proposed school of Art and Design, the Director of Public Instruction declared.
"Our School of Art is to be emphatically an industrial one. We do not wish to imitate the ceramic vases of Madras or the foliated capitals of Bombay, but to draw our experience rather from royal workshops of the Mughals, from the best native specimens of Art and Industry in modern India, and from the cyclopean forges of the Railway"[19].

For all these brave words, the intention or purposes for which the school of art was to be established is not at all clear. Was it intended to revive the past traditions of the "royal workshops of the Mughals" or to conserve, sustain and promote the present condition of "Art and Industry in modern India," or was it hoped to lay the foundations for a technologically advanced industrial state of the future symbolised by the "Cyclopean forges of the Railway?" What was the British view of Indian art and industry in the mid-19th century and what role did they ascribe to the schools of art?

Whatever the views of individuals on the higher intellectual and aesthetic values of Indian Art, the British Government at least, was moved less by cultural considerations than by economic imperatives in establishing and maintaining these schools of art in India.

In fact the very term 'art', as it was applied in the Indian context by the British in the 18th century, seldom meant the higher or fine arts but rather artifice, manufacture, craft and industry. Kipling himself had no pretensions as to the role of the Mayo School of Art. It was "the object of the principal to make the institution emphatically a school of "Industrial Art".[20] "Architectural Drawing and Design suitable for Mistries and Draughtsmen" and several other building-related subjects indeed figured prominently at all times in the teaching program-

mes of the Mayo School of Art. But it was never the intention to provide training for 'professional' architects. The students were drawn mainly from the artisan classes, and the intention remained "the development and improvement of the indigenous 'arts of the Punjab', and the training of skilled assistants to meet the requirements of the Raj".

Thus the "Architectural Classes" proudly announced by the School in 1919 were in fact "founded to give students a thorough training in architectural draughtsmanship in order to qualify them to become Architectural Assistants"[21].

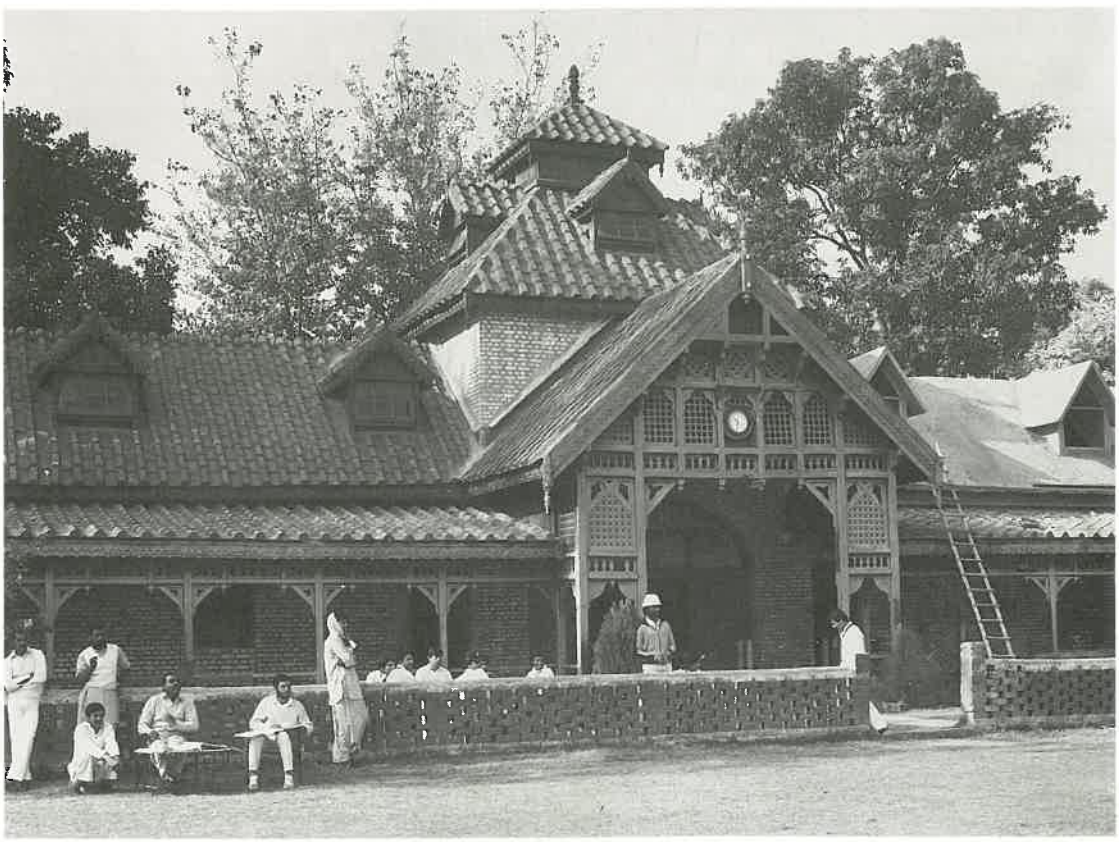
6.1 The assumption of British sovereignty over India precipitated the descent of not only an alien administrative machine but also the entire intellectual paraphernalia of Victoriana Britanica. These included numerous prefabricated accessories, from cast iron Corinthian columns to cast iron angels and fountains, such as the Edulji Dinshaw Fountain at Karachi, made in England, or in a British foundry in Calcutta.

Bhai Ram Singh

The story of Bhai Ram Singh is emblematic of the transformation of indigenous culture under the Raj. As a young carpentery apprentice, he was among first of students of the Mayo School of Arts when it opened in 1875. By 1883, he was a member of the teaching staff. By 1884–85, he was collaborating with Lockwood Kipling on various architectural projects including a billiard room for the Duke of Connaught at Bagshot park. His competition design for the Municipal Hall of Lahore (1885–86) was not successful, but he shared the prize for the Chiefs College competition with Colonel Jacob. Among the other large projects on which he collaborated with Kipling were the Museum, Technical Institute and the School of Art itself. January 1891 found him in England, to return in December, 1895 after successfully carrying out some special orders for Her Majesty the Queen-Empress, including decorations of the New Banquetting Hall at Osborne House, which gained Her Majesty's high approval[22].

After his return he introduced a process of carving from plaster models into the school curriculum, and experimented with 'photozincography'. Eventually, he rose to become the principal of the Mayo School of Art in 1909, a position he held till 1913.

The charming little cricket pavilion in the Lawrence Hall garden (now Bagh-e-Jinnah) illustrates how thoroughly Anglicised a native architect of the calibre of Ram Singh could become.



6.2 The charming cricket pavilion in the Lawrence Garden illustrates the thoroughness of the process of Anglicisation of a native architect of the calibre of Ram Singh.

Yet Ram Singh was of the first generation of westernised native architects, still close to his traditional roots, and working in a 'classical' European idiom. Moreover, native architects were something of an exception and a rarity, and they normally worked under the direct guidance and supervision of their European superiors. Thus official architecture under the Raj was actually an extension of the contemporary European mainstream. The grand tradition of indigenous architecture was henceforth relegated to the secondary role on the twilight zone of the finge of architectural activity.

The extension of British rule to India brought a stream of intellectual and technological development which, spreading with European colonialism, became increasingly international. While official architecture was engrossed in the absurdities of stylistic fantasy, another category of building quietly tackled the real problems of climate, economy and the efficient use of materials. These were the factories, warehouses and army buildings which were more often successful in the evolution of forms suited to the environment. This architecture without architects resulted from the practical good sense of the engineers and officers who , with no intellectual of artistic pretensions, formed the real backbone of the Empire. To this same class belonged the scientists, inventors and entrepreneurs who, unknown to and even despised by the cultural elite, quietly laid the foundations of the technological revolution.

6.3 Only in industrial and military buildings were the new materials and engineering skills used without inhibition producing some remarkably sophisticated results as in the Services Hotel, Peshawar.

19th century Romanticism and Revivalism rejected the relevance of science and technology to art and culture. Only in industrial and military buildings were new materials and skills used without inhibition, producing some remarkably sophisticated results. The Services Hotel in Peshawar, for instance, used prefabricated building systems with reinforced concrete elements and ventilated adjustable shading devices to allow for shade in summer and plenty of sun in winter. But this area of building activity was considered to be outside the domain of legitimate architecture since it did not call for the application of any historical style.

ANGLO-INDIAN STYLE

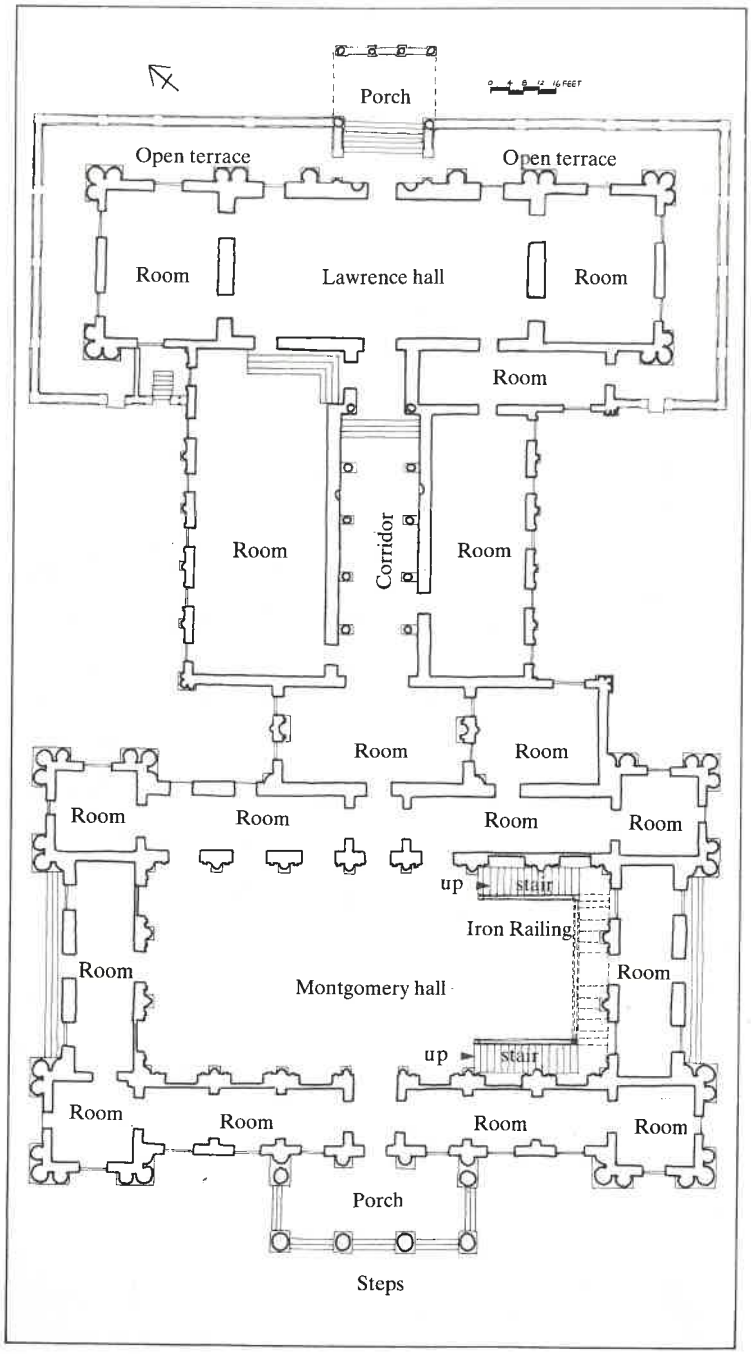
Building Examples

The Anglo-Indian style, the official architecture of the British Raj itself in India, ranged from unadulterated European Baroque and period revivals to so called 'Mughal and 'Saracenic', reflecting the then current preoccupations of the architectural profession in Europe. The reverberations from the battle of styles were felt throughout the colonial territories and left behind a litter which included everything from complete Gothic steeples to classic revival and Palladian villas set in Capability Brown landscapes. Neither was the "Noble Savage" far from the melee in which the partisans of every golden age — the Primitivists, the Classicists, the Medievalists, the Pre-Raphaelites and the Orientalists all fought for the revival of their particular dream. Faced with the contrary demands of the period revivalists and the requirements of buildings such as courts of justice, colleges, museums and railway stations, for which they could find no precedents in the golden ages of the protagonists, architects designed their buildings as they would have done anyway, without reference to any style, as structures which could later be conveniently wrapped to taste with appropriate trimmings and accessories from any period on demand. Occasionally, when the architect was not too familiar with the specified style, he recruited local talent to supply the authentic details. Yet for all the period detailing of such able assistants as Ram Singh, building like the High Court and Aitchison Chiefs College in Lahore and the Islamia College in Peshawar are no more Indian or "Mughal" than the Houses of Parliament in Westminister are "Gothic." Both in plan and massing they remain firmly within the European Baroque tradition.

The Punjab High Court

Located in the heart of the central business district of Lahore, on the city's best known commercial spine, the Mall, now the Shahrah-e-Quaid-e-Azam, the Punjab Chief Court was completed in March 1889. The details of the superstructure were designed by Mr Brossington[23] "a skillful architect", and the work was executed by the engineer Hilton.

6.4 Palladian villas, such as Lawrence and Montgomery Halls, set in Capability Brown landscapes, often produced picturesque results particularly when placed in the idyllic settings of large public parks.



6.5 Plan, Lawrence and Montgomery Halls. Source: Public Works Department.

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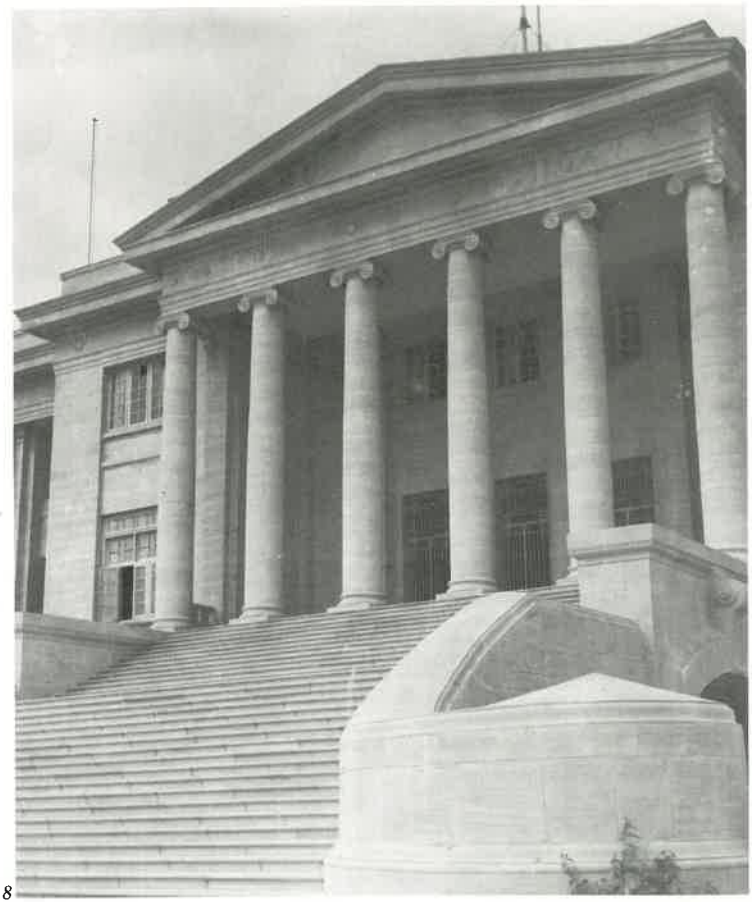

6.8

6.6, 6.7 and 6.8 The reverberations from the battle of the styles were felt throughout the colonial territories and left behind a litter which included everything from Gothic steeples (6.6 Frere Hall) to classic revival (6.8 Sind High Court) and Palladian villas (6.7 Palace Hotel).

6.9

6.10

6.9 Islamia College, Peshawar. Architects resorted to designing their buildings as structures which could be convieniently wrapped to taste with appropriate trimmings and accessories from any period on demand.

6.10 They could be Islamic, as in the Islamia College at Peshawar, or European classic, as in the D.J. College in Karachi.

6.11 Sadiqgarh Palace, Dera Nawab Sahib. Only an aristocratic brown sahib could employ an European architect to provide Victorian versions of "Indian" or "Mughal" which were Baroque in plan and massing.

6.12 New materials and engineering skills were used only to provide props for romantic settings which, as in the Gymkhana Club, were intended to evoke memories of a tudor English countryside in Karachi.

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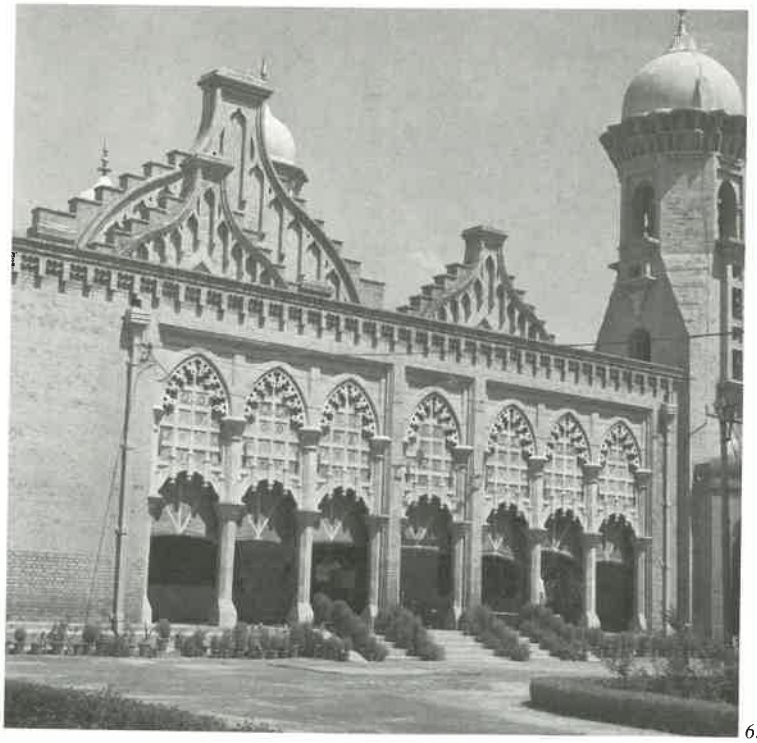


6.14

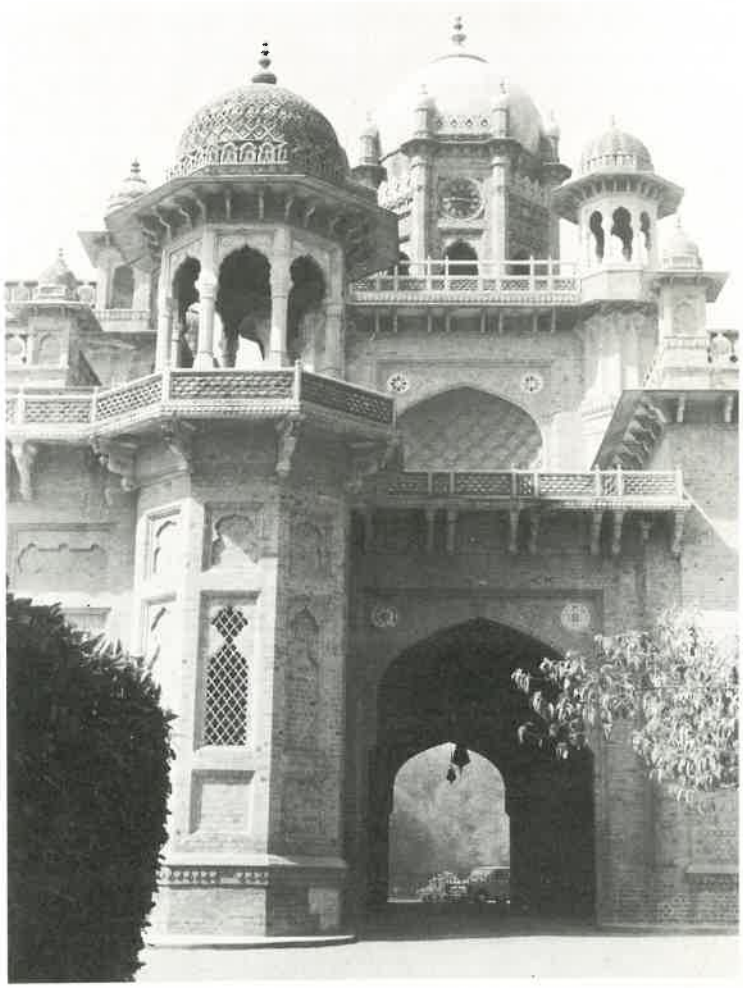
6.13 "Indo-Saracenic" details in the High Court at Lahore, include a naqqar khana gallery flanked by two towers, fluted as in the Qutub minar, and topped with domed projecting balconies.

6.14 An attempt to give the gable ends a "Saracenic" appearance with pointed arches, results in a curious ogee curve with a stepped silhouette.

The structure is in the form of a quadrangle. Built in red bricks in lime mortar, with specially moulded bricks forming the mouldings, cornices, projections and other decorative features, such as the terra cotta trellis or pierced screen work which fills the arches. The roofs of the main court rooms are double pitched, constructed in timber and covered with clay tiles. An attempt to give the gable ends a "Saracenic" appearance with pointed arches, results in a curious ogee curve with a serrated or stepped silhouette. Other "Indo-Saracenic" details include a naqqar khana gallery, flanked by two towers, the top halves of which are fluted, as in the Qutub *minar,* and topped with domed projecting balconies and with domed pavilions. These are placed over the central pavilion and porch on the north, while a *muqarnas* or honeycombed cornice runs along the arcaded verandahs on either side.

Aitchison College

The main building of Aitchison College in Lahore is a combination of two designs: a ground plan was furnished by Colonel Jacob, Executive Engineer at Jeypur, and an elevation by Bhai Ram Singh of the Mayo School of Art, Lahore, as a result of both men sharing the prize in a competition for the design. The



6.15 For all the period detailing of able assistants like Ram Singh, buildings like Aitchison College remain firmly in the European Baroque tradition.

ensemble of three blocks is symmetrically arranged around a north-south axis. The central block rises in three tiers from arcaded verandahs on the east and west faces to the higher roof of the classrooms on either side of the main hall. Between the central block and the small block to its north is a double-storeyed entrance portico with a tall arch penetrating it in the east-west direction. Over this portico is a high domed clock tower. The third block, to the south of the central block, is double-storeyed with a wide staircase sloping down its southern facade. The structure is brick, with some elements in pink marble or red sandstone. The corners of each rectangular block are marked at roof level with arched and domed kiosks of various sizes. The "native" detailing in this case is convincing, consistent and well-integrated with the Baroque mass of the structure it adorns.

The official architecture of the British Raj was essentially a product of these European developments. Even the frequent attempts at building in the 'Moghal' (Mughal) or Hindu manner must, therefore, be seen not as an extension of local traditions but as a part of that particularly European phenomenon which produced Chinese pagodas in Kew Gardens, Indian pavilions at Brighton and Gothic steeples in Karachi, with equal felicity. The awkard aloofness of these buildings and their detachment was consistent with the general attitude of the British towards the projection of their image abroad. But they cannot be dismissed as mere curiosities for they mark yet another of the many dramatic changes in the course of the architectural development of this country.

6.16 Punjab Exhibition Building.

NOTES

[1] Birdwood George C.M. *The Industrial Arts of India,* London 1880, p. 132.

[2] Kipling, J.L., "Indian Architecture of Today" in Journal of Indian Art, Vol. I No. 3, p. 1.

[3] Ibid.

[4] Quoted by Mukherju, T.N., "Art Manufactures of India" — Calcutta, 1888, p. 35.

[5] Archer, W.G., *India and Modern Art,* London, 1959, p. 18, 20.

[6] Birdwood, George C.M., *The Industrial Arts of India,* London, 1880.

[7] Stoqueler, 1844 quoted by Archer, W.G., *India and Modern Art* London 1959, p. 20.

[8] Terry, in his "Vogue to the East Indies, 1655, describes the ingenuity of native manufacturers and gives a long list of items manufactured, including silks, quilts, carpets, cabinets, boxes, trunks, inlayed elephants teeth, agate and cornelian cups, cut stone and diamonds, painted staves, beds etc. According to George C.M. Birdwood, these artisans had formed themselves into guilds which sometimes grew powerful enough to represent the only effective government in some towns or sectors of cities. Birdwood gives a detailed account of the structure, function and political force of these guilds in *The Industrial Arts of India,* London 1880, p. 133".

[9] The manufacture of cotton was introduced into England in the 17th century. But in 1641 Manchester Cottons' in imitation of 'Indian Cotton', were made of wool. So also the clamour against the Indian printed cottons was so great that in 1721 a statute was passed that prohibited the use of printed calicos and this was modified, in 1736, to permission provided the warp was entirely of linen. All this was changed with the discovery of Arkwright's machine and in 1769 Manchester had been placed in such a position of advantage that it was then recognised that the prohibition against imported goods was a violation of the first principles of political economy (from Watt, Sir George, and Brown, Percy, *Indian Art at Delhi* 1903, being an Official Catalogue of the Delhi Exhibition, 1902–1903, Calcutta p. 271).

[10] Paper from the Hon'ble Mr D. Duncan, M.A.D.Sc., Director of Public Instruction, to Chief Secretary, government of Madras, No. 794, dated 28th January 1895, in "Papers relating to the *Maintenance of Schools of Art in India as State Institutions"* Calcutta, 1893.

[11] *M.S.A.I.S.I.* Appendix V.

[12] Archer, W.G., *India and Modern Art,* London, 1959, p. 24.

[13] Government of the Punjab, *Proceedings, 5th December, 1863, Nos. 21–2.*

[14] *Government of the Punjab, Proceedings,* 2nd February, 1867, Nos. 85–6.

[15] *Proceedings,* Government of Punjab.

[16] Government, *Report on Popular Education in the Punjab* and Its Dependencies — 1872–73.

[17] Ibid, 1875–76.

[18] Latif, S.M. *Lahore its History Architectural Remains and Antiquities,* p.304.

[19] Punjab Government; Report on Public Instruction in the Punjab, 1872–73, para 138.

[20] Government, Report on Public Instruction in the Punjab, 1875–76. p. 72.

[21] Mayo School of Arts, prospectus, 1919

[22] Government, Reports on Public Instruction in the Pubjab, Lahore, 1878–79 et. seq.

[23] Latif, Syad Muhammad, Lahore, Oriental Publishers, Lahore, 1981, p. 284.

7

VERNACULAR TRADITION

RURAL HABITAT
The Delta Region
The Indus Plain
Foothills and Plateau
Arid Mountains
Alpine
Nomadic
Cholistan Desert

SOCIAL PATTERNS AND RURAL HABITAT
Tribal
Feudal

URBAN VERNACULAR
Townhouses

SWAT MOSQUES

TRADITIONAL DOORS

RURAL HABITAT

Modern industrialisation in Pakistan has had little impact beyond a few pockets of urban concentration. Most people continue to live in rural communities, the patterns of their daily lives governed by the herding and grazing economies of tribal people or the backward agricultural practices of feudal societies. Out of the persistence of these patterns have evolved forms of rural housing corresponding to the livelihood of the people, the forms of society, the material resources and climates of each of the regions of Pakistan.

Analysis reveals a number of climatic variations within each of the major topographic regions. For instance, the central plain can be divided into three distinct climatic zones: the humid coastal and delta; the dry Sind and Southern Punjab; and the monsoon plain of the central Punjab. Similarly, the mountains have a narrow humid coastal strip along the Arabian Sea; the arid Baluchistan plateau; the milder North West Frontier and Potwar plateau; the moist and wooded northern valleys; and the drier extreme north. The traditional forms of rural habitat[1] in each of these regions reflect the variations in climatic conditions as much as the variations in available materials within each environment.

The Delta Region

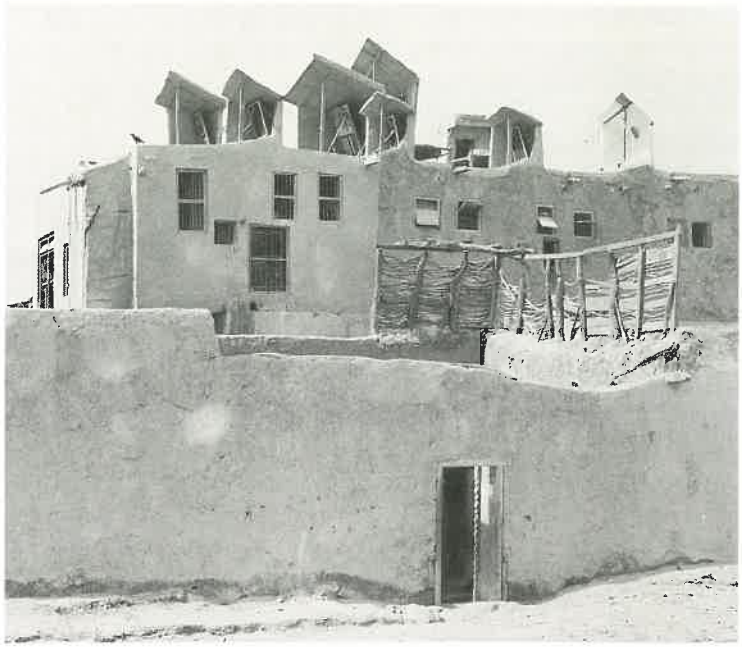
The delta region of the lower Indus has low rainfall but high humidity, with a steady prevailing sea breeze. The scrub vegetation in this region consists of low stunted trees and bushes. These form the basic materials of the two principal forms of construction. In the more common form for rural domestic structures, the slender stems of a local juniper shrub are struck upright into a narrow trench in the ground to form a closely packed hedge. Successive layers of these stems are added to make up the wall and are held together by bundles of reeds tied across the stems at the joints. The result is a wickerwork of a dark vertical texture criss-crossed by a pattern of horizontal and diagonal lines of the lighter coloured reed bundles.

The roofs are thatched with a double slope and central ridge, and the typical house consists of a pair of such roofs over a room and an adjoining shed facing into a courtyard which is

screened by the same hedge-like construction of closely packed juniper stems.

This form of construction provides a light-weight structure with a low thermal capacity, essential in a warm humid climate, and permits the constant sea breeze to filter in through the walls.

A second form of construction in the same region employs local timber to make a frame onto which are nailed shorter laths to form a basket-like construction, usually plastered over with a mixture of earth and straw. This also produces light-weight, low-thermal-capacity construction, in which the timber frame permits multi-storey development. Indeed in larger settlements,



7.1, 7.2 and 7.3 Townhouses and wind-catchers, Thatta. Thatta presents a rare combination of urban verticality with rustic wattle and daub surfaces. On every roof is perched a wind-catching device, known locally as a "mungh".

dwellings constructed in this fashion can rise three, four, or even five storeys. Such congested vertical construction naturally restricts air movement at the lower levels. This problem is overcome by ingenious wind-catcher devices which punctuate the skyline of many a rural and most urban settlements in the lower Sind.

The typical wind-catcher or *mungh* is a 3 to 4 feet square funnel protruding 4 to 6 feet above the roof. Orientated diagonally to the wind, its two adjacent leeward sides are walled and the two windward sides are open. The roof of the funnel slopes back along the diagonal in line with the wind. A trap door at roof level is operated by a cord and pulley to act as a damper controlling the flow of air. A system of ducts can carry the air from the roof down to the lowest floor, producing a gentle current of cool air.

The Indus Plain

Beyond the reach of the humid sea breeze, lightweight, airy structures give way to massive earth walls with small openings. In the riverine plains, earth is the most abundantly available building material. Timber, from a variety of Acacia and the more valuable *Sheesham* (Indian Rosewood), is a precious commodity, reserved for the roof structure. More than any other factor, it is the earth, the very substance of the alluvial plain, which determines the forms of its rural architecture. Whether in the form of sundried bricks, blocks or pisĕ, it is the plastic quality of this material that gives the villages of the plain their characteristic features: as successive generations excavate the soil to build their sun-dried earth villages upon the debris of previous generations, a mound gradually rises above the plain, and upon it surface drains, sometimes lined with burnt bricks, follow the twisting pattern of narrow streets, carrying the waste from each house to the pits which fill up into large ponds. Thus from the broadest silhouette of the village to every detail of its individual buildings — undulating moulded surfaces, softly rounded edges and mud plastered textures, exaggerated by accute shadows under a harsh sun — the forms, colours and textures of the earth predominate.

Foothills and Plateau

Even in the foothills and valleys of the mountainous regions, wherever clay soil is available, it continues to be the dominant building material. Here windowless high walls, often protected by copings and eaves, and frequently in juxtaposition with stone, have a crisp and clean appearance. A new dimension is added to the visual drama of these modelled clay surfaces when the village clusters break up into steps and terraces following the contours of the land.

Occasionally in these foothills and valleys the dwellings are literally carved into the earth. Two of the areas where such cave dwellings are found are the Campbellpur (Attock) district on

7.4 Cave dwellings in Campbellpur district are carved into the vertical faces of loess Cliffs.

7.5 Plan and section, Mohammad Afsar Cave dwelling, Jallo, Campbellpur Punjab.

7.6 Plan and section, Cave dwelling of Margethkhel Tribe-Khurmatan (Originally from Tira) Darra Adam Khel, Khyber Agency, North West Frontier Province.

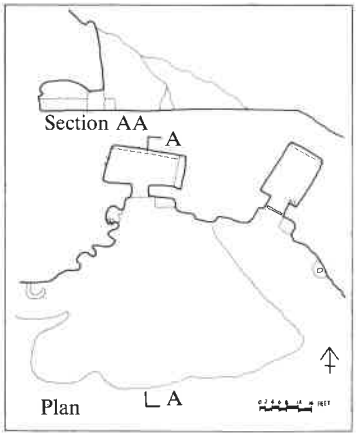
the Potwar plateau and the Tribal Agency areas around Peshawar.

In the Campbellpur district the caves are carved into the vertical faces of loess cliffs, formed by centuries of water erosion cutting steep canyons into the thick clay deposits.

A typical cave dwelling consists of one or two rectangular chambers about 12 feet wide and some 24 feet long. A wide earth platform at one end of the chamber is used to store bedding, while other ledges, shelves and niches, are carved out of the walls to hold smaller items. The entrance to the chamber is often closed by a timber door. The door or mouth of the cave opens onto a level terrace which serves as the family courtyard.

7.4

7.5



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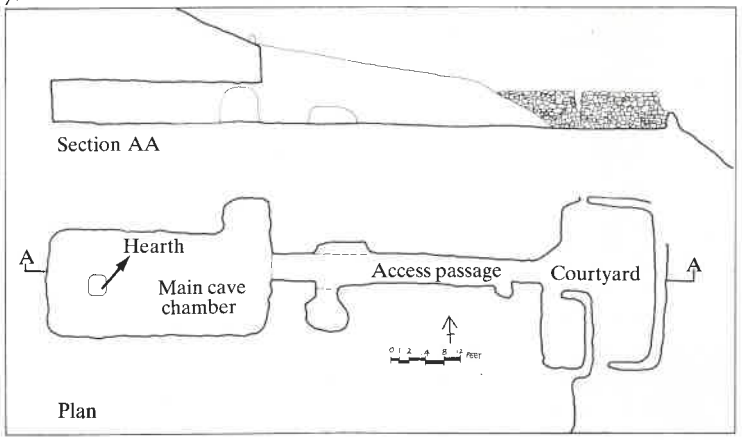


Quite often when a family becomes affluent, additional rooms are built in the open, and as the family moves out, the caves are converted into storage or animal sheds, or fall into disrepair.

In the Khyber and Darra Adam Khel passes near Peshawar, similar caves are dug into rolling, soft clay hills. Here a narrow slit trench is cut into the sloping side of a hill to make a horizontal passage to the cave mouth. The cave itself is begun fairly deep into the hill and consists of a single large chamber, roughly rectangular, about 12 feet across and often more than 20 feet deep. The ceilings are barely six feet high and a hearth is invariably located in the middle or to the rear of the chamber. Above the hearth is a vent shaft which leads to a well-protected outlet at the crest of the hill. The earth and stone cover over the vent shaft outlet serves both to conceal it from view and protect it from rain. A low stone and earth parapet on the hillside directly above the cave mouth diverts rain water flowing down the slope, away from the cave entrance. The trench passage from the cave leads out onto a small level terrace screened off by a low rough stone wall.

Communities of these cave dwellings are usually found arranged in a row towards the top of a hill. But many of the tribes who have traditionally lived in such dwellings are now abandoning them in favour of the forms of construction more commonly used in the region.

Arid Mountains

In the barren treeless mountains, typical of the North West Frontier and Baluchistan, stone and earth are the only readily available building materials. The climate is harsh, reaching extreme temperatures in both winter and summer. The architecture of these regions is heavy and massive, with high walls enclosing courtyards around which are arranged the habitable rooms. The only openings to the outside are a single entrance gate and some tiny portholes whose function is to permit a rifle to fire at hostile visitors approaching the walls.

The walls are constructed of rammed earth or pisĕ where clay soil is available, and otherwise of rough stone masonry, with or without a mud plastered finish. Roofs are invariably flat and in some regions have projecting caves.

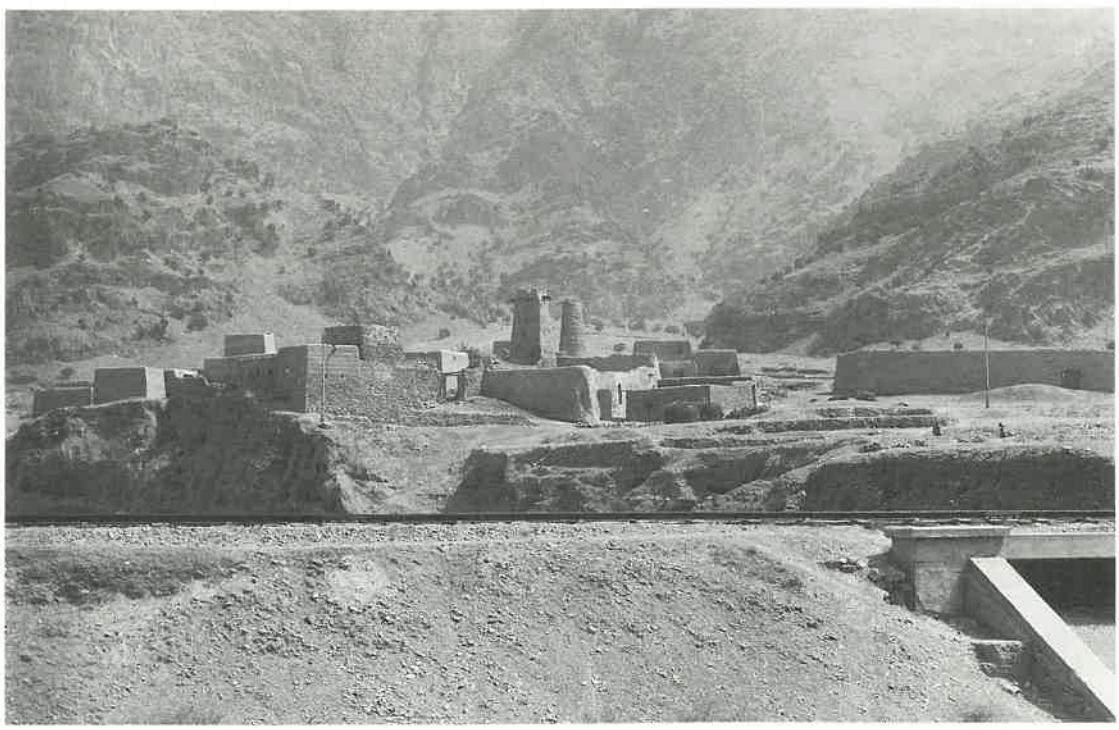
In Baluchistan this basic type varies in certain details. The roofs of the otherwise similar mud-walled houses have a modest slope. This is more pronounced in the northern region of Baluchistan where rain and snow falls are relatively heavy. Here the earth roofs often have a double pitch, with the central ridge formed by a rough beam running through the long axis of the row of two or three rooms, supported by the cross walls and one or two posts in each room. The rooms themselves are without any furniture except for a long low earth platform on which are stacked a supply of colourful woollen rugs and blankets. These rugs and *namdahs*, woollen felt mats with colourful designs, cover the earth floor, in the centre of which is placed an iron stove in the winter. An exposed metal flue runs from the

stove to the roof. The sun-dried earth brick chimneys thus form a second characteristic feature of the domestic architecture of the cooler parts of Baluchistan. Moving southwards, the single pitched roof becomes a more frequently employed form. Further south in the warmer regions of Baluchistan, this traditional form of construction has a marked local character, due to the use of the palm tree as a major building material. The only source of timber in this region, the trunk of the palm tree provides the basic structural elements such as beams and columns; the palm fronds become the secondary elements as battens in the roof structure; and the leaves are woven into mats which cover the roof and receive the final layers of earth.

In the North West Frontier a walled compound may include one or more, sometimes as many as eighteen or twenty households. Each household has its own courtyard with a single row of rooms and lean-to verandahs around it. Each set of rooms around the courtyard includes a bathroom and kitchen. In one corner of the compound, usually flanking the entrance, a tower rises one or two storeys above the roof. This watch tower or shooting turret is entered at the ground level by a ladder which leads to the upper levels.

Some of the most imposing examples of mud-walled compounds are those at Jamrud and Bara in the Khyber tribal agency. In these, the mud walls have no copings, but each floor and roof is usually marked by a projecting cornice or moulding. The parapets are sometimes castellated, adding to the fortified appearance. The walls, and tower have a slightly inward slope, tapering towards the top. The whole ensemble creates a rugged martial effect which is echoed by the backdrop of inhospitable mountains.

7.7 Clan compounds, Khyber Pass. Social customs give rise to fortified clan compounds in the Khyber Pass.



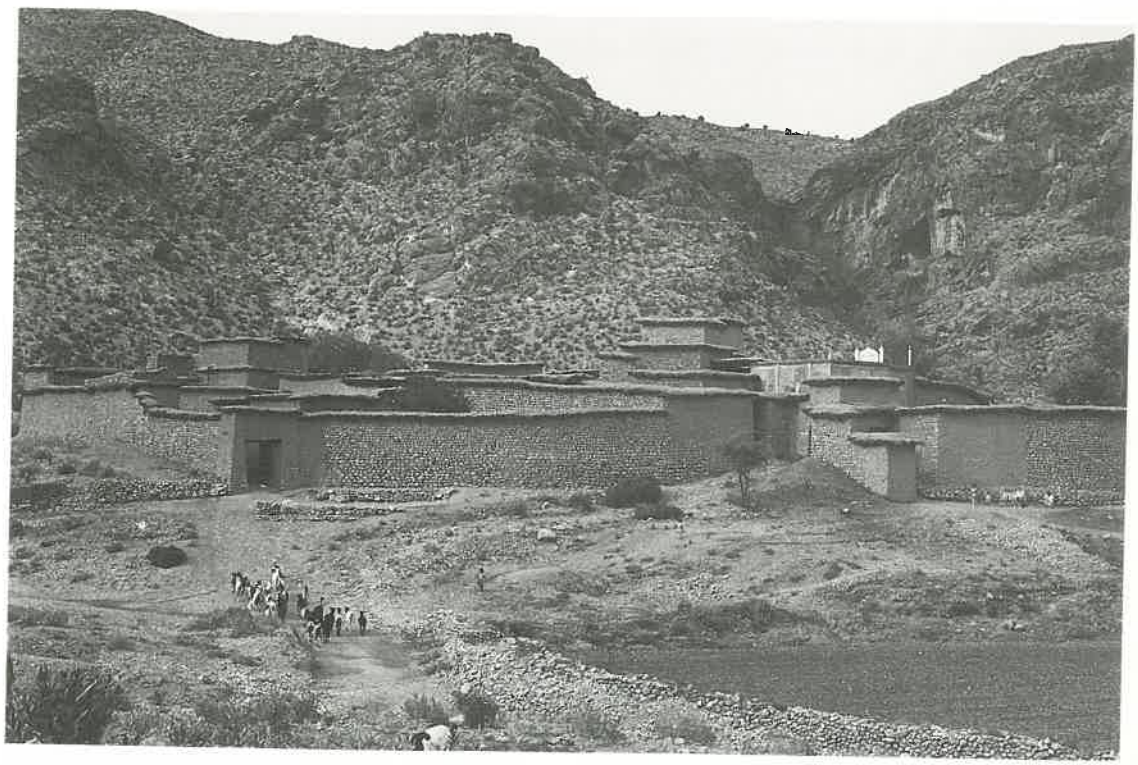
The Darra Adam Khel, also in the Khyber agency, is a unique example of an entire valley which has preserved a local style of architecture with amazing purity. Every village is a model of architectural harmony. Not a single detail deviates from the traditional standard, and each element is part of the compact unity of the whole village which in turn is flawlessly integrated into the landscape. Less forbidding in appearance and more intimate in scale, the warmer texture of unhewn stone in these villages is further softened by the bushy but neat copings which top each wall and parapet and mark each floor and roof with a remarkable consistency.

Alpine

To the north-east of Peshawar, in the catchment areas of the Swat, Indus and Jhelum rivers, the slopes are covered with dense pine forests. Timber naturally forms an essential part of the building traditions of these valleys. One of the richest of these timber building traditions is found in the Swat Valley.

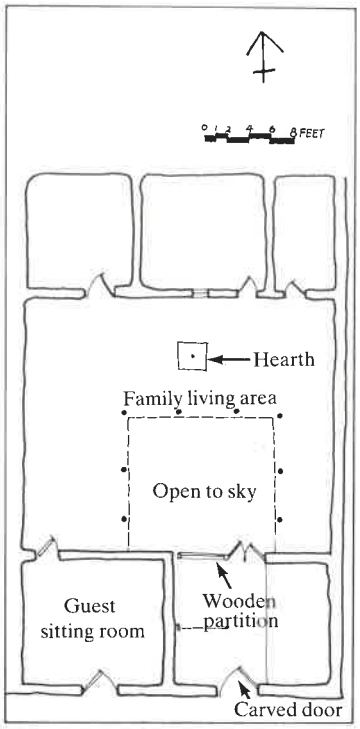
Decorative timber carving, artistry in the handling of structural elements, attention to sophisticated compositions and careful proportioning of every detail, such refinements are usually reserved for the construction of the exquisite mosques of this region. The domestic architecture is much simpler and functional. An occasional door or column capital may be elaborately carved, but the usual house has a powerful rustic simplicity.

The external walls are usually thick, rough masonry, often reinforced by crudely hewn timber sections, or given a coat of mud plaster. The stones are often packed in courses into a rough timber frame. Slenderer sections of timber make up the



7.8 The entire valley of Darra Adam Khel has preserved a building tradition with an amazing purity.

7.9



7.9 Plan, Sultan Zarin's House, Kalam, Swat, North West Frontier Province.

7.10 The hearth plays an almost ritual function in every pleasant home in the mountains.

7.11 A tripod stove of moulded clay is often part of the family hearth.

7.10

7.11

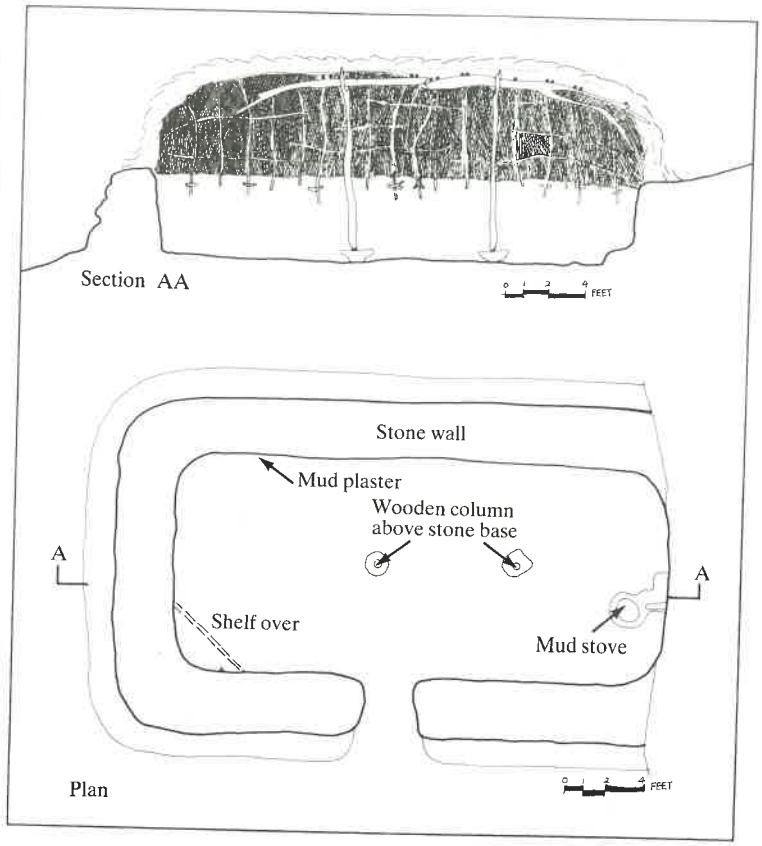
post and beam frames which support the lean-to verandah roofs and internal timber panelled partitions. Doors and windows are similarly framed and panelled. The roofs are invariably flat and made up of a heavy layer of compacted earth on timber boards and joists, and they overhang the walls to provide generous eaves. The cantilevered joists under the eaves are closed by a fascia board, often with a decorative lower edge. A second board above the joists acts as a retaining edge for the compacted earth with which the roof is finished.

On sloping valley sides these simple houses are often half built into the hill, which is cut to form a convenient rear wall. In such stepped clusters each roof becomes a terrace for the house above. These open terraces serve as sun decks in cool weather and are used very much like the courtyards of the plains. It is not unusual at harvest time to see a pair of diminutive hill oxen threshing corn in endless circles on these sturdy roofs.

In the larger villages on level ground the houses are so closely packed that the only source of light, sun and ventilation is through an opening in the roof. Sultan Zarin's house in Madyan is a typical example of such a house. It is wedged on three sides by other houses, and the fourth opens onto a narrow street not more than 5 feet wide. The house is approached from the street through either of two rooms, one of which serves as a formal reception room for male visitors, the other, with a richly carved front door, is reported to have been originally the main reception room, but is now a ramshackle store with a loft. These rooms let onto a large family space. This has a square central area of about sixteen feet sides which is open to the sky. Around it on three sides runs a wide loggia, with a kitchen at one end and the main family living area in the central portion. Three rooms at the rear open into the central living space where a hearth in the floor of the loggia marks the centre of family life.

In the mountains with their long cold winters, the hearth occupies an important place in the lives of the people. More than a neccesity, it plays an almost ritual function in every peasant home, and an unusual amount of care and ingenuity is lavished on its elaborate design. In its most essential form the hearth consists of a shallow depression for the fire in the earth floor within an area about 2 feet square, surrounded by a raised edge, moulded in the clay floor. A common addition is a tripod of moulded clay columns to support a cauldron or other cooking utensil over the fire.

On the dry plateau of Baluchistan timber is scarce. The rocky mountains have only a sparse vegetation of scattered shrubs. In this region one of the traditional forms of rural dwelling is a thatched elongated dome construction known as a *gidan* to the Baluch and *kodal* to the Pathan tribesmen. These consist of a roughly rectangular room measuring 10 to 11 feet wide by about 24 feet long, with rounded corners and an entrance in the middle of one long side. A rough low masonry wall more than 4 feet thick at the base and some 2½ feet at the top encircles the room to a height of about 4 feet above the ground. From the top



7.12 Plan and section, Wali Melmani's kodal *House, Kohan, Baluchistan.*

of this wall springs a wagon-vaulted dome whose structural frame is a gigantic wickerwork of slender limbs woven into the shape of an upturned basket. As the uprights are bent inwards to form the curve of the dome their lower ends press against the inner face of the stone wall which keeps them from springing outwards. With horizontal members weaving in and out of the verticals, the alternate lower ends of the latter are pinned back to the stone wall by Y-shaped pegs. A central ridge of heftier poles is held up by a pair of timber posts, under each of which are placed large stone pads. The stone wall is plastered internally with a mud plaster, and the roof frame is covered by a thick layer of thatch. The thatch in turn is tied down by a loose net of grass ropes thrown across the roof. A thatch door closes the low entrance opening.

Nomadic

The traditional movements of Pakistans' nomads correspond to the annual cycle of the seasons. In the Punjab this movement goes with the harvest, moving northwards each spring. In the mountains the migrations move along a north-west to south-east axis, following the pasture on the higher slopes northwestward with the onset of warmer weather and then south-east down to the Sind plains in time for the winter harvest. And wherever their journeys take them, from the deserts of Cholistan, across the Sind and Punjab plains, and over formidable mountains to the borders of Iran and Afghanistan, the nomad tribes carry their mobile houses with them on the backs of their camels and donkeys.

7.13

7.14

7.13 Thatched wagon-vault known as "gidan" *or* "kodal" *in Baluchistan.*

7.14 In Southern regions of Baluchistan, the palm tree is the major building material in addition to earth.

7.15 Nomad (Pathan) tents, near Pishin. The mobile architecture of nomad tribes, consists of lightweight tension structures, designed to be packed, transported and reassembled with ease.

7.15

7.16 Katchi mat tents, Mastung.

7.17 Gypsy huts near Chiniot.

The *gidan* is almost certainly the prototype for the Baluch nomad tents. These have the same wagon-vaulted form and a structural frame of flexible poles struck into the ground, covered with a woollen blanket instead of thatch. Similar portable structures are used by various nomadic tribes throughout Pakistan. The Oadh and other Punjabi nomads use a very similar structure, except that the covering is of a cotton fabric instead of wool. The Pathan tents have a distinct form, easily recognisable by their low angular profile, for the blankets covering these are held up by vertical posts and pulled taught by ropes tied to pegs in the ground.

Yet another distinct form is that of the mat tents of the Katchi tribes of Baluchistan. These are covered with large mats woven from the flat blades of a local grass or palm.

Cholistan Desert

The desert of Cholistan[2] extends over 9,881 square miles, and includes two thirds of the former state of Bahawalpur. It is in fact an extension of the Thar desert, whose western edges are formed by the ancient river called the Hakra in Pakistan and the Ghaggar or Ghaagra in India.

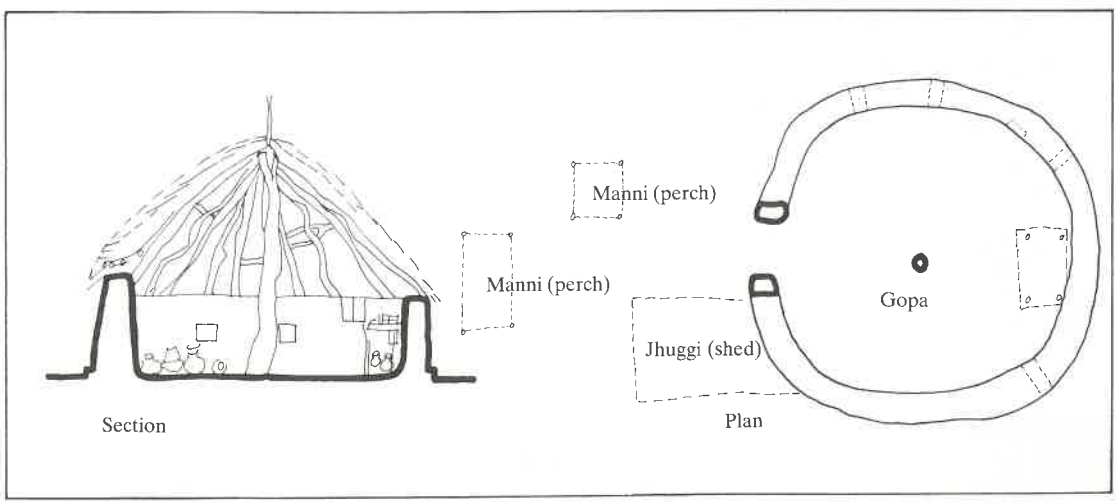
This desert region of Bahawalpur, with about five inches of rainfall a year, consists of sand dunes and salt flats. The dunes, or *tibbas*, are low in the north western quarter — the Lesser Cholistan — while in the south, or Greater Cholistan, they can rise as high as several hundred feet. The salt flats, *dhaars*, occur among the sand throughout Cholistan. They can stretch for several miles or be as small as a few hundred yards each. Flash storms convert them temporarily into lakes, and the runoff is collected in natural depressions or man-made ponds called *tobas*. The only other source of water for man or beast are wells found in only a few places in Cholistan.

As can be expected under these circumstances, the population is nomadic, moving from one water hole, *toba*, to the next. When these dry up, they go to the semi-permanent settlements around the wells; in extreme drought they move to the permanent settlements at the edge of the desert.

At the *tobas* living is in the open, requiring no permanent structures. The *toba* is generally associated with the family or clan who maintain it and return to it each season. However, a family whose own *toba* has gone dry may go and camp at another which has water. Settlements at the *tobas* are always only temporary, although some have a *gopa* shelter or two, and perhaps even a few fruit bearing trees.

The traditional *gopa* has a low, circular mud wall with a gap for the entrance. A domical roof of twisted branches rises from this wall to a central post. The jambs at the entrance are slightly raised, and three or four stout branches span across to make a lintel. The roof is covered with grass thatch. The wall is punctured at three or four points by small square holes for light and ventilation.

7.18 Plan and section, Gopa House Kalri/Kani Toba.



Semi-permanent settlements are usually associated with some permanent features such as a well, a fort or a shrine, and a number of relatively permanent dwellings, but the population is not entirely permanent. Most families who are otherwise based in such settlements (and own permanent dwellings there) will move with their animals into the desert for several months at a time at certain seasons. At other seasons the permanent population of such settlements may be joined by nomadic families from the desert.

Permanent settlements are generally restricted to the northern and western edges of the desert where canal colonisation is transforming the land, economy and way of life into the familiar patterns of settled agricultural communities.

A distinct evolution in three stages is discernable in the types of structures employed for domestic architecture in the semi-permanent settlements. From the traditional circular plan of the *gopa* shelter with its domical thatched roof, to the rectangular plan with double pitched roof, and finally the enlarged rectangular plan with flat roof. Through all these developments, however, the essential layout of the house remains the same. It consists of a single family room facing an open platform or clear area, the equivalent of the courtyard, but demarcated by a low kerb in place of the screen wall.

SOCIAL PATTERNS AND RURAL HABITAT

In Pakistan the structure and form of society, social relationships and the cultural traditions based upon these relationships are as important in determining the forms of rural habitat as are the factors of the physical environment.

Tribal

A sense of primitive communism still pervades the tribal societies in Baluchistan and parts of the North West Frontier. Within a well-defined tribal territory entire mountain ranges and valleys are the common property of the tribe. This territory and tribal autonomy is jealously guarded. In the tribal fraternity every member is treated with the respect and dignity due to a clansman and brother. This tribal egalitarianism, manifest in every aspect of tribal custom, is no less patent in their forms of rural habitat.

One of the most striking characteristics of tribal villages is the singular unity of architectural form. No individual houses are distinguished by any discernable marks or symbols of social differentiation. Most Pathan dwellings are, in fact, not so much individual nuclear family houses, as they are clan compounds, shared by as many as 20 households, with a common protective wall enclosing the entire compound. This high wall is the only element visible to an outsider. Large compounds with numerous courtyards and streets become, in effect, small fortified villages, and a large village may consist of a collection of such compounds.

In parts of Baluchistan however, larger villages are the exception. More frequently, a settlement is little more than a clan cluster of single-roomed dwellings. In such solitary clan clusters there are no protective walls enclosing the group of dwellings.

On the mountain slopes a man with a hand hoe can raise a crop on his terraced lot, sufficient to feed himself and his family, but he cannot profit by owning more than the small tract which he and his family can cultivate. The household flock of goats and sheep provides most of his other needs: milk, butter, cheese and fat; wool for his clothing, blankets, rugs and tents; meat for the occasional feast, and leather for a hundred daily uses.

Feudal

A man behind an ox-drawn plough is capable of cultivating a larger area than the man with a hoe, gaining surplus far beyond the subsistance requirement of the tiller himself. With such a mode of production the owner of sufficient land can put another man, with a pair of bullocks and a plough, to work upon his fields, and of the harvest give a share to the tiller, sufficient for his basic needs, appropriating the surplus for himself. Thus in the alluvial plains of the Punjab and Sind, and even in the wider valleys of the mountain regions, a man can gain in wealth proportionate to the land he owns. And this is the base upon which stands the structure of feudal society in Pakistan.

The usurpation of land by conquering tribes and the dispossession of native populations has led to a feudal differentiation of society in which the division into classes of land owners and landless labour and artisans is reinforced by ethnic barriers. The division of society into classes based on the relationship to the means of production is as old in Pakistan as the evolution of agricultural societies employing draft animals. The predecessors of the Harrappa culture of the Indus Valley descended from the hills of the Potwar and Baluchistan plateaus about 3,500 B.C. The segregation of the quarters of the labouring and artisan classes from the main walled citadel, as at Kot Diji, is evident even in the earliest of settlements.

Similar segregations of workmen's quarters in the cities of the later Indus Valley Civilization is well known and continues to this day in the villages of the Indus and Punjab plain. Traditionally no member of the *kammi* labouring and artisan classes is permitted to own land. Thus the very roof over the labourer's head is subject to the pleasure of the landlord, and almost every village has a distinct sector set apart for these landless classes.

In addition, it is not uncommon to find the sector of the villages occupied by the land-owning classes, further subdivided into neighbourhoods or *mohallas*, each associated with the ethnic group, tribe or clan of its occupants. These clan or *braderi* neighbourhoods are no doubt a survival of the traditions of tribal clan communities. Thus each village is a microcosm of Pakistan's rural society, bearing the imprint, like a fossil of six thousand years of history.

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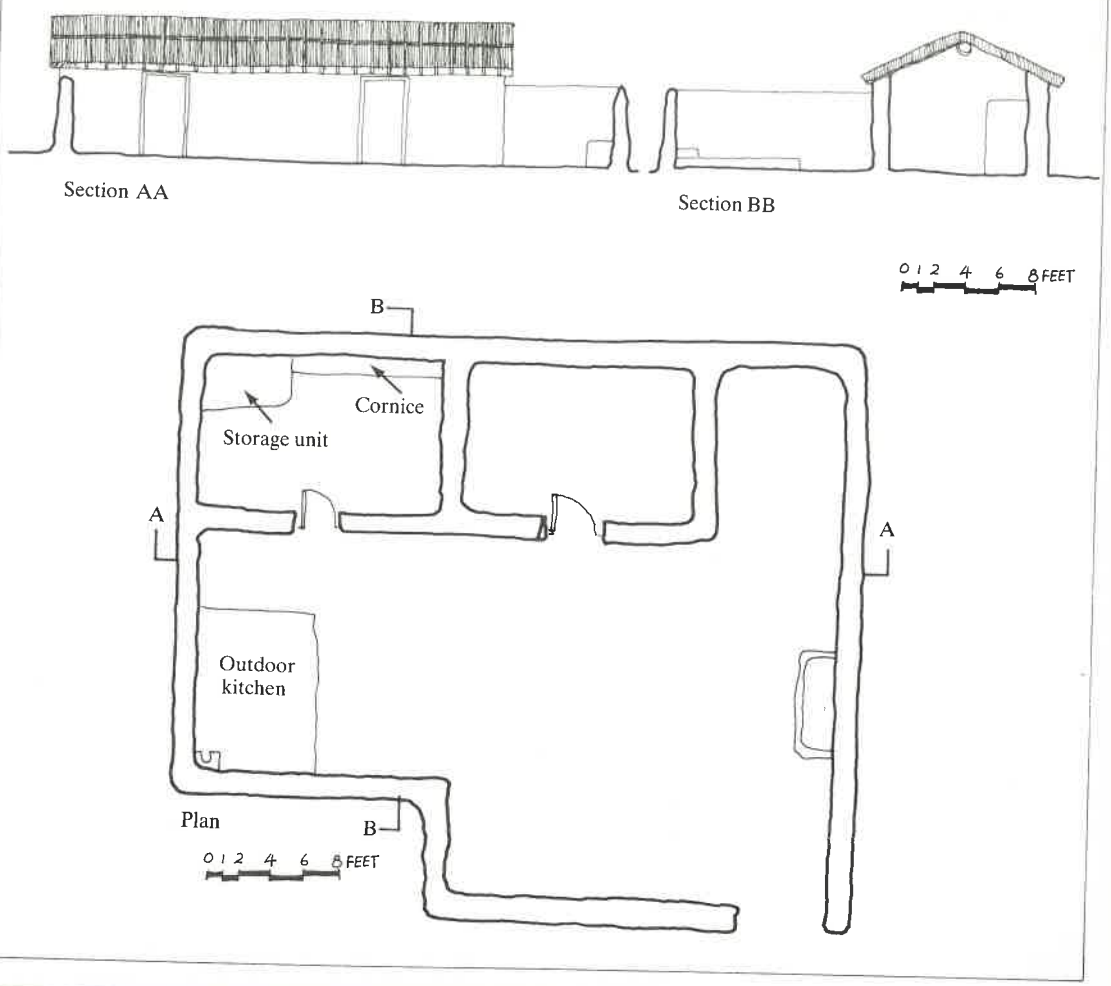

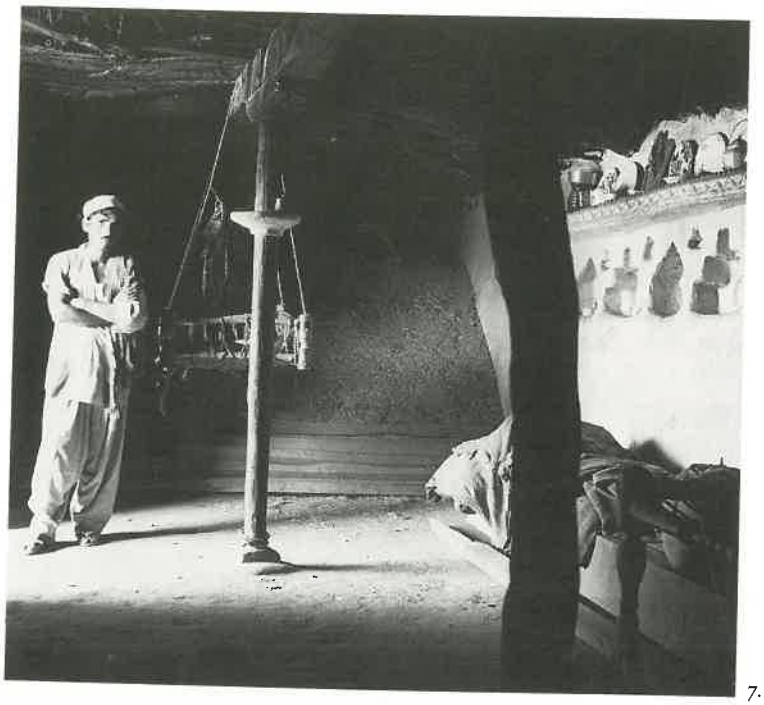

7.20

7.19 Plan and section. House with thatched roof in Kotkaramat, Lahore, Punjab.

7.20 A peasant family in the Peshawar district shares the single living room with their animals.

7.21 Plan and sections. Typical house in Kotkaramat, Lahore, Punjab.

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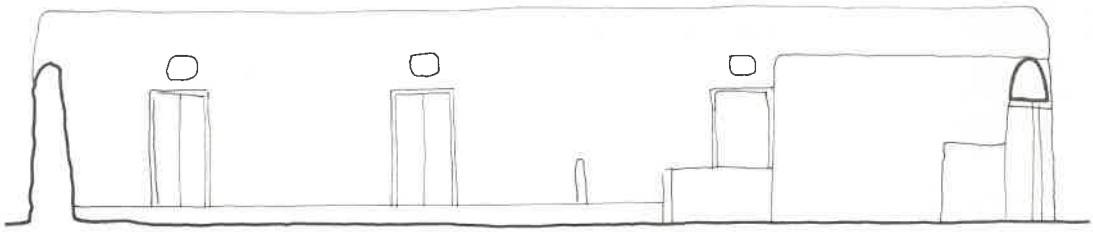

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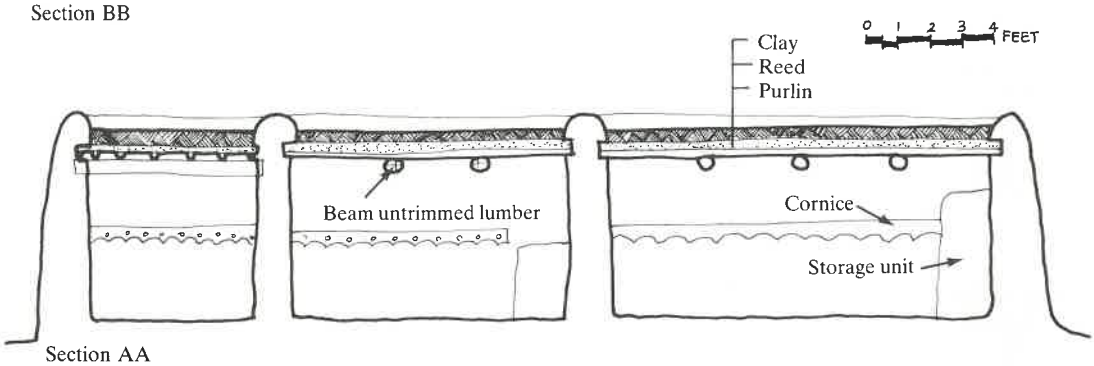

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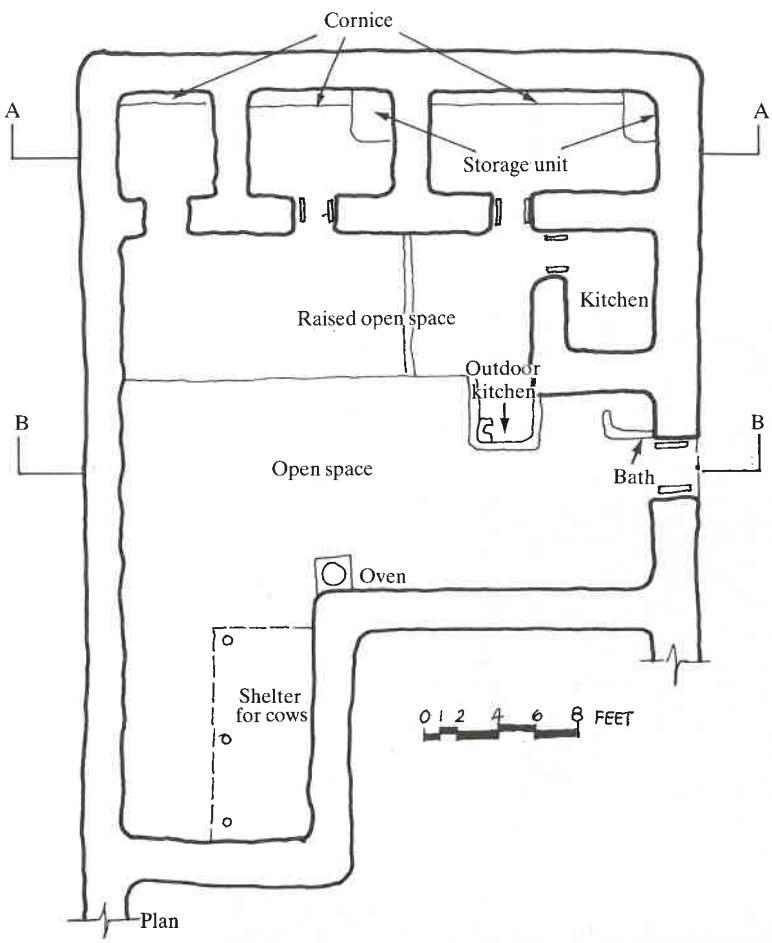
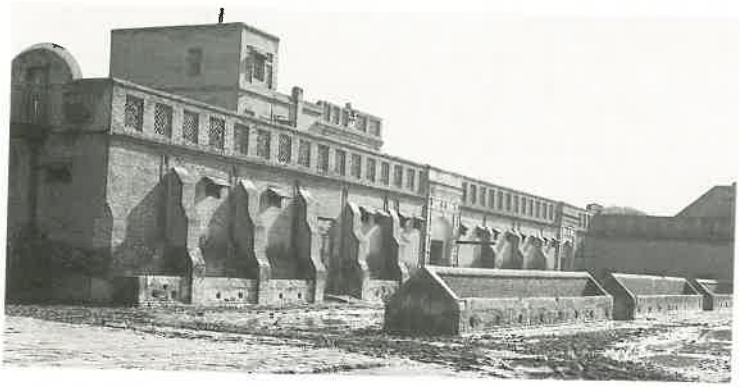
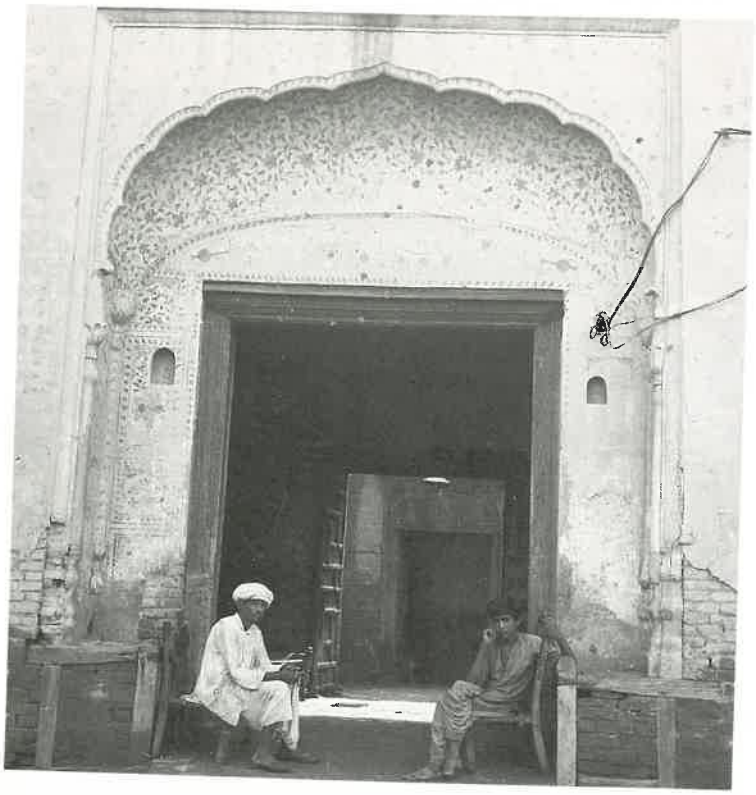


Plan

7.22 One of several internal courts in the family area of the Kalra Estate, Sargodha.



7.23 Large court for horses and stables in the Kalra Estate, Sargodha.



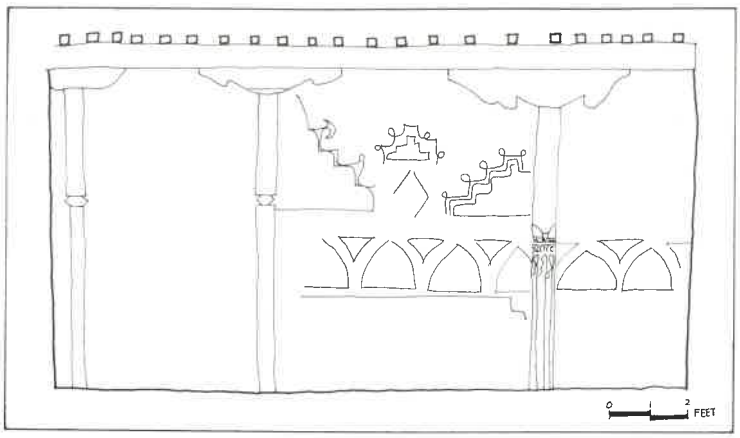
7.24 Carved timber door in an arched gateway separates servants court from family quarters in the Kalra Estate, Sargodha.

In many a village of the plain, the dark angular form of a burnt-brick structure towers above the humbler sun-dried earth huts of the peasants, symbolising the domination of the landlord over the surrounding country. The contrast between the average peasant hut and these patatial manor house of the bigger landlords is staggering.

The Kalra house of the Tiwana family in the Sargodha district is a vivid example of these medieval establishments. The well-guarded service entrance leads into an open space with a barrack of guest rooms to the right, adjoining a large court around which are housed milk cattle and sheep. Directly facing the entrance is another large court for the horses and stables. Immediately to the left are the estate offices. Between the offices and stables, a passage leads into another court, apparently reserved for domestic servants; a carved timber door in an arched gateway separates this court from the main family quarters. These are a maze of courtyards, staircases and covered passages, but beyond them is a third precinct with a luxurious colonial bungalow overlooking an English garden, through which a gracious drive leads up from iron gates.

By contrast, the average peasant house in the same region consists of a mud wall enclosing a courtyard, at one end of which are a couple of rooms measuring about 10 feet by 16 to 20 feet. The single door, with sometimes a small ventilator above, is the only source of light and air into each room. Since the mud walls are often 2 to 3 feet and the flat roof consists of a heavy layer of earth laid on a thick pile of reeds over a structure of timber joists and beams, these rooms maintain a comfortable temperature throughout all but the warm humid monsoon spell of the year. At least one room contains one or two large earthern grain storage bins, and most rooms have a long decorated timber shelf which proudly displays the family crockery. There is invariably an outside kitchen against one of the courtyard walls or a low earth parapet which protects the stove from the wind; occasionally an additional kitchen is provided with a roof or thatched shelter. The kitchen area usually forms part of a slightly raised terrace which is kept clean and tidy with frequent re-plastering of its earth floor. The remainder of the courtyard is shared with a variety of animals: draught and milk cattle, goats and sheep, chickens and dogs. To one side, usually against the street wall, an earth partition, about 4 feet high, screens off a small bath area.

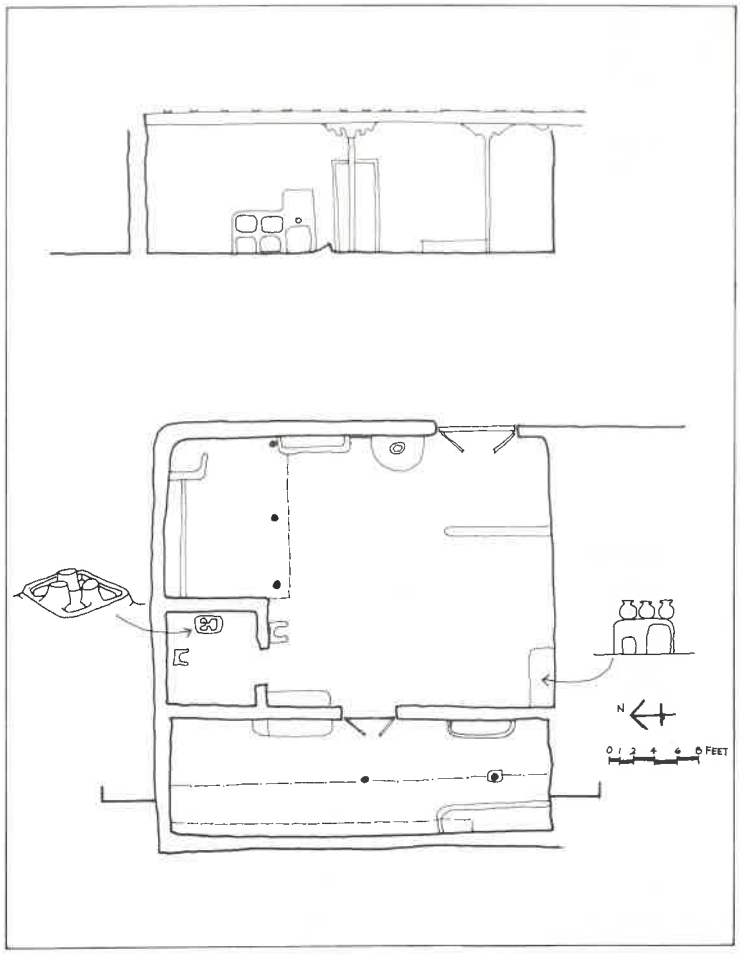
In the wide Kabul valley around Peshawar and Nowshera, the survival of many tribal forms within a feudal society is more obvious. At Shaidu in the Peshawar district, the house of the Pasani Khan Khel family, descendants of the famed Pathan warrior poet and statesman Khusal Khan Khatak,is an example of one of the larger landed family houses. It follows the tribal-clan-compound tradition of fortified walled villages. There are 20 households within the walls of the Pasani Khan Khel compound, each with its own courtyard, kitchen, and set of living rooms. The oldest structures are a pair of rooms in Mohammad Farid Khan's section. These are constructed in the typical



7.25 Section, Mohammad Farid Khan's House, Shaidu, Peshawar, North West Frontier Province.

Pathan tradition of rural domestic architecture with artful relief mural designs around the numerous storage niches. The usual flat earth roof is laid on timber joists supported by the walls and a central beam carried by a row of timber columns. These have the traditional timber capitals, tapering outwards from the column shaft with the lower edge carved in a series of swirls. The shafts themselves are delicately carved with an articulated band in the middle like a bracelet. Most of the other sections of the compound have been rebuilt at various times and display many influences of contemporary urban fashions. Often double storeyed, these structures are of burnt brick or timber, framed either with timber or brick infill panels; their balconies have cast iron or precast concrete grills and corrugated iron sheet roofs.

These 20-odd houses are closely packed within the walls of the Pasani Khan Khel sector of Shaidu village. A network of narrow lanes runs between two gates at opposite ends of the sector. Each gate, with heavy wooden doors, controls the entrances to the sector from two parallel streets. Within the walls the women move about freely, but any male, not a member of the family is strictly forbidden entry. Even clansmen may not enter a street within the walled sector unannounced. They are often preceeded by a small boy calling out "take shelter", and only when the women have moved out of sight will an adult male proceed through the street. Such rigid observance of privacy and restrictions on entry necessitate the provision of special accomodation for visitors and guests. This takes the form of the *hujra*, an essential part of every walled clan compound. A *hujra*, which is an exclusively male domain, is no different from the other courtyard houses within the compound, consisting typically of a couple of guest rooms in a row along one side of the courtyard, a wide verandah and a bathroom. It is normally the first courtyard to be entered from the main gate. The *hujra* of the Pasani Khan Khel, however, is outside the gate but connected to the main compound by an upper storey bridging the street. It is entered through a door which faces the main compound gate directly across the street. The main court is approached through a smaller covered space, to the right of which is a hall with an earth floor and *charpoy* cots for rustic guests; to the left is a bathroom and store. Across the yard are two more guest rooms



7.26 Plan and section, Rehman Gul's House, Niphalpura. Near Kund, Peshawar, North West Frontier Province.

with cemented floors and western style furniture, reserved for visiting officials and other urbanised guests. An attached small room serves as a store.

By contrast the house of a tenant farmer in the same area is a simple nuclear family affair. A typical example is Rehman Gul's house at Nihalpura in the Peshawar district.

Its plan and construction reflect a functional economy in the use of space and materials, and the house is designed to provide the basic accomodation for the peasant, his small family, and the animals on which their livelihoods depend. As usual, the house is contained within a walled compound, but has only a single courtyard and living room. Both these areas — enclosed room and open courtyard — are equally shared by man and beast. The long rectangular living room is entered from the courtyard by a single door. To the left is the animal area with two mangers, one larger than the other, on opposite walls. To the right of the entrance is the family living area, with a small earth grain store. Moulded in the clay floor and forming a barrier between the two areas is a 2-inch raised edge. This prevents foul water from the animal area flowing into the family living area.

In similar peasant houses in the region, the managers may be replaced by a storage trough for fodder, and the opposite wall in the family living area may have another large trough contain-

ing the family stock of grain. Most houses have an elaborate traditional hearth on the floor of the family area. This hearth is absent in Rehman Gul's family living room, because the indoor kitchen is located in an additional small room attached to the main room. This kitchen contains a simple functional cooking stove in addition to the traditional hearth, both moulded in clay on the floor. A third stove against the external wall of the kitchen is used in fine warm weather. Within arm's reach, is a low earth platform which serves as a general-purpose counter. In the north-east corner of the courtyard under a light thatched roof is an animal shed and a small bath space screened off by a low earth wall. Close to the outer entrance, against the east wall of the courtyard, is a *tandoor* oven for baking bread. A wall in front of the entrance screens the courtyard from view when the door is opened. The angle between the entrance door and the screen wall is covered with a light thatch which provides a rough shelter for a pair of young calves. In another corner of the courtyard is a chicken coop which also serves as a stand for four water jars. Outside the courtyard wall and leaning against it, by the entrance, is another animal shed with a rough thatched roof.

The walls in such peasant houses generally are of stone rubble masonry and mud mortar, plastered internally and in parts externally with a clay and straw mixture. The roofs are flat, covered with earth on a structure of timber joists spanning between the walls and a central beam, usually supported by two or three columns with carved capitals.

URBAN VERNACULAR

When the British took over control of Indian affairs the people of the subcontinent were necessarily excluded from participation in the major developments in their own country. Service under the British system meant total Anglicisation, while continuance within the tradition meant isolation from truly significant events. Thus traditional arts and architecture, suspended in the limbo of the provinces were reduced to the level of mere crafts, catering to the limited vision of the popular mind.[3] But the entire formal vocabulary of the Grand Tradition and much of its visual sensibility (if not always its sensitivity), was translated, suitably stylised and exaggerated for popular consumption, into the urban craft tradition. However, in its use of forms based on the peculiarities of climate and available materials, in its fondness for profuse decoration and its equal ability to express functional and structural form with a powerful clarity, this urban craft architecture is as much a product of the most enduring indigenous values as is the less corrupted tradition of rural architecture. But whereas, particularly in recent years, the urban craft tradition has drawn upon a much larger inventory of visual form for its decorative impulses, the rural scene has not yet been exposed to the 20th century popular imagery. The visual element of the Grand Tradition — carved, painted and relief design, sensuous undulation of large surfaces — can prac-

tically all be found in what is still a living craft tradition which has produced some of the finest architecture in Pakistan.

Townhouses

KARACHI APARTMENTS When the traditional Sindhi stone carver turned to European classical architecture, he fashioned forms that would have delighted even the most outlandish Italian mannerist. Here, carved in the yellow sandstone of an apartment's facade at Karachi, are Michaelangelesque giant-order columns in the central bay rising past diminutive pilasters to the height of the two lower storeys; rustic masonry and rustic columns and pilasters; renaissance balustrades; a mannerist

7.27 Apartments, Pakistan Chowk, Karachi. When the Sindhi stone carver turned to European classical architecture he could fashion forms that would have delighted even the most outlandish Italian mannerist.

7.28 and 7.29 Taj Mohammad Khan Building, Naushera. When all restraint is removed, the indigenous craftsman's imagination runs riot. Every detail is transformed into a sur-realistic fantasy of twisting foliage.

7.30 Ruby Jewellers, Elphinstone Street, Karachi. The native stone carver, unable to restrain himself, quietly slips in a thin line of delicate oriental lace under the classical mouldings of the cornices.

roof-line of broken pediments, scrolls, vases and spheres. Yet there is, inevitably, something amiss in spite of this amazing display of mannerist details. The capitals are not academically correct and belong to a different order from the columns below, and the native stone carver, has quietly slipped a line of delicate oriental lace under the mouldings of the cornices. When all restraint is removed, the indigenous craftsman's imagination runs riot. The scrolls on the roof are transformed into great swirls of leaves and flowers; the vases become lotus bulbs; the balustrade becoming a motif of inter-twined vines; the acanthus leaves of the Corinthian capital and the circular rose window find a new literal meaning, as every detail is transformed into a surrealistic fantasy of twisting foliage.

Plants and flowers have been a constant source of motifs for the decorative crafts and architecture of Pakistan, but in the traditional crafts these forms had become the stylised components of strictly disciplined compositional systems. In architecture, such forms as were borrowed from nature were severely subjected to the formal discipline of the larger architectural scheme. Thus, whether in the shape of structural elements or surface embellishments, they were used only as architectonic components; naturalism was necessarily suppressed in deference to architectonic function.

Given free licence to exploit a vocabulary with which he was relatively unfamiliar, the craftsman can hardly be blamed for failing to grasp the syntax and abstract structure of a sophisticated architectural grammar, be it Mughal, Gothic or Greek. He could take the formal details of these architectural systems only at their simplest level of comprehension, and faithful to his craftsman's training, proceed to lavish on these details a disproportionate amount of labour.

7.31 Elphinstone Street, Karachi. Given the free licence to exploit a vocabulary with which he was none too familiar, the craftsman failed to grasp the syntax and abstract structure of a sophisticated architectural grammar, be it Mughal, Gothic or Greek.

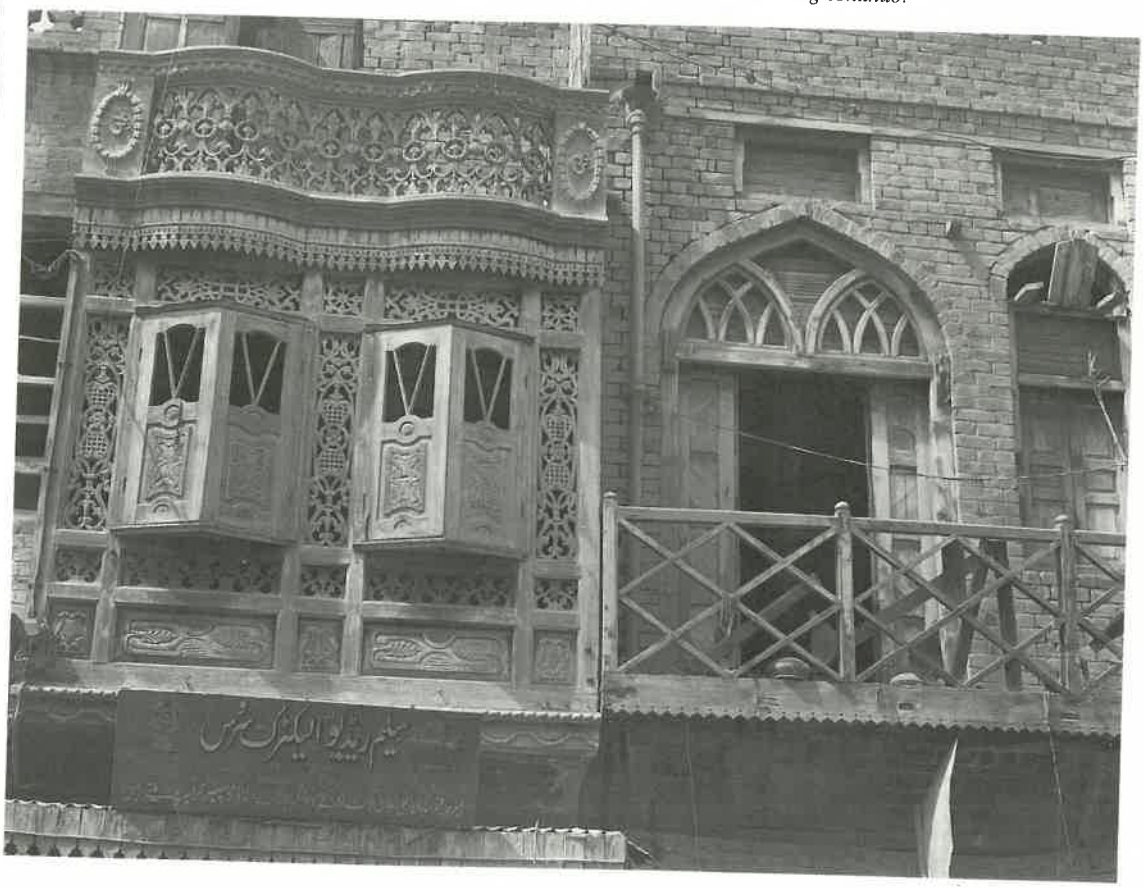
MACHI HOUSE, CHINIOT With similar fruity, flowery interpretations of every great style, the craftsman and lay client, guided only by the enthusiasm of the former to display his skill and of the latter to display his social status, produced a curious brand of urban architecture which at its most exuberant presents at once a dazzling display of the craftsman's virtuosity and the fantastic capacity of the popular mind. Of both these riches the Machi house in Chiniot is a veritable treasure house: the brick-maker's art is displayed in the multi-cusped engrailed arches, the brick mouldings, the rounded Corinthian pilasters, and the delicately carved cornices; the plasterer's skill as he moulds flowery wreaths and garlands around the arched or oval openings or fills the spandrels with dainty bouquets. Here the wood carver's mastery enriches the balcony with an intricate tracery; the fresco painter's brush paints the rigid floral designs of his traditional art. The lotus flower, that favourite of the Mughal architects, fans out in full bloom as a column capital or supports a balcony; here the wavy curves of Sikh eaves hang above one row of windows, while another is crowned by a classical pediment carried by half-round pilasters of an oriental order.

7.32 and 7.33 Machi's House, Chiniot. With fruity flowery interpretations of every great style, the craftsman and the lay client, guided by the enthusiasm of the former to display his skill and of the latter to display his riches, between them produced a curious brand of urban craft architecture.

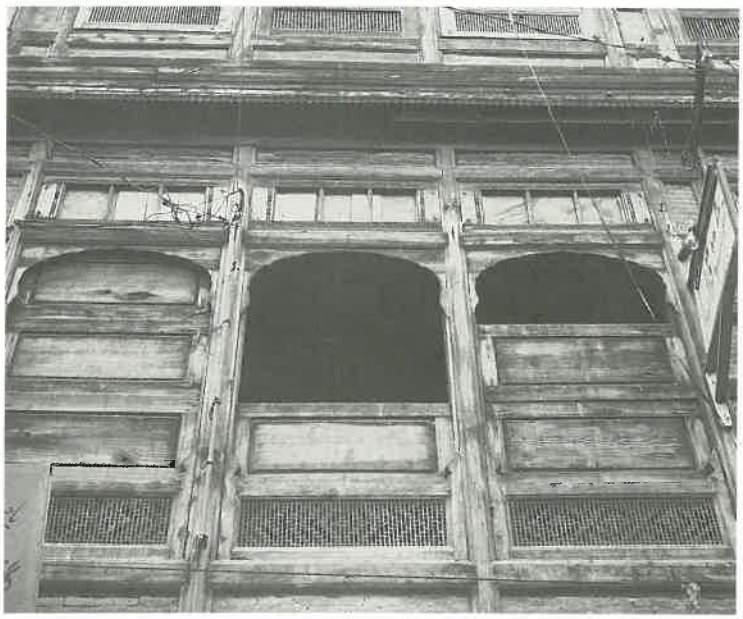
TOWNHOUSE TRADITION While similar forms, derived from the official styles in vogue, frequently intruded into the domain of humbler dwellings, the traditional design of the Pakistan townhouse remained practically unchanged over the last thousand years or more. In this traditional form of building, urban vernacular architecture and the decorative crafts find their most natural and architecturally most rewarding expression.

The basic form of the townhouse is determined by the materials of construction, essentially brick and timber, with the use of timber increasing in the more northerly latitudes. As long as he works within the limitations of these forms the craftsman's intuitive sense of coordination and integration of every detail with the architectural scheme is masterly. Not even at his most ornate does he lose his sense of balance and control. Instead, he manipulates the traditional forms into complicated Baroque orchestrations in which curvilinear melodies with contrapuntal accompaniments of angular projections weave in and out of rectangular rhythmic structures, while an intricate tracery lacework provides a fitting continuo.

It is not difficult to discern in the rectangular frame construction of these traditional townhouses with their panelled and half timbered walls with brick infills the prototype of the Mughal device of breaking up large wall surfaces into rectangular panels, although the imperial brick and plaster copies fare but poorly in comparison with the Miesian refinement and elegance of the original timber structures.



7·34 Hanu Ka Chajja, Multan. The craftsman manipulates his traditional forms into complicated Baroque orchestrations, in which the curvilinear melodies with contrapuntal accompaniment of angular projections weave in and out of rectangular rhythmic structures, while an intricate tracery lacework provides a fitting continuo.



7.35 and 7.36 Balconies, Sarafa Bazar, Peshawar. In Peshawar it is not unusual to find continuous multi-storey street facades of pure timber curtain walling with vertically sliding shutters.

Some of the best preserved of these timber-framed buildings are in Peshawar, where it is not unusual to come across continuous multi-storey street facades of pure timber-curtain walling with vertically sliding shutters. These shutters are used both externally for climate control and as partitions for flexible interior spaces.

SWAT MOSQUES

The richest tradition of building in timber is among the pine-covered slopes of the mountainous north, where, in the northermost reaches of the Indus, the pagoda-like structures of a rustic shrine or mosque are a curious reminder of the Tibetan origins of this mighty river. But if the rustic brutalism of the

7.37 Shrine, Skardu.

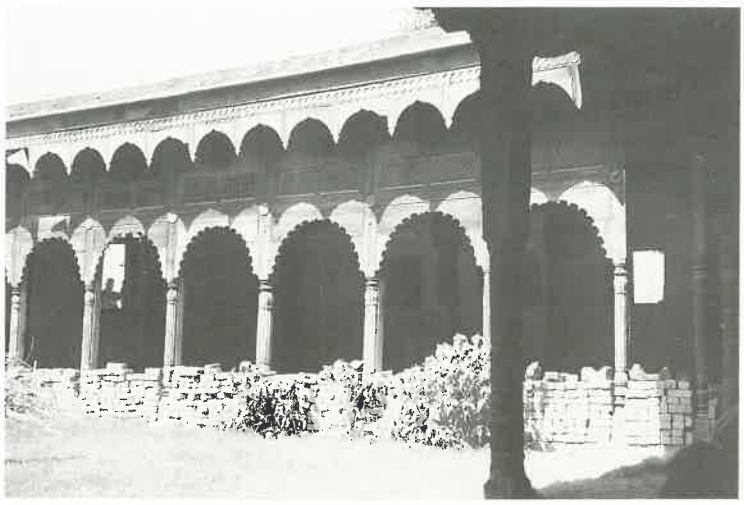
7.38 Timber Column, Skardu. If the rustic brutalism of the structure of this shrine in the remote valley of Shigar appear crude, it is due only to its impoverished state of preservation rather than to a lack of sympathy or respect for the material.

7.39 and 7.40 Mosque, Kalam and detail. Interlocking logs at the corners of a square tower are in fact an integral part of a highly developed craft tradition. Such powerful carving as gigantic scrolls of enormous capitals in the great mosque at Kalam, was probably performed as an act of worship for the glory of God.

structures in the remote valley of Shigar appear crude, it is because of their poor state of preservation rather than to any lack of sympathy or respect for the material. One needs only to look at the timber architecture of Swat to realise that such apparently unrefined details as the interlocking logs at the corners of a square tower are, in fact, an integral part of a highly-developed craft tradition based on a profound understanding of the practical mechanics of timber construction and the abstract mechanics of architectural space, sculptural form and decorative design.

The great mosque at Kalam is perhaps the most dramatically sculpturesque example of this highland architecture, while the central mosque at Madyan is a classic model of its architectural discipline and refinement. Half built into the side of a mountain and with the fast flowing waters of the river at its feet, the west — and only — elevation of the Kalam Mosque can be seen in its

entirety only from the opposite side of the valley. From this distance the bold drama of its forms and the brutalist expressionism of its detailing are appropriately suited to its location. However, such powerful carving as the gigantic scrolls of enormous capitals must have been motivated by reasons other than siting alone. Such a monumental undertaking was probably performed as an act of worship for the glory of God. It would be difficult to explain otherwise the use of the same massively carved-capitals even in the inner, eastern chamber, where the carved woodwork, made shiny black by the smoke of many winters is barely visible in the darkness. While the irregular projecting rafters and beams up to three feet square and more than 40 feet long are in keeping with the scale of the columns and capitals, the charming little *mehrab* with its five fragile posts and the delicately carved design on the columns demonstrate that the structure is not boldly expressed for any lack of technical ability or aesthetic sophistication. It is from precisely these last-mentioned qualities that the Madyan Mosque derives its excellence. The carved scroll capitals whose proportions



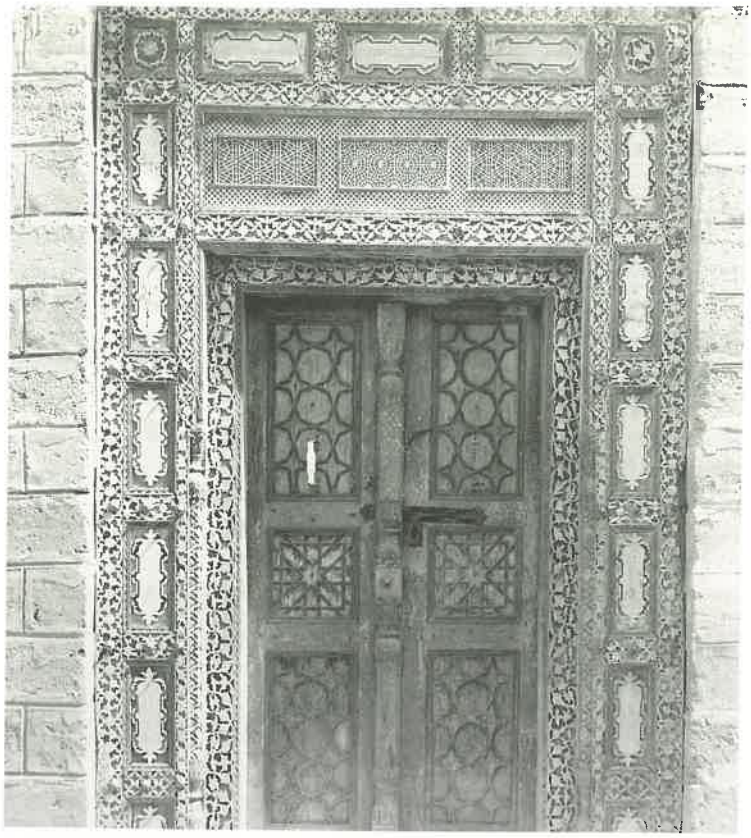
7.41 and 7.42 Mosque, Madyan. The central mosque at Madyan is a classic model of architectural discipline and refinement. Its carved scroll capitals emphasise elegance. Designs in relief on the mud-plastered west wall strikes a curious note of gaiety. The serenity of the courtyard enclosed by gracious loggias, testifies to the keen architectural sensibilities of its builders.

emphasize elegance rather than monumentality, the carving which is no longer energetically dominating but subtle and submissive to the architectural discipline, the serenity of the courtyard enclosed by gracious loggias, all testify to the keen architectural sensibilities of its builders. In the midst of this carefully-regulated architectural discipline the appearance of the surprisingly playful designs in relief on the mud-plastered west wall strikes a curious note of gaiety. Not restricted by the formal limitations of structural members, the expansive surface of a screen wall and the plasticity of the medium provide a rare glimpse into the private world of the decorator's mind. We need only observe the simplest objects of daily use to find the same fondness for designs filling the entire working surface with a uniform visual texture and the preoccupation with floral motifs characterisitic of the Pakistani craftsman's system of design. It is these essential elements which unify the otherwise ample rangle of variations widely separated in time and space, along the north-south axis of Pakistan.

TRADITIONAL DOORS

A comparative survey of a single element — the entrance door — might serve to illustrate both the rich variety and unmistakable consistency in the decorative possibilities of the traditional craft of wood-carving. From the precise symmetry of the 17th century mosque in remote Bajaur to the flamboyance of the Subedar House in neighbouring Swat, and from the ornateness

7·43 Door, Machi's House, Chiniot. A comparative survey of a single element, the entrance door, illustrates both the rich variety and unmistakable consistency in the decorative possibilities of the traditional craft of wood-carving.



7·44 *Door, Aurangzeb Mosque.*

7·45 *Door, Subedar's House, Madyan.*

7·46 *Door, Mirs of Talpur, Hyderabad.*

7·45

of the Machi House, to the delicacy of the Mir's tomb in Sind, these doors typify the diversity of the many cultures of Pakistan. Yet the design in each decorated area fills its allotted space with a visually uniform consistency, and flowers, leaves and tendrils can be identified as the inspiration of almost every motif.

NOTES

[1] See Mumtaz, Kamil Khan, *Traditional Forms of Rural Habitat in Pakistan*, UNESCO, Paris, 1981.

[2] See Mumtaz, Kamil Khan, "Cholistan", in *The Changing Rural Habitat*, Aga Khan Award for Architecture, 1982.

[3] See Brown, Percy, *Indian Architecture (The Islamic Period)* Bombay, third Edition, p.33.

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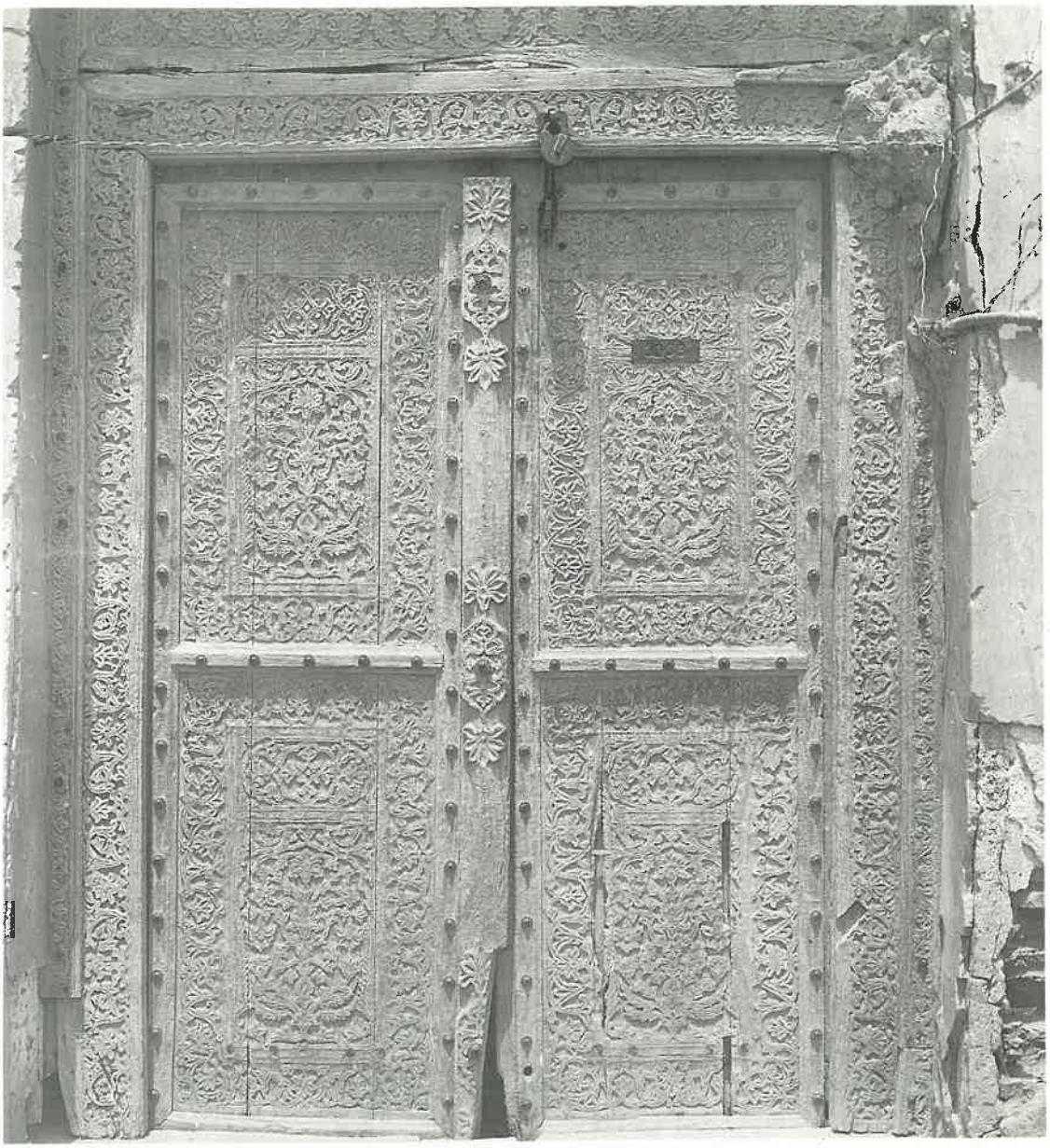


ARCHITECTURE AFTER INDEPENDENCE

THE MODERN MOVEMENT

THE ARCHITECTS

1900s — 1960 The First Generation

1960 — 1980s The Younger Generation

1950 Foreign Architects

1960 ISLAMABAD, THE NEW CAPITAL

The Master Plan

Secretariat Complex

Government Officers' Hostel

The Presidency Complex

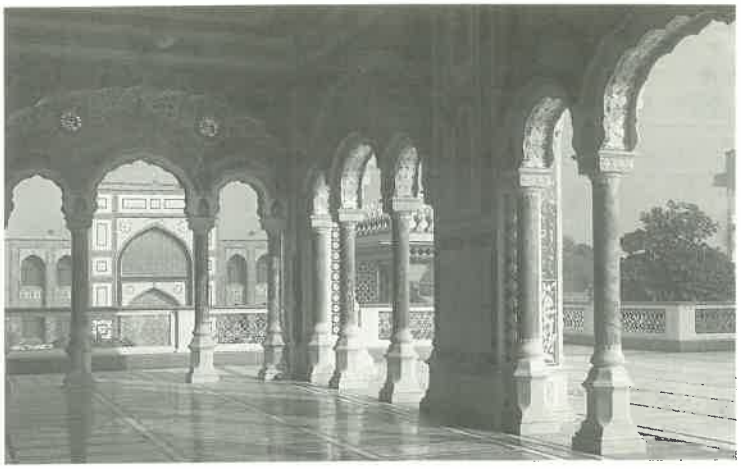
Shah Faisal Masjid

A hundred years of British rule produced a cultural dualism in which traditional values held sway over the private lives of most people, but most thoroughly over the poorer sections of the population, especially the rural masses. Western values, on the other hand, prevailed over the conduct of public affairs of the state, the government and the elite in general, particularly the urban elite.

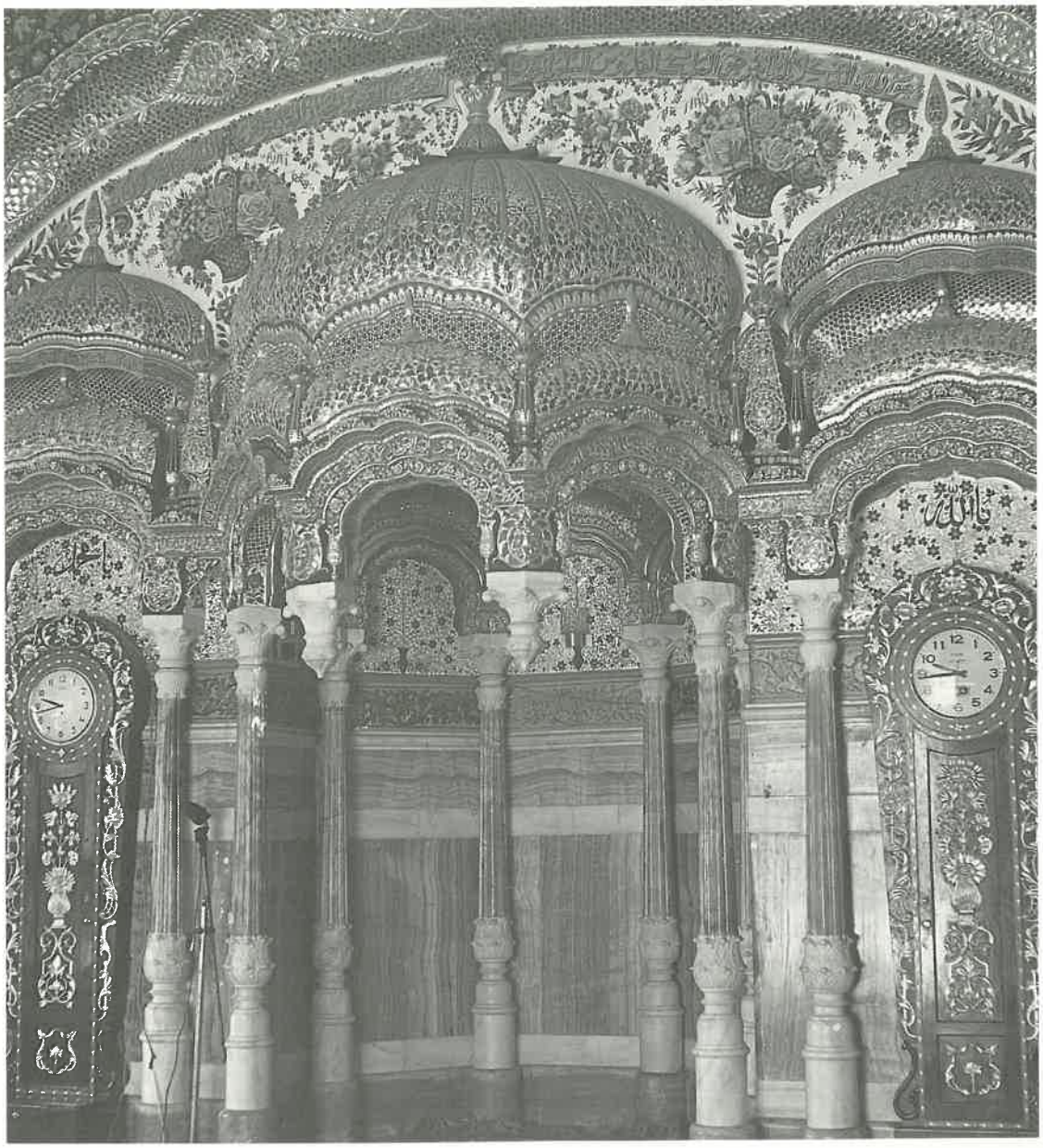
With the partition of India and independence in 1947, Pakistan inherited a state structure set up by the British, and along with it the Western concept of architecture which acknowledges only those professionals who had been trained in the European tradition. Thus, denied official recognition and patronage, the traditional architect was relegated to the service of country squires, religious institutions and unauthorised developments on the urban fringe. The educated elite amongst the ranks of the native professionals were replaced by the hereditary building craftsmen, who thus became the last repositories of the tradition of indigenous architecture, to the vocabulary of which they now added many of the catch-phrases and trappings of the contemporary idiom.

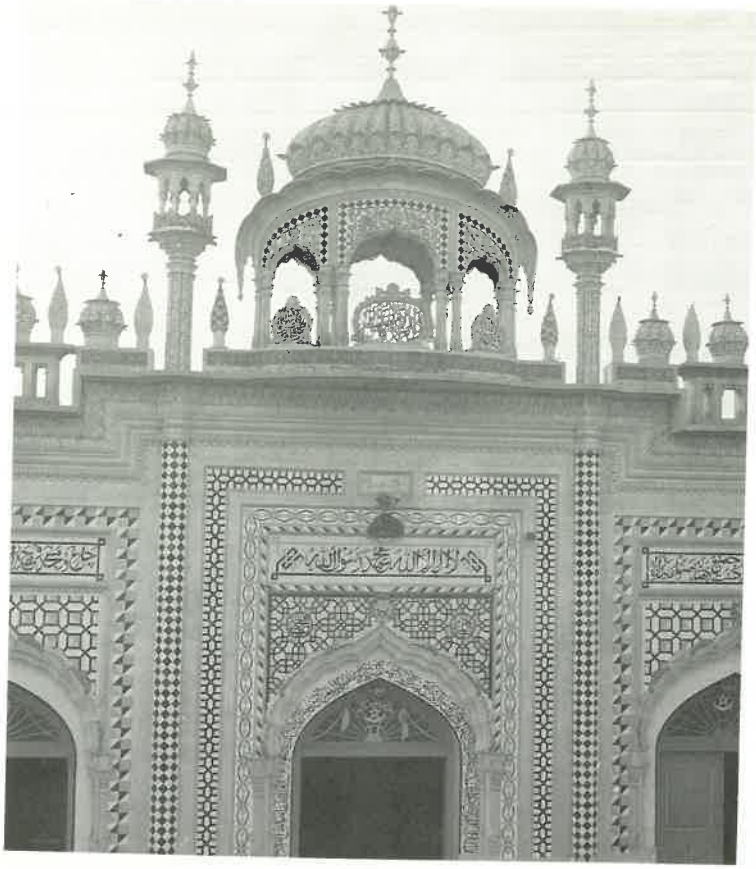
THE MODERN MOVEMENT

The architects trained in the Western tradition naturally derived their inspiration from the Modern Movement, the Bauhaus school, Le Corbusier and Frank Lloyd Wright. Rooted in the humanism and rationalism of the Renaissance, which placed man, not God, in the centre of the universe and made him the measure of all things, the credo of the Modern Movement might be summarised as follows: the universe is knowable; knowing it, man with his intellect and capacity for rational thought can manipulate it and change it; man can thus redesign the world; but to create anew he must start, god-like, from zero. That is to say, he must reject all preconceived forms, precedents and traditions. Being purely based on logic and rationality, the new world will be composed of 'pure' forms. That is, undiluted, pure, elementary geometric forms, abstract forms, forms that exist in themselves, not dependant on external objects. The new forms thus created will be determined by the logic of 'function'; they will be designed like machines for efficiency. Better still, they will be produced by machines. They



8.1 and 8.2 Mosque, Village Bhong, Rahim Yar Khan. Denied official recognition and patronage, the traditional architect was relegated to the service of country squires, religious institutions and unauthorised developments on the urban fringe.





8.3 Mosque, Gujjar Khan. The native professionals were replaced by hereditary building craftsmen, who thus became the last repositories of the grand tradition.

8.4 Houses, Riwaz Garden, Lahore. To the vocabulary of the grand tradition of indigenous architecture they now added many of the catch-phrases and trappings of the contemporary idiom.

will thus be perfect in their precision, cheap and abundant. Decoration is redundant and must therefore be rejected. Materials should be left pure, with no applied decoration. The finished colours and textures of the buildings must be the natural textures and colours of the materials themselves. The structural system must be expressed externally as well as internally.

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8.5 Exhibition Structures, Lahore.

8.6 Workers Housing, Kot Karamat

8.7 Kot Karamat, Farm House, K.K. Mumtaz's early work was faithful to the credo of the modern movement: form must be determined by function; decoration is redundant; colours and textures must be of the 'pure' material itself, structure must be expressed externally and internally.

8.7

The buildings that resulted from this new philosophy quickly established an aesthetic of bare, unadorned surfaces of glass, concrete and steel, crisp rectangular planes and grids, or deliberate asymetry and highly sculpturesque forms which defied all established conventions and did not relate to any historical style. Indeed the new aesthetic of the Modern Movement soon became one of the most recognisable symbols of modernity.

Inevitably, however, the movement which at the outset rejected all styles become itself an identifiable style, the movement which had denied all symbolism in architecture became one of the best known symbols of the culture and philosophy which had inspired it — the culture of the industrially developed West. The movement which had rejected all forms of historicism, historical references or allusions became the most frequently alluded to point of historical reference. The movement which had recognised no distinctions between men and nations became a visible manifestation of the best known cultural domination of the countries of western Europe and North America over the less developed countries of Africa, Asia and Latin America.

THE ARCHITECTS

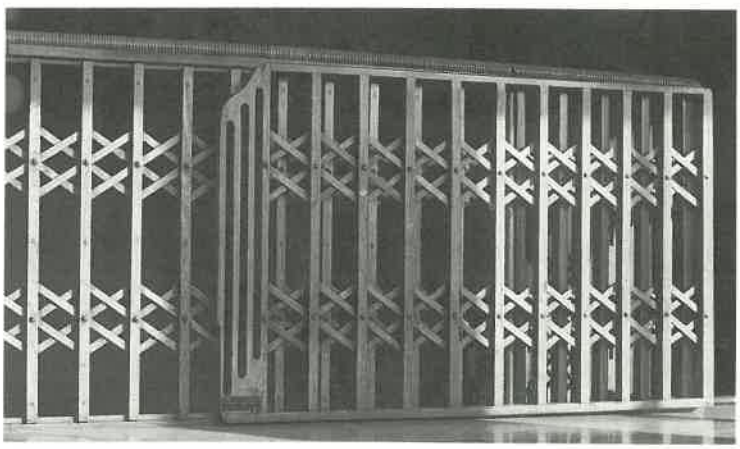
The First Generation

Most of the architects trained before 1947 had been to the J.J. School of Art in Bombay; several had received further education abroad, usually in England. In the early 1950's this small band of "legitimate" or officially recognised architects came together to form the Institute of Architects Pakistan. It had eleven members, including two foreigners working in Pakistan: M.A. Ahed, Tajuddin Bhamani, Minoo Mistry, Pir Mohammed, R.S. Rustumjee, H.H. Khan, M.A. Mirza, Bloomfield, Peter Powell, Abdul Hussain Thariani, and Zahiruddin Khawaja.

The prime mover in the formation of the Institute was Mehdi Ali Mirza, who stands out among his generation as an architect of exceptional talent. The son of a forest officer, Mirza was born at Hyderabad Deccan in 1910. At the age of twenty-two he joined the J.J. School in Bombay where Yahya Merchant was teaching architecture, but left without completing his studies in 1935. He worked for a while in Ganga Bartabi Mahtrey's Architectural Studio in Bombay, and left for England in 1937. In London he was admitted to the third year at the Bartlet School of Architecture of London University, but unable to pay the fees, left three months later to join the Regent Street Polytechnic. After completing his diploma in 1942, he worked with an engineering office in London before returning to India. A year later he went to Delhi to take charge of the architecture department at the Delhi Polytechnic, where he appears to have been greatly admired as a teacher. Here his students included both Naqvi and Siddiqi, who were to team up later to form a successful partnership in Karachi. In 1947 he left the Polytechnic, migrated to Karachi, and joined the Public Works Department (PWD). In his official capacity he designed a number of indistinguished buildings in different parts of the country. Mirza himself must have been acutely aware of the limitations of the PWD.

He fought hard to gain recognition for architecture as a profession distinct from engineering, insisting that he needed trained

architects, not engineers. In 1954 he succeeded in gaining permission to start the department's own school of architecture at Karachi, with himself as principal. Still, the profession was weak and inadequate. It needed an effective voice, and Mirza campaigned for an organisation of professional architects. Thus it was natural that when the Institute of Architects Pakistan was formed, he was elected its first president. He was conscious of the need to raise public awareness of architecture, giving lectures and writing frequently for the monthly *Engineering Forum*, which appeared in 1959, and for which he was the chief advisor on architecture. But private commissions, particularly several residences, became the most effective vehicles for his ideas. Mirza had been accepting private commissions while officially employed in the PWD since about 1951. But in 1959 he finally resigned his official post to devote himself to his private practice. What should have been his most fruitful period was shortlived. Although he was commissioned to design the first government building in Islamabad, the new capital of Pakistan, official recognition came too late. He developed cancer and went to England for treatment in January 1961. He died on the 27th October 1961. Mirza was awarded the "Pride of Performance" posthumously in recognition of his work and contribution to architecture.[1] Of some thirty projects completed in the decade or so before his death, more than half were private residences, most of them in Karachi.



8.8 and 8.9 Babar Ali's House, Karachi. Mirza understood the philosophy of the modern movement, and combined with it meticulous detailing and sound building principles.

More than any other Pakistani architect of his generation, Mirza absorbed and understood the philosophy of the Modern Movement. With it he was able to combine a meticulous attention to detail with the sound principles of building which he had acquired from his British training.

The strongest influence in Mirza's work was that of Frank Lloyd Wright. In Abid Ali's and Qizilbash's residences at Lahore, Babar Ali residences at Lahore and Karachi, and in his own house in Karachi, this influence is easily recognised. Floating horizontal planes, boldly cantilevered concrete slabs, the integration of the building with the site with the aid of careful landscaping and frequent use of stone, the exploitation of the expressive potentiality of structural form, and the thoughtful

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8.10, 8.11 and 8.12 Col. Abid's House, Lahore, Mirza's vision of architecture was the complete integration of structure and material, space and light, masses and voids, interior and exterior, building and landscape, into a single design concept which extended from the interior furnishings to the contours and vegetation of the site.

8.13 Qizilbash House, Lahore. The strongest influence in Mirza's work is that of Frank Lloyd Wright.

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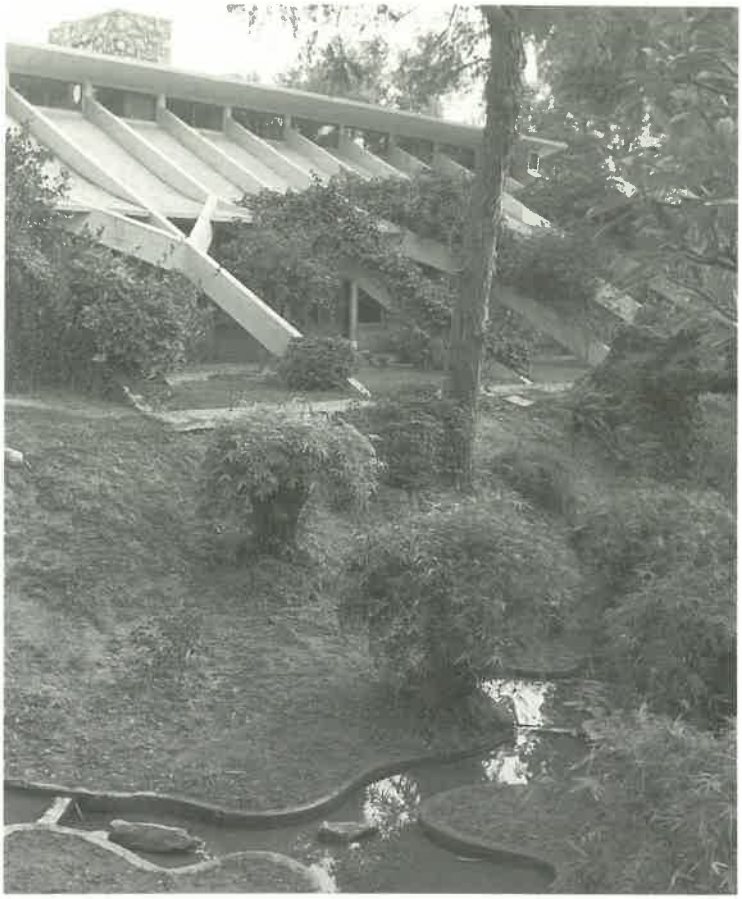

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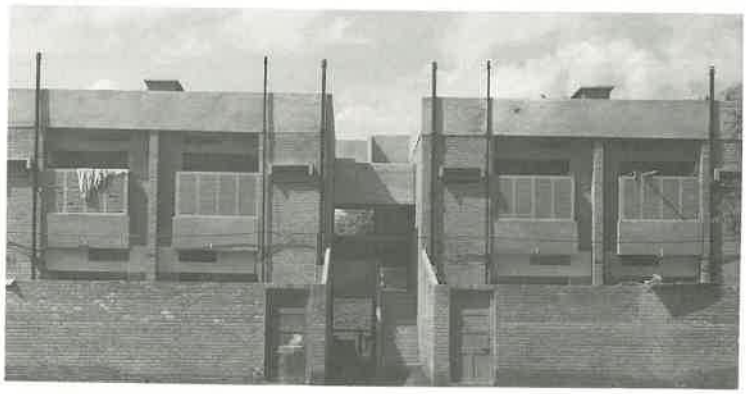
8.14 and 8.15 Babar Ali's House, Lahore by Mirza.

detailing, particularly of the woodwork and joinery. But more than these obvious borrowings, the buildings testify to the genius of a thorough professional and dedicated artist, for we can see Mirza's vision of architecture as the complete integration of structure and material, space and light, masses and voids, interior and exterior, building and landscape, into a single design concept which extended from the interior furnishings to the contours and vegetation of the site.

The Younger Generation

Until the establishment of the PWD School of Architecture in Karachi, the only available training in architecture within Pakistan had been at the Mayo School of Art in Lahore. Neither of these two institutions, however, offered anything beyond courses for draughtsmen and architectural assistants. It was not until 1958, when the Mayo School of Art was upgraded to the National College of Art (NCA), that the first regular courses in architecture became available within the country. Although the NCA department of architecture had only meagre resources in terms of architect-teachers, it appears to have more than adequately compensated for this lack by making full use of the facilities of the other departments in the college. This pioneering course had barely run its first cycle, however, when in 1962 it was closed down, and the Moghulpura Engineering College



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8.16 Zoo Employees' Housing, Lahore by Athar. The first architecture graduates from the National College of Arts (NCA) displayed a definite felicity in the manipulation of 'pure form'.

8.17 and 8.18 Rivaz Garden, Flats, Lahore. Nayyar Ali Dada exploits the dramatic rhythms of vertical brick planes with a great economy of means in these four-storeyed blocks of low-cost flats.

8.18

was upgraded to the West Pakistan University of Engineering and Technology, with the creation of a department of architecture. Thus it was only in the mid-1960's that the first batch of locally educated architects began to practice.

Among the early graduates was Nayyar Ali Dada, who capitalised on a remarkably sensitive design sense and gained widespread recognition. Whereas his initial success was based on a series of elegant residences, he has since demonstrated equal

8.19 and 8.20 Shakir Ali Auditorium, NCA, Lahore by N.A. Dada.

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8.21 New Studio Block, NCA, Lahore, The plastic quality of poured concrete and the shapes of the raked seating and staircase provide the elements of the composition on a very restricted site.

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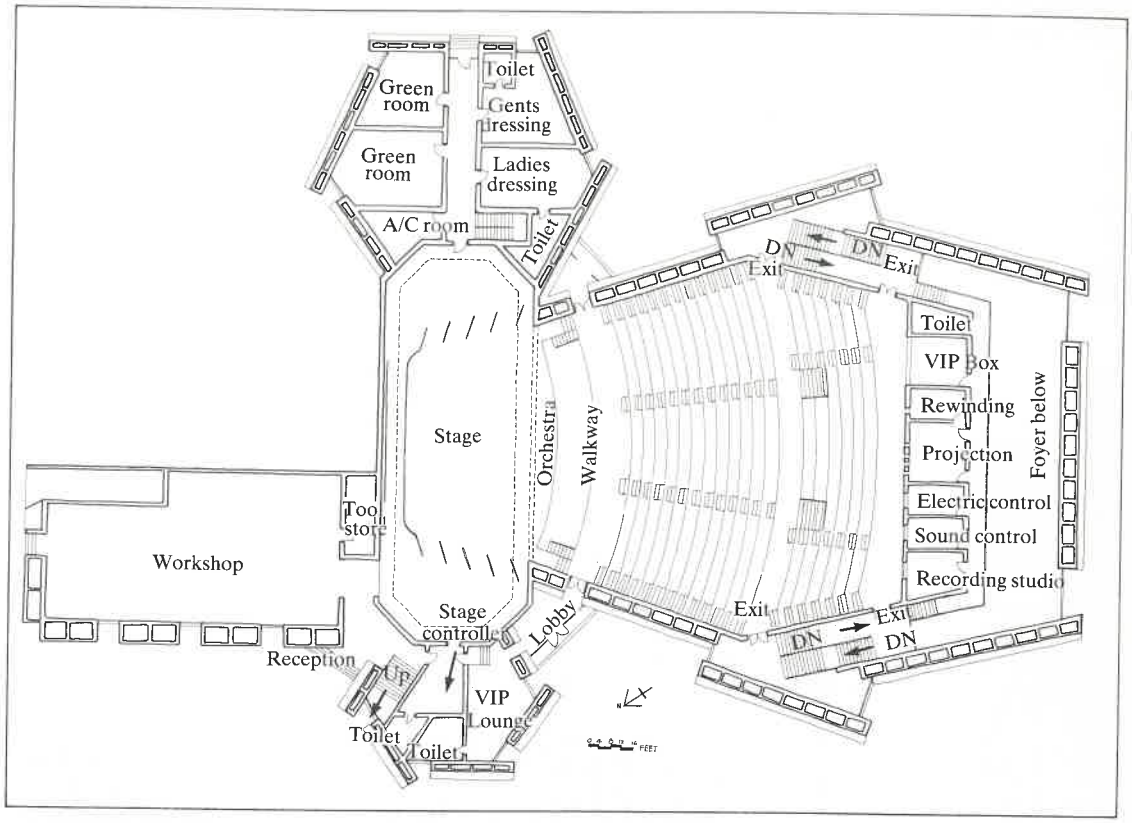

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8.22 Floor plan, Alhamra Arts Council, Lahore by N.A. Dada.

8.23 and 8.24 Alhamra Arts Council, Lahore. The imposing external form relies on a simple dominant element — the inclined brick plane. Indented horizontal bands help soften the monumental scale.

8.27

competence in the handling of larger projects. In the Rivaz Garden flats he exploits the dramatic rhythms of vertical brick planes with a great economy of means, to produce four-storeyed blocks of low cost flats. In the Shakir Ali Auditorium it is the plastic quality of poured concrete and the shapes of the raked seating and staircases which provide the elements of his composition on a very restricted site. The imposing external form of the Alhamra Art Council building on the Mall relies on a simple, single, dominant element. Here again it is the vertical brick plane, but more squat and massive than in the Rivaz Garden apartments. Whether or not the battered section and the subtly indented horizontal bands are inspired by the monuments at Multan, they help to soften the otherwise monumental scale. Internally, the foyer and lobby spaces are defined by their structural elements — tall slender reinforced concrete columns and a triangular grid of coffered slabs.

A number of the most talented students of the National College of Arts have been employed by the government-owned firm PEPAC (Pakistan Environmental Planning and Architectural Consultants) since its establishment in the late 1960's. As a result, this office has managed to sustain a relatively high standard of design and has been responsible for some of the largest commissions undertaken by Pakistani architects. Among these have been the Frontier House, NAFDEC (National Film Development Corporation) Cinemas and the HHBFC (Housing and House Building Finance Corporation) buildings in Islamabad.

8.25 Frontier House, Islamabad by PEPAC.

8.26 NAFDEC Cinemas, Islamabad. PEPAC (Pakistan Environmental Planning and Architectural Consultants) has managed to sustain a high standard of design in some of the largest commissions undertaken by Pakistani architects.

8.27 HHBFC House, Islamabad.

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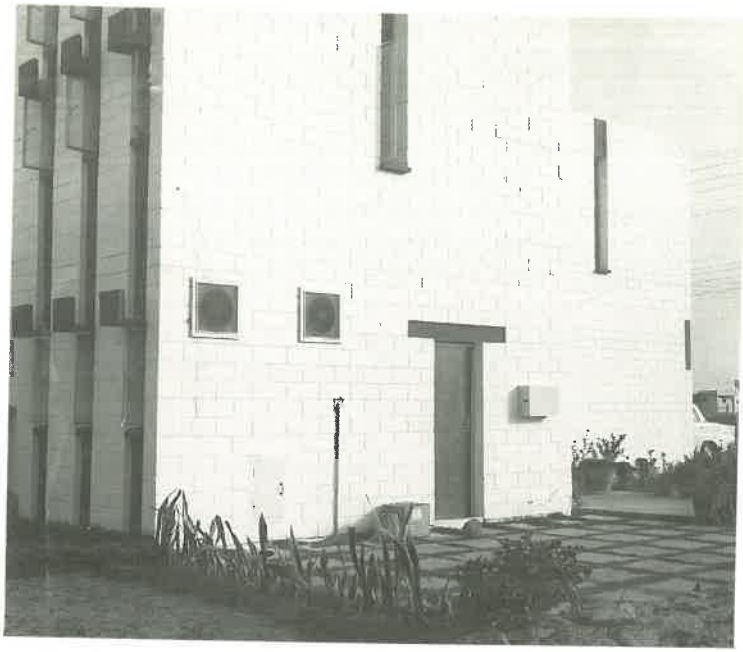

8.28 Commodore Haq's House, Karachi by Yasmeen Lari. The stark simplicity is the result of a painstaking refinement of plan and structure, clearly expressing the discipline of load bearing block work and spanning concrete.

Before the establishment of the indigenous schools students seeking a modern education in architecture were compelled to go abroad for their education. Today, with four schools of architecture in the country, the limited capacity and quality of the native institutions makes a foreign education attractive to students as an alternative or additional qualification.

Where the criterion of excellence is the degree of assimilation of current 'western' values, the foreign educated architect has a certain edge over his purely home-grown colleague.

Indeed, the faithfullness with which the catechism of the Modern Movement has been learnt is what distinguishes the best work of such foreign trained architects as Yasmeen Lari, Habib Fida Ali and Unit Four in Karachi, Javed Najam in Lahore and Anwar Saeed in Islamabad.

Among the early works of Yasmeen Lari is Commodore Haq's House in Karachi. The stark simplicity of this building is the result of a painstaking refinement of plan and structure in which the discipline of load-bearing block work and spanning concrete is rigorously adhered to and clearly expressed. Her own house and studio is a double-storeyed concrete-framed structure with burnt brick infill walls and storey-height timber-framed glazed panels. Internally, the central living areas are formed by volumes of varying heights and mezzanine floors, which allow the spaces to flow into one another uninterrupted by internal partitions. The open plan, chunky concrete and storey-height glazed panels are all in the best traditions of Corbusian and post-war British modern architecture. Similarly inspired by le Corbusier's functional mannerism are Habib Fida Ali's offices for Pakistan Burmah Shell and Unit 4's (Hasan-Uddin Khan and Navaid Hussain) PIA Squash Complex in Karachi.

As chief architect in the Capital Development Authority in Islamabad, Anwar Saeed has been one of the most prolific

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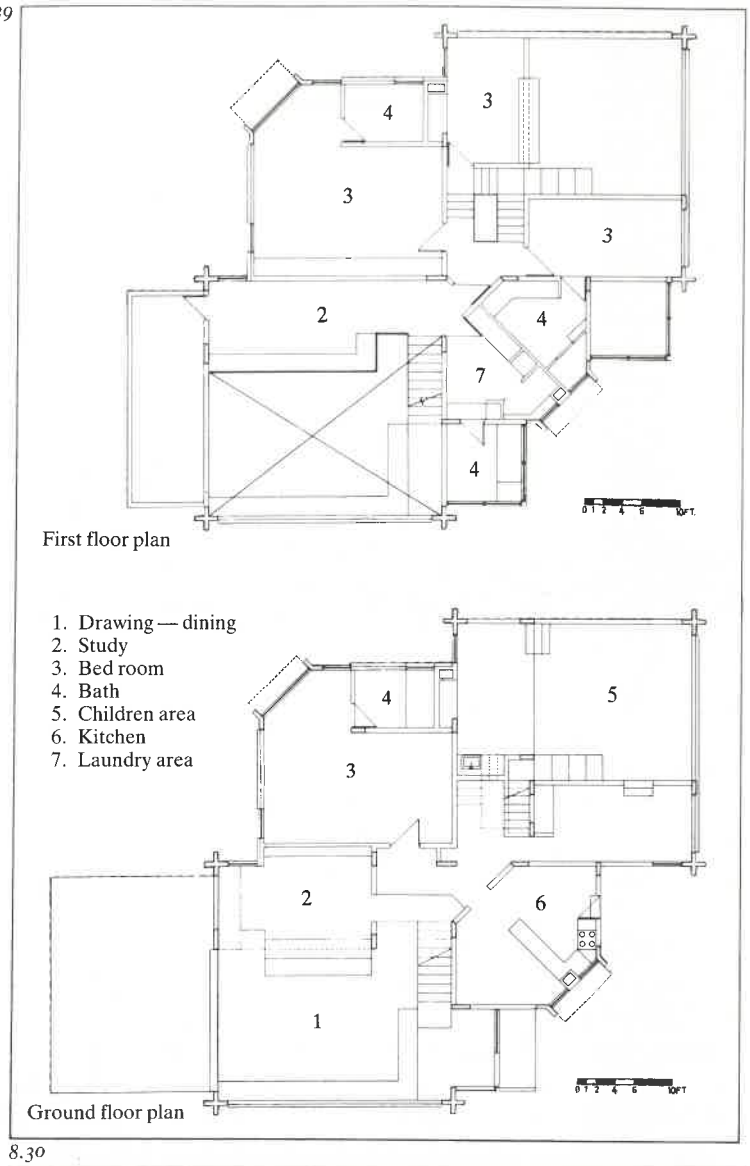

8.29 First floor plan and Ground floor plan, architect Yasmeen Lari's house.
8.30 and 8.31 Lari House, Karachi. The open plan, chunky concrete and storey-height glazing panels are all in the Corbusian and post-war British traditions.

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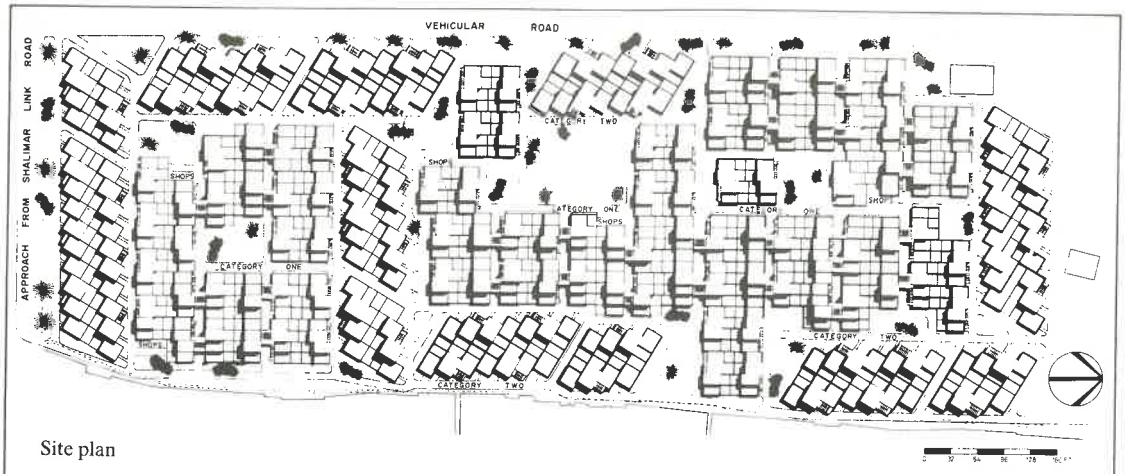
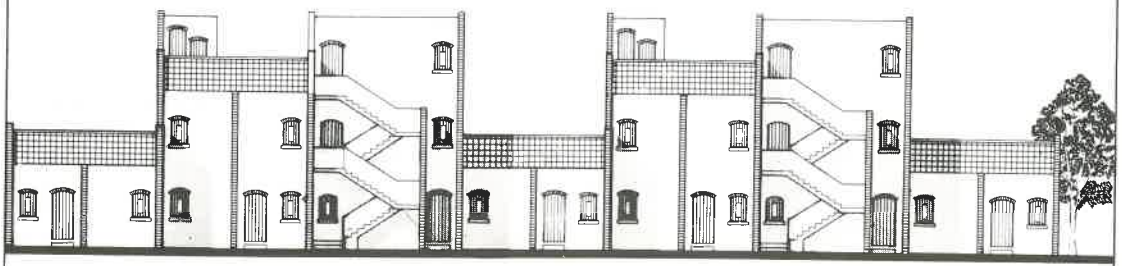
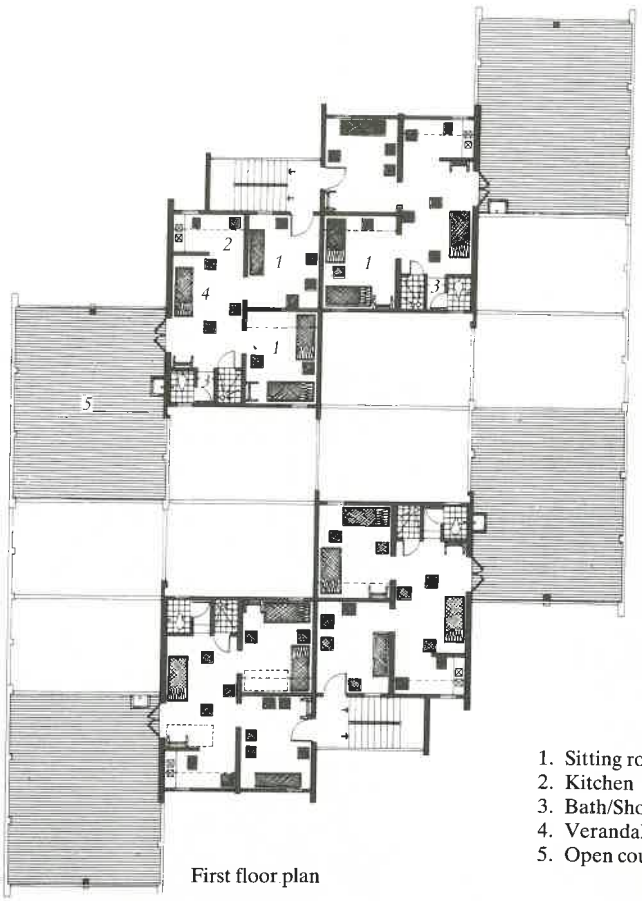


Site plan

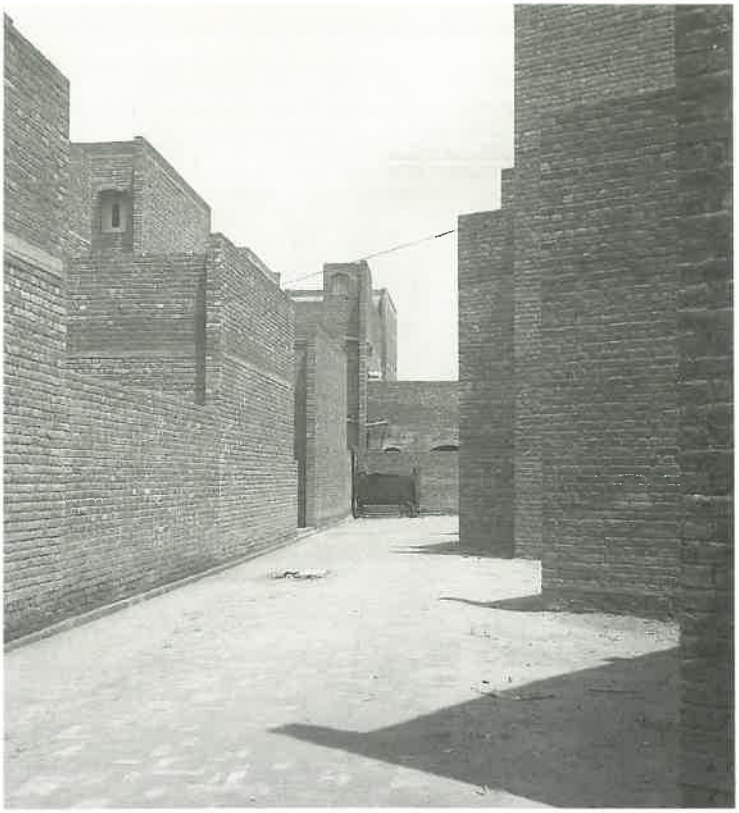


Extended elevation



First floor plan

1. Sitting room/Bedroom
2. Kitchen
3. Bath/Shower areas
4. Verandahs
5. Open courtyard



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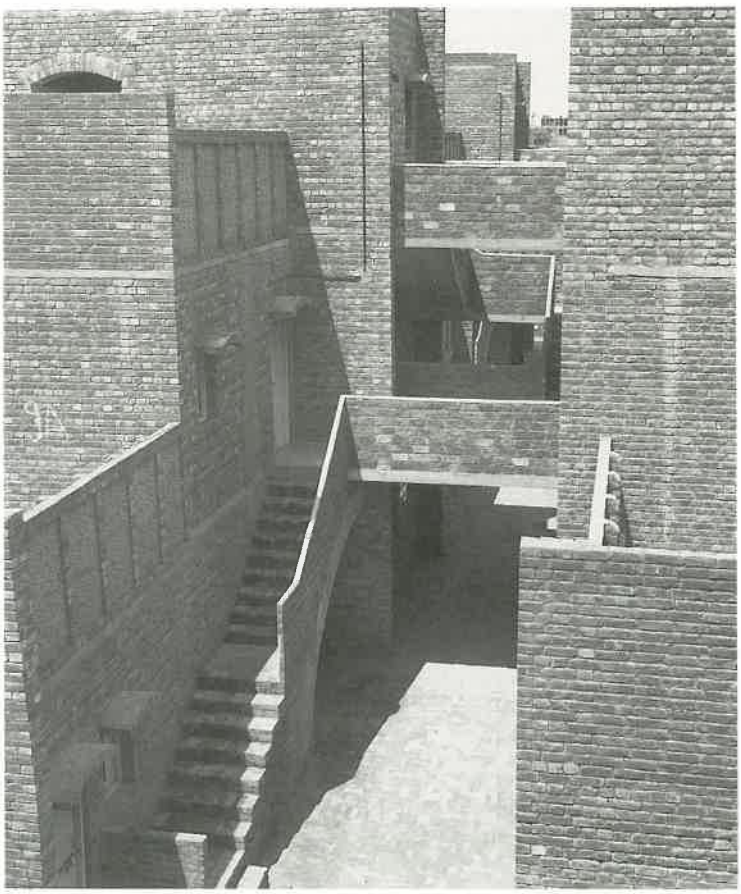
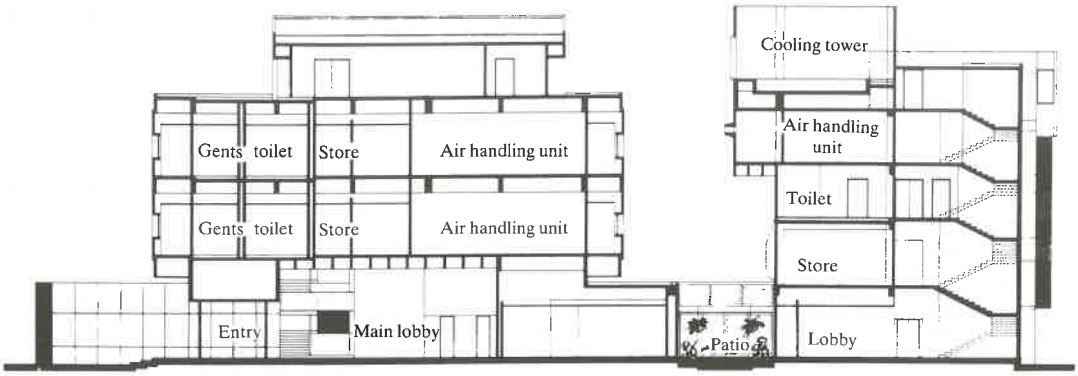


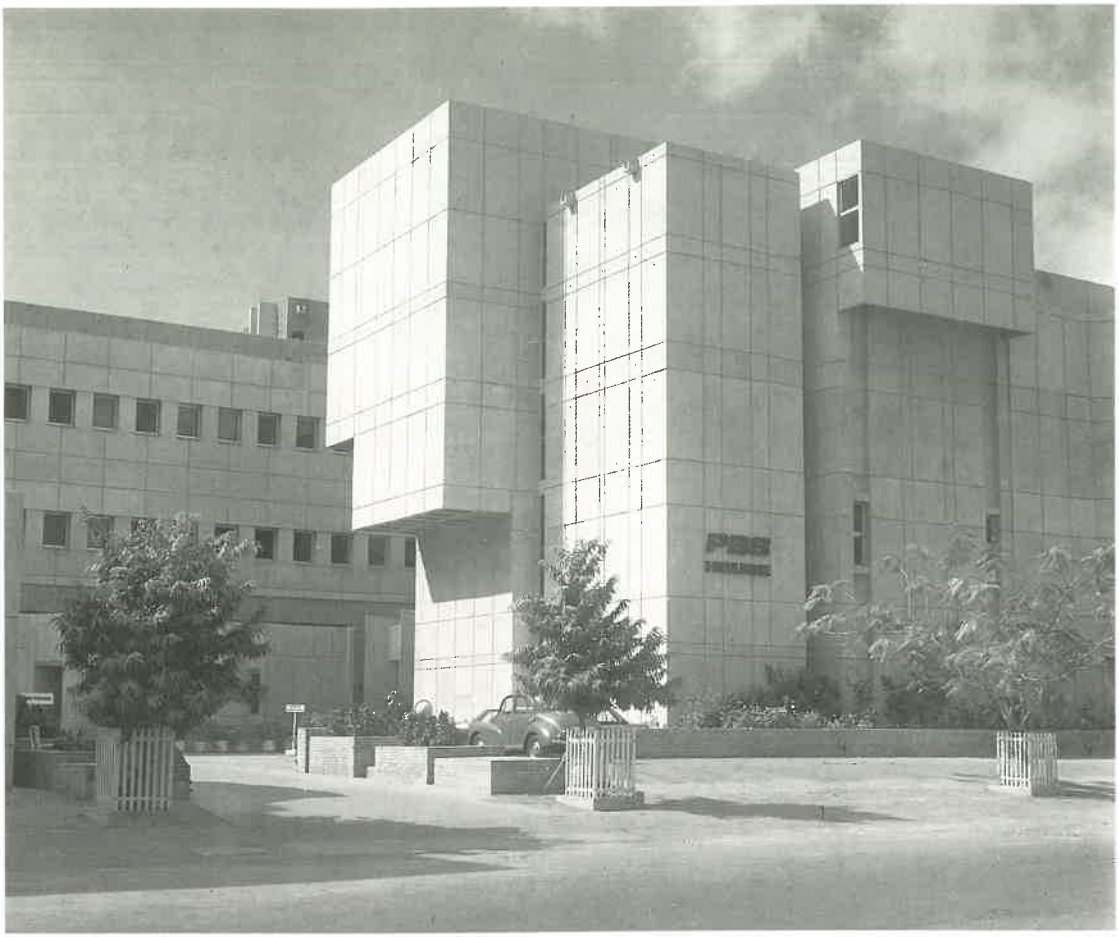
8.32 Site plan, Extended elevation and First floor plan, Angoori Bagh Housing.

8.33 and 8.34 Angoori Bagh Housing, Lahore by Yasmeen Lari.



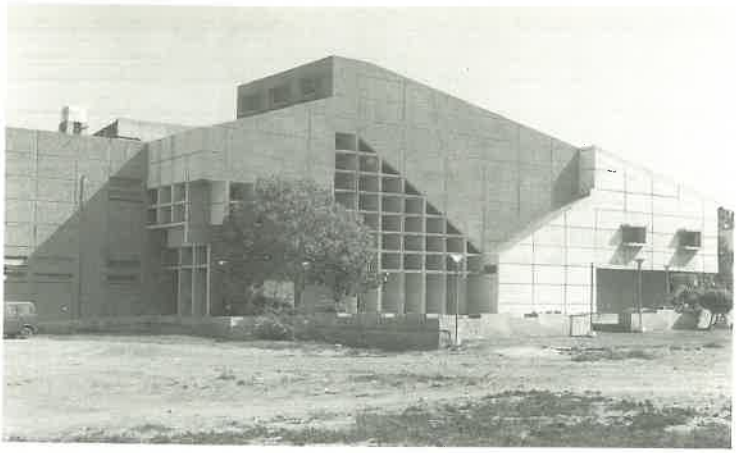
Section

Plan

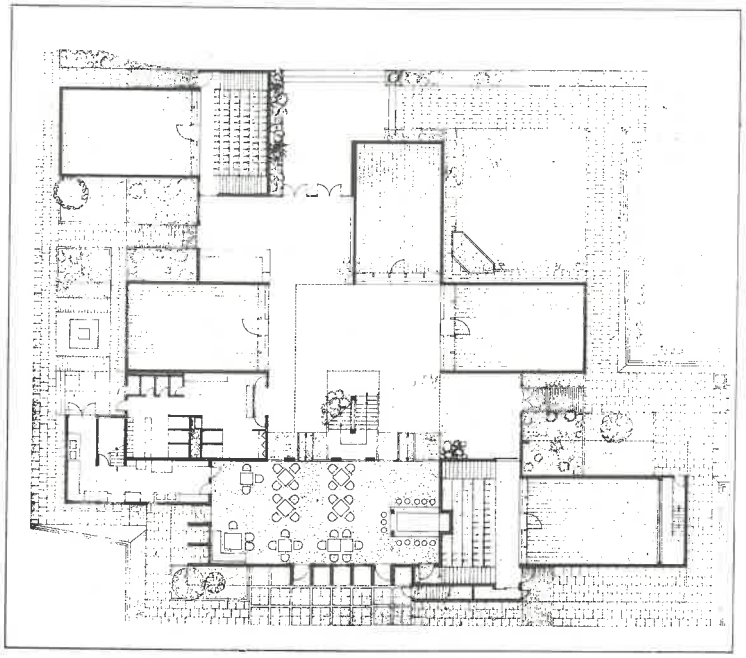


8.35 Plan and section

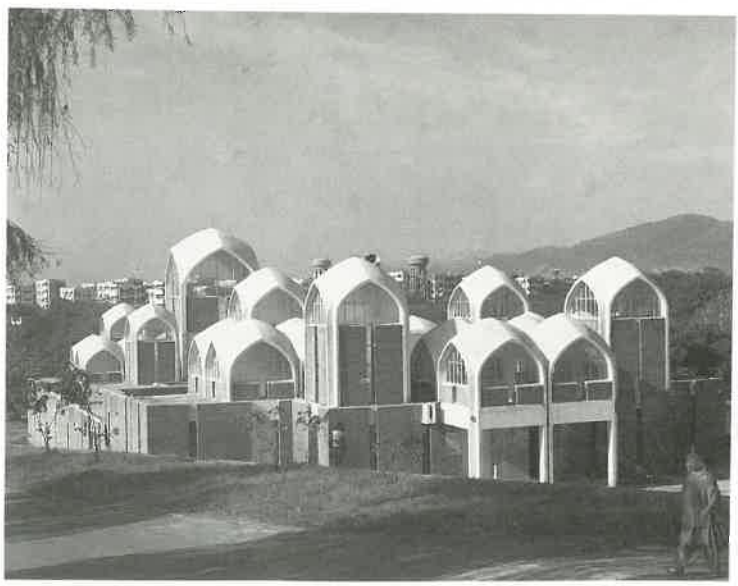
8.36 and 8.37 Burmah Shell Pakistan Headquarters, Karachi by Habib Fida Ali is inspired by a Corbusian functional mannerism.



8.38 PIA Squash Complex, Karachi by Unit 4. International style modified. "Brutalism" adapted to local conditions.



8.39 Plan, PIA Squash Complex.



8.40 Neighbourhood Mosque, Islamabad. Anwar Saeed, a prolific designer of community and public authority buildings, is a disciple of the constructivist, purist or elementarist school withhin the Modern Movement.

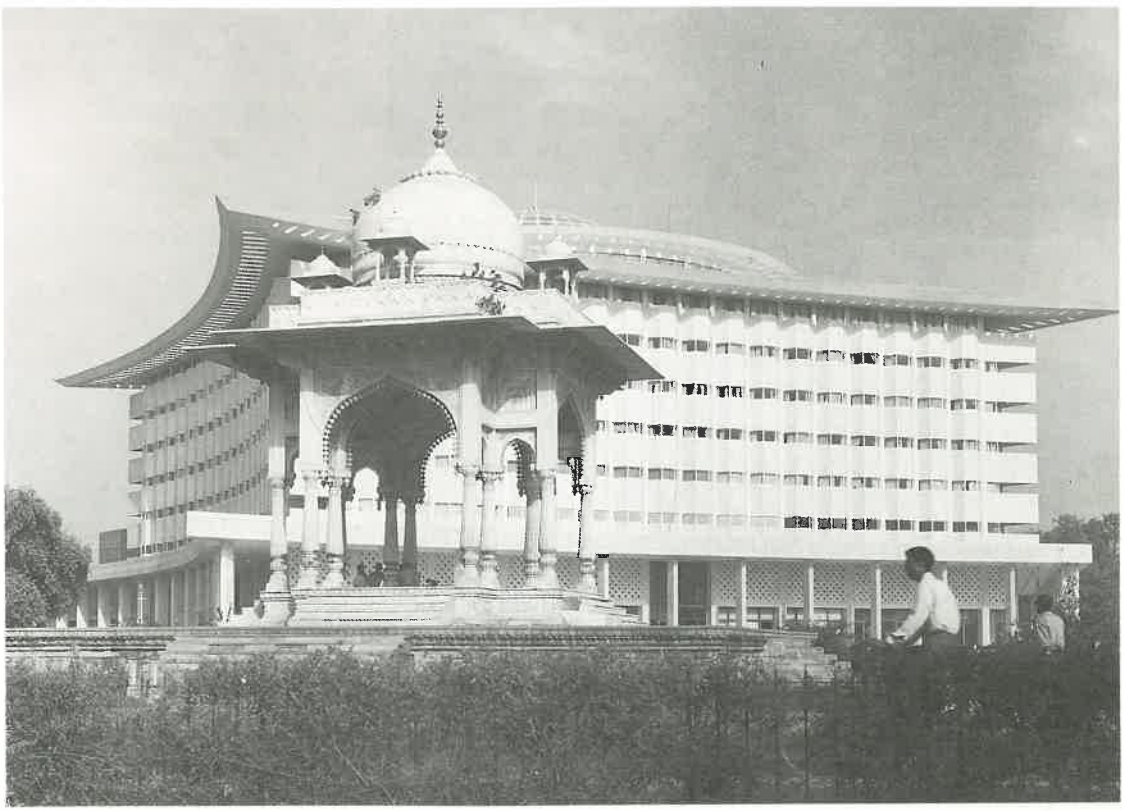
designers of community and public authority buildings in recent years. He is also one of the most consistent disciples of the constructivist, purist or elementarist school within the Modern Movement. The bases of his compositions are simple elementary geometric forms, with buildings being either composed 'into' or 'out of' a single such element.

8.41 and 8.42 WAPDA House, Lahore by Edward Durrell Stone. A parady on a Victorian imitation of a Mughal imitation of a Gujrati pavilion. Buildings like the WAPDA House in Lahore are responsible for the notion that architecture is a luxury we can best do without..

Foreign Architects

With less than one architect for every million people, Pakistan had amongst the poorest supply of architectural skills in the world. To meet its immense requirements it had no option but to rely heavily on the services of foreign architects, to whom have been entrusted some of the largest and most prestigious projects having considerable influence on contemporary architecture in Pakistan.

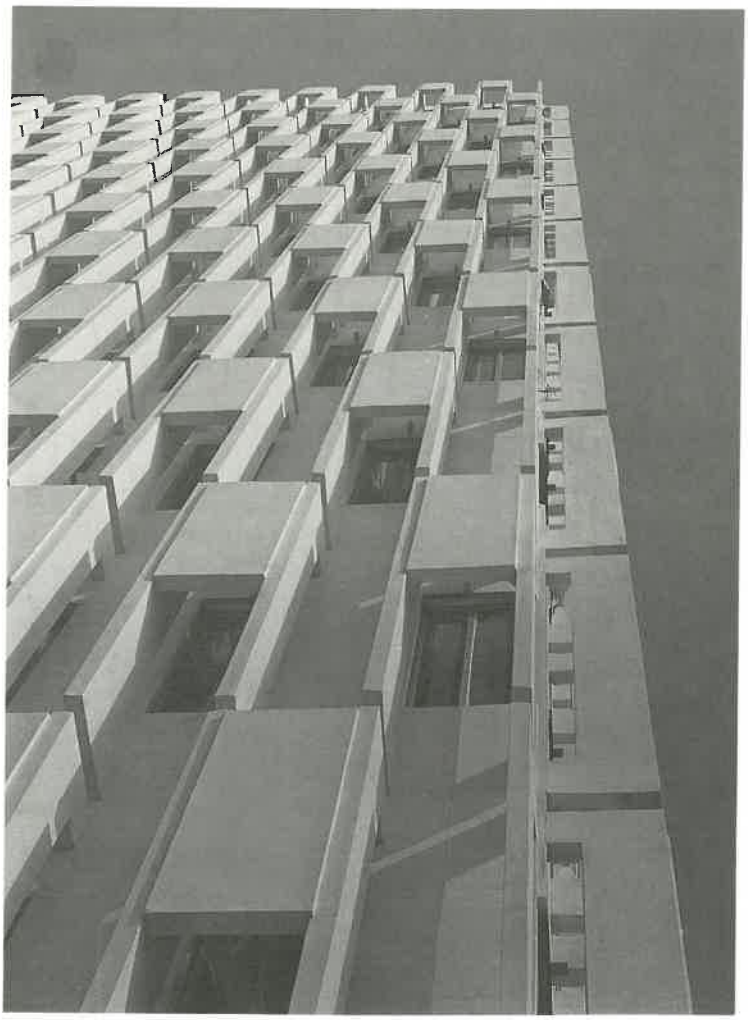
The work of foreign architects has not always been responsive to the local environment. Executed with a greater finesse and sophistication than the local architects could muster and having the automatic status attached to a foreign label, they have been taken as models of great architecture. An example of this is Edward Durrell Stone's WAPDA House in Lahore. Its corrugated facade increases the external wall area and thus the heat gain in a centrally air-conditioned building; its perforated canopy provides protection from neither sun nor rain; the central well provides light in generous measure to the blank walls of service shafts and lifts; and the great plastic dome above serves as a heat trap. Moveover, the final cost exceeded the



original budget 3 times over, and the net rentable space is only 30 percent of the total floor area.

It is ironic that the Modern Movement which was largely a reaction against the academic conventions of the classical styles has itself become a style whose forms have become the catch-phrases and symbols of modernity. Yet the significance of modern architecture is not in the forms but the philosophy which produced them. Thus, louvres were devised only as a means for effective control of the sun, for greater thermal comfort; and rough shuttered concrete, natural brick work and exposed structural frames were an expression of the honest truth about the building, the mechanics of its structure and the material of its construction. But when louvres are not scientifically calculated and when chunky balcony details have no basis in structural logic, they become stylistic gimmicks which mock the philosophy of functional design.

On the other hand, architects such as William Perry, who lived and worked in Pakistan in the 1960's have produced worthwhile buildings. Even if Perry's work is mannered, it is mannerism of a very high order. If his detailing of beams and column junctions seems more appropriate to timber construction than to



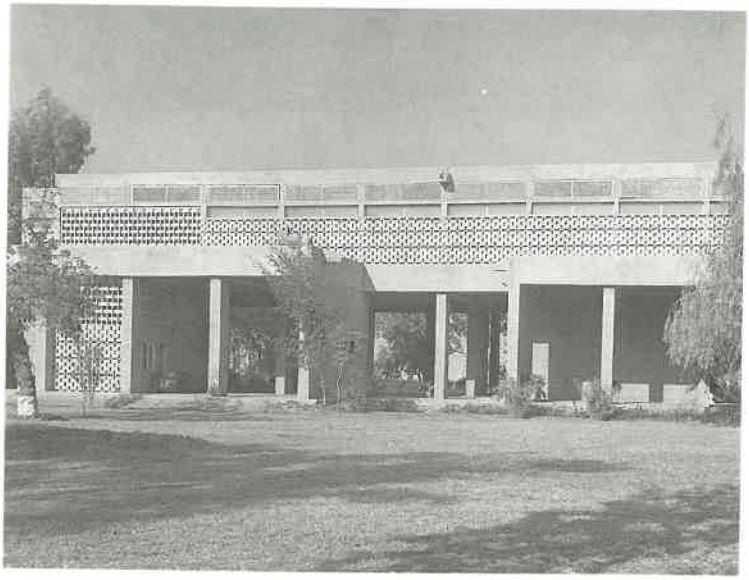
8.43 Dawood Centre, Karachi. The work of William Perry is mannered, but it is mannerism of a very high order. The efficacy of identical sun protection on each facade of his Dawood Centre is doubtful but consistent.

8.44 IBA, Karachi. In the Institute of Business Administration Perry distinguishes between structural concrete and non-load-bearing brick panels is emphasised by the insertion of glazing and timber shutters.

reinforced concrete, his exploitation of such devices as a means for articulation of the structural system is consistent. And if the efficacy of identical sun protection for four different orientations is doubtful it does have the advantage of imparting a singular unity to the building. But the architecture of William Perry is not always as skin-deep as may be suggested by the pattern of his Dawood Centre facades. In the Institute of Business Administration the distinction between structural concrete and non-load-bearing brick panels is emphasised by the insertion of glazing and timber shutters, while in the Karachi American School it is a bold simplicity of expression which reflects the simpler structural arrangement of load-bearing walls and concrete beams. Perhaps the greatest success of both these buildings lies in the sustained internal and external unity of character which one experiences in walking through and around them.

French architect, Echochard's Karachi University complex uses yellow stone, cement, sand and aggregate native to this region. These simple materials are exploited to advantage in the rugged design of the buildings. The logic of the vertical louvres on the north and the expression of the structural concrete frame is intelligible enough, but unfortunately, the design of the egg-crates and pigeonholes is not based on a similar discipline.

8.45 and 8.46 Karachi University. Simple materials, native to this region, are exploited to advantage in the rugged Corbusian mannerism of Ecochard's buildings for Karachi University, and museum at Mohenjodaro.



8.47 Museum, Mohenjodaro.

Moreover, the design of the individual buildings, conceived as so many self-contained gems, does not contribute to a sense of cohesion in this sprawling complex. The new campus of the Punjab University by Doxiadis Associates, on the other hand, may not be able to claim an equal distinction for the individuality of its buildings, but their very anonymity facilitates integration into a unified concept which allows for systematic growth and is compatible with Pakistan's economic reality.

One of the largest and most prestigious projects to be started in the 1970's, the 700-bed Aga Khan Hospital and Medical College (now given the status of a University) in Karachi, completed construction in 1985. Designed by the American architects Payette Associates in conjunction with local consultants, the complex will certainly make a strong impact on contemporary architecture in Pakistan.

8.48

8.48 New Campus, Lahore by Doxiadis Associates. The very anonymity of the new campus of the Punjab University, facilitates a successful integration into a unified concept for a large complex.

8.49 and 8.50 Aga Khan Hospital, Karachi, one of the largest and most prestigious projects to be conceived in the new climate of the 1980's.

8.51 Plan, Aga Khan Hospital, Karachi.

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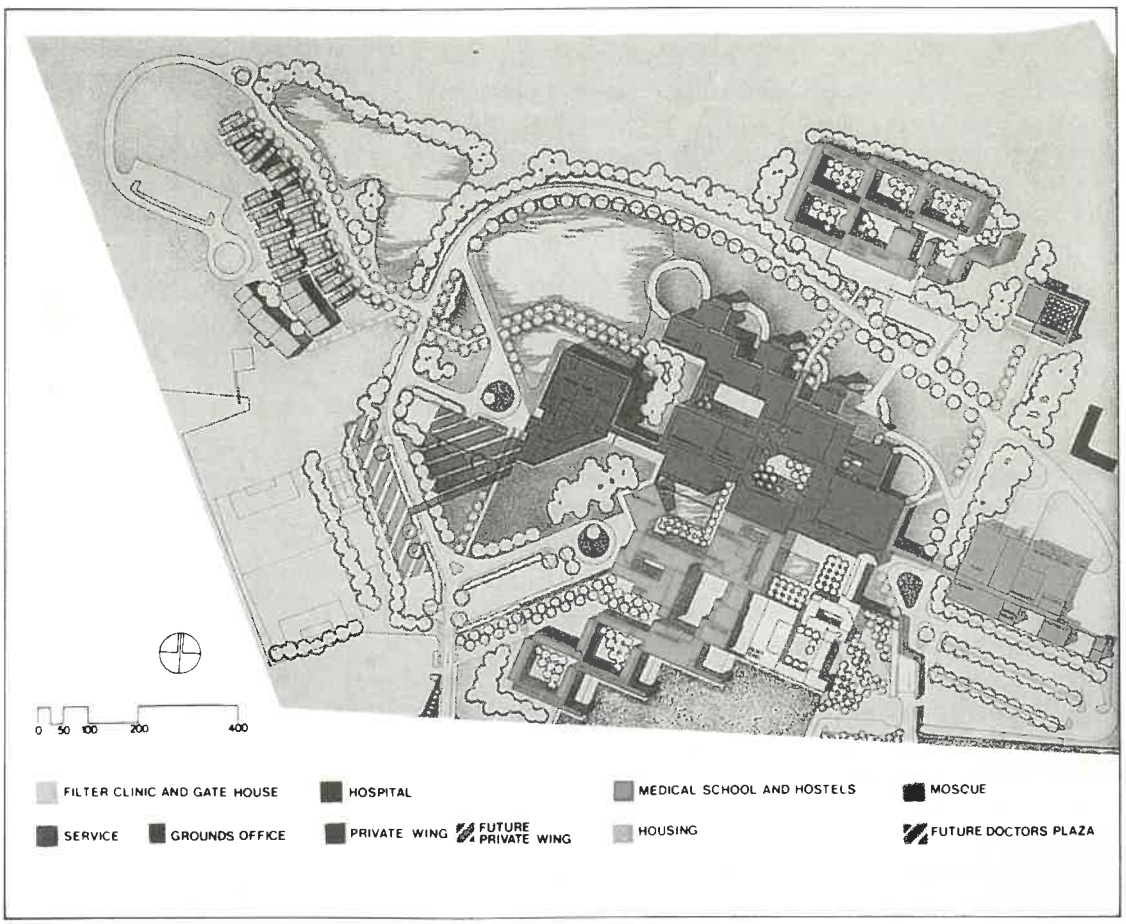
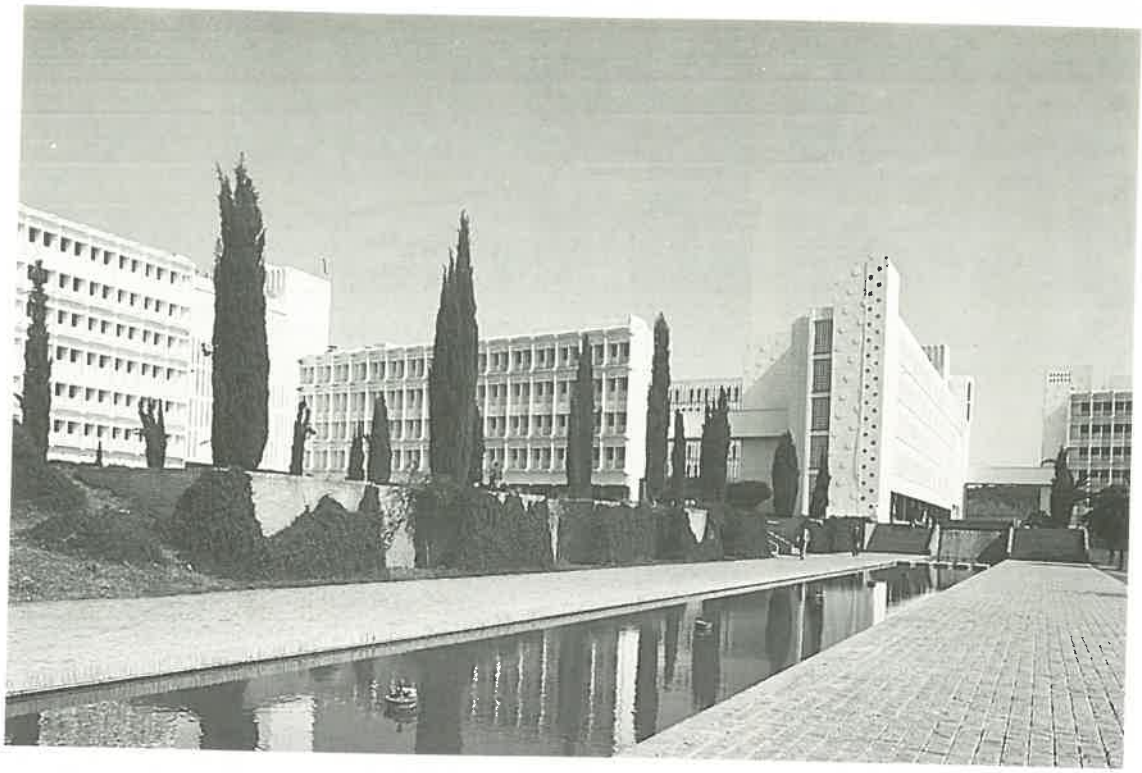




8.52 Secretariat, Islamabad. The Secretariat Complex at Islamabad is one of the most successful arrangements of a group of buildings. But the facade of dainty patterns is little more than a veneer of stylistic decoration.

ISLAMABAD, THE NEW CAPITAL

The Master Plan

During the first ten years after partition Karachi functioned as Pakistan's temporary capital. In one of the earliest schemes to develop a permanent federal capital as part of the Greater Karachi Plan, an important element was a central square — "the forecourt of the nation." This hexagon was to be enclosed by the Assembly Building, the principal Mosque, the Supreme Court and other buildings for national government and culture. Significantly, there was no presidential palace, but in the centre of the square was to be the monument to the Quaid-e-Azam, Mohammad Ali Jinnah. The report on the Greater Karachi Plan stated that the capital would "... manifest to the people of Pakistan and to the world the ideal for which the state stands. The vision and fate of the nation will be materialised by artistic and architectural means. The impression given by the capital will, among other factors, depend on the grouping and concentration of the most important buildings"[2].

Coming to power in 1958, field marshal Ayub Khan decided to shift the capital to a site near the cantonment town of Rawalpindi on the Pothwar Plateau. At a meeting in February 1960, the cabinet decided to name the new capital *Islamabad* — "the city of Islam." The Capital Development Authority (CDA) was constituted in September 1960. N.A. Faruqi, later to become its chairman, published the following note on the project and its perspectives:

"Though a new country we, as a people, are an old nation, with a rich heritage. Inspired by a historical past ... (We are) eager to

8.53 Government officers' Hostel, Islamabad, displays an intelligent application of traditional elements to contemporary building. It is probably the most satisfying individual building in Islamabad.

build a new city which, in addition to being an adequate and ideal seat of government, should also reflect our cultural identity and national aspirations"[3].

The master plan prepared by Doxiadis Associates and approved in May 1960, was essentially a grid-iron based on Doxiadis' idea of 'dynapolis' — a city expanding in a linear fanshape from an initial point, the Red Area. Buildings for national government and national culture in the Red Area were to be treated as a fixed focus at the point of the fan.

Secretariat Complex

One of the most successful arrangements of a group of buildings into a well-integrated unity is Gia Ponti's secretariat complex at Islamabad. The use of water and terraces at many levels is reminiscent of Mughal landscaping. The spaces are self defined in a series of quiet enclosures which flow into each other through the building masses. The spaces between the tall blocks are bridged by horizontal ducts, framing dramatic vistas of the surrounding countryside.

Government Officers' Hostel

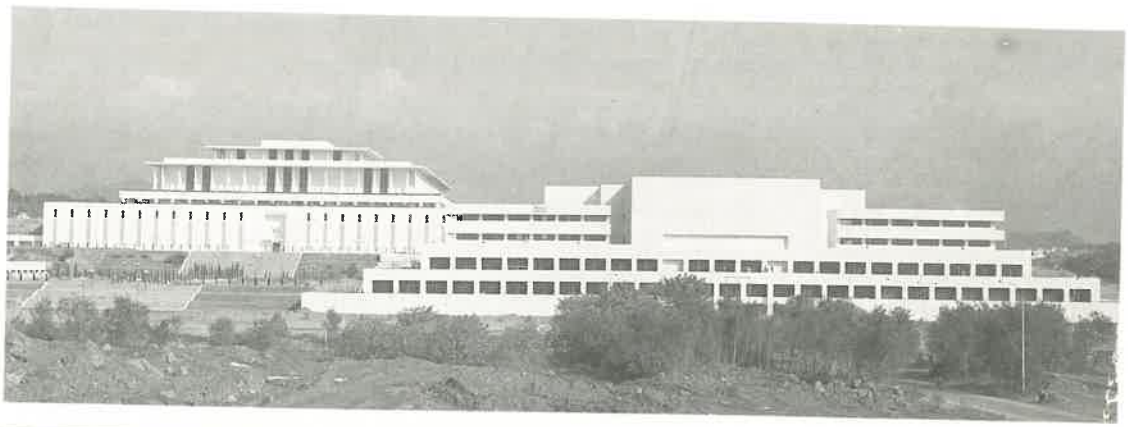
The Government Officer's Hostel by Denis Brigdon, despite the seeming derivation of its forms from traditional sources, attains its architectural integrity from an organic unity of form, function, structure and materials. Barrel vaults, and particularly segmental barrel vaults, are not a common form of traditional construction in this region, and these concrete shells are not so much an imitation of brick arches as lightweight sun protection in the form of a ventilated double roof. The traditional courtyard in a hot dry climate is designed to remain deeply shaded during the day and to cool off rapidly during the night by radiating to a cold sky. However, the proportions of the two large courts in this building are not adequate for this purpose. The bricks have the traditional slim proportions but

are without the accompanying thick bed of lime mortar. The so-called Mughal Garden in one of the courts is only loosely derived from the tradition form.

Just as the Government Officer's Hostel is probably the most satisfying individual building in Islamabad, the Housing Scheme for the Class Four Government Servants is the most successfully designed neighbourhood. The success of this scheme is due less to the architecture of its buildings, which is rather nondescript, than to the intelligent provision of spaces for play and social intercourse, and to streets free from the hazards of vehicular traffic. If Islamabad indicates in any way the future course of architecture in Pakistan, it does so by reminding us of the emergence of the democratic state as the new patron of architecture and of the social responsibilities of the architect in his new role.

The Presidency Complex

Probably the most prominent public buildings in Islamabad is the complex including the President's House and Parliament, and the Shah Faisal Mosque. These buildings and the planning concepts of the capital city itself provide a highly instructive study of the conflicting and changing ideals that have characterised much of the contemporary architecture of Pakistan. Foremost among the contradictions is the desire of the lay public for



8.54 and 8.55 Presidency Complex, Islamabad by E.D. Stone. From the national square the President's House rises as a tiered pyramid. The lowest levels accommodate offices and service areas, over which are the state banqueting halls, while the uppermost tier contains suites for state guests.

an architecture expressive of its Islamic culture and traditions, which must contend with the professional architects' compulsion to project an image of modernity. When the Parliament building was first mooted in 1962, it was suggested that "if the Parliament House is then to be built ... The building will be of a substantial size and in order to be architecturally impressive, it will have to be carefully designed to reflect our past culture, at the same time utilising modern methods of construction.[4] It was decided to entrust the design of the major buildings to a panel of world-famous architects. But Arne Jacobsen's uncompromising 'modern' design for the Assembly was criticised for not being 'national' and the CDA suggested that some "Islamic features be incorporated in the form of some arches in the cylinder, a dome above the cylinder, or some additions to the fore-courtyard." At the same time it was suggested that a "dominating mosque for the use of members" be built near the assembly.[5]

Jacobsen was replaced by Louis Kahn, who was in turn relieved of his assignment. "The reason for the rejection of Professor Kahn's design is believed to be the inability to modify the design so as to reflect Pakistan's desire to introduce Islamic architecture in Islamabad's public buildings"[6].

The services of Edward Durrell Stone were next enlisted. He came highly recommended by Dr Usmani who admired his "love for the Mughal architecture and the spirit of grandeur the Mughal buildings emanate" and considered Stone to be "the only leading architect of world fame who has imbibed the spirit of Mughal architecture with beauty". The new Chairman, N.A. Faruqi, was persuaded to consider Stone "for the design of all the four buildings in the most prominent square of Islamabad, namely the Supreme Court, the National Assembly, the Foreign Office and the President's House." Mr Faruqi himself was "very keen to get our Islamic heritage of architecture reflected in the public buildings of Islamabad", and could have had no hesitation in asking Stone to undertake the design of the central square with the President's House and the National Assembly. But he reminded him that "there is a grave dissatisfaction in the Government and among our people regarding the architecture of the public buildings put up so far in Islamabad". He agreed "that the internal arrangements of these buildings should be as modern and sophisticated as possible. But (he was) anxious that the buildings should look native to the soil. They should belong here and not be cheap copies of the buildings built elsewhere. We are proud of our long and beautiful architectural heritage and we see no reason why the buildings of Islamabad should not reflect it. When I spoke to you, you appreciated my point that, since we have lost the best specimens of our architecture in Delhi and Agra, we are anxious to have some semblance of our architectural treasure here. It is the form that matters and not the details such as the use of precious stones, etc., which are no longer available"[7].

Accordingly, Stone produced a layout for the complex with a formal symmetry, in conformity with his understanding of

Mughal concepts. The President's House dominated the main axis of the national square, flanked by the Assembly and Foreign Office at either end of the minor axis. To complete the Beaux Art monumentality it was proposed to shift the central avenue of Islamabad, the Capital Avenue, northwards to bring it in line with the axis of the President's House. From the national square the President's House rose as a tiered pyramid. The lowest levels were to accommodate the offices and other service areas, over which were to be the state banqueting and reception halls. The uppermost tier contained suites for state guests. The entire complex was given a finishing coat of white cement and marble, and was to be embellished with arches, grills, and verandahs, and topped with a dome. The President's residence itself is located in a separate block set well back behind the first block, and the two are linked by a formal garden and collonades. The project was eventually modified to eliminate the domes and arches and reduce the verandahs and overhanging canopies. The National Assembly and Foreign Office buildings were given some austere facades. Construction on this revised design for the Presidency started in 1975 and was completed in 1984.

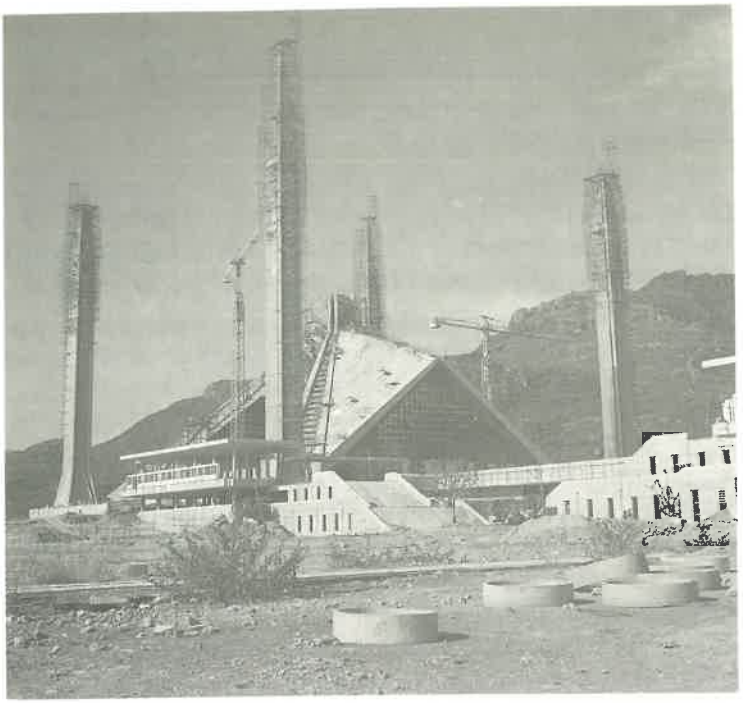
Shah Faisal Masjid

Doxiadis' rigid grid-iron plan for Islamabad was considered to be in accordance with Islam because it was "based on pure geometry", but a grand national mosque had not been included amongst the buildings. Eventually a site was earmarked at the foot of the Maragalla Hills, beyond the northern periphery of the city. The design of the building was chosen through an international competition in 1970. The secular considerations which seem to have dominated the deliberations of the architect-dominated international jury for the grand national mosque stand in sharp contrast to the religious Islamic nationalistic sentiments of the bureaucrats in their selection of the designs for the secular buildings of national importance.

The jury rejected designs that "could not carry the basic design ideas to their local structural and architectural conclusions", or "did not fit the contemporary planning and design ideals of the modern city of Islamabad". The criteria it adopted were: site development and landscaping; plan organisation and circulation; structures; and design elements.

The winning design by Vedat Dalokay, a Turkish architect, with its "simple straightforward covering of a large space by four double diagonal supports counter-balanced by the four minarets was appreciated as a satisfactory solution." According to the jury report "the classical approach of formal mosque architecture was blended in this project with modern form and technology. The simplicity of the general layout and interior space was appreciated".

The jury made some suggestions to complete its conformity to the international style by eliminating even the few token references to traditional design. These suggestions included the eli-



8.56 and 8.57 Faisal Mosque, Islamabad. The winning design by Vedat Dalokay covers a large space by four double diagonal supports, counterbalanced by four minarets.

mination of the entry gate, redesign of the entrance canopy to conform with the modern lines of the main structure, the reduction of materials down to the fewest possible and expressing the structure internally as well as externally. Construction began in 1976 and was completed in 1984.

The project is designed to accommodate 100,000 persons in the courtyard and 20,000 in the prayer hall and verandah. As it is built, the main mosque level is raised on a two-storeyed podium which houses, among other functions, an entire university.

Both the Faisal Mosque and the Presidency complex were conceived in the 1960's and 1970's, when the Modern Movement and the International Style ruled the international fraternity of architects. Today, the supremacy of the Modern Movement has been challenged by both Western and Pakistani architects. Meanwhile, other events, such as an influx of Western architects working in the oil-rich countries of the Middle East, have led to a revival of interest in Islam and Islamic architecture in the West. By the beginning of the 1980's Islamic Architecture had become a subject for discussion in architectural circles all round the world.

NOTES

[1] Shakeel Ahmed, unpublished interviews with M.A. Mirza's wife and colleagues.

[2] Nilsson, Sten, *Islamabad — The Quest for a National Identity*.

[3] Ibid. P.8.

[4] Ibid. p.16.

[5] Ibid. p.17.

[6] Ibid. p.21.

[7] Ibid. p.28.

POSTSCRIPT: THE ISLAMIC DEBATE

Today, when for a variety of reasons "Islamic" architecture is a focus of discussion in Pakistan, it is necessary to clarify some of the terms and concepts used in the debate. To distinguish, for instance, between the terms, "Islamic" and "Muslim", and to recognise that "architecture", be it Islamic, Muslim, or Pakistani, contemporary or traditional, is a complex of several sub-categories.

If "Islamic" pertains to the religion of Islam, and "Muslim" to the people who profess Islam, then the term "Islamic architecture" would apply to buildings inspired by Islamic religious thought and practice, and intended to serve an Islamic religious purpose, whereas, "Muslim architecture" would be the more appropriate term applicable to all buildings associated with Muslims as a people or peoples.

Terms such as "Saracenic" and Islamic" were introduced by the Orientalists as catch-all phrases which they applied to the architecture of the Muslim world from "Mogul India" to "Moorish Spain". Western-educated Muslim architects were among those who protested most strongly to such labels. Fired by the "scientific" theories of culture current in a post-Darwinian, post-Marxian world, they rejected the notion of architecture defined on the basis of religion. Architecture, as much as religion, they argued, was part of the superstructure of any culture. The base was economic and material. Architecture as much as everything else evolved in progressive stages. But terms like "Islamic" suggested a fossilised view of their national cultures. Their own architecture had to be understood in terms of climate, materials, social relations and economic bases, not in terms of religion. Any attempt to do so was discredited as reactionary, obscurantist, and smacking of imperialism. In any case, they pointed out, it was difficult to find any common denominators within the diversity of Muslim cultures.

More recently, however, a new generation of scholars have begun to rediscover the "Islamic" bases of Muslim cultures. Among them are Muslims who have been schooled in the best Western academic traditions and can scarcely be dismissed as narrow-minded bigots. These scholars are discovering that there is indeed a genre of artistic expression which can only be classified as Islamic, in the sense that it is inspired by the religious philosophy of Islam and is intended to serve an Islamic

religious purpose. More specifically these forms are directly related to certain Sufi doctrines and methods, to the esoteric or mystical tendancy within Islam.

Having found the operative Islamic principles behind such buildings as tombs, *khanqahs,* and mosques, and what indeed had often been important elements in many a secular design — of gardens, palaces and the like — they went on to assert that these were the principles, the common denominators which applied equally to architecture in all Muslim cultures. Their theories were immediately and easily demolished by the functionalists who could point to any number of secular urban and rural building forms which were patently not inspired by any religious sentiment. The term has, of course been further discredited by the misguided enthusiasm of lay patrons — politicians, bureaucrats and private clients alike — who have insisted on applying the term "Islamic" to certain specific forms associated with a particular period, location or dynasty, in the belief that they are thereby championing the cause of Islam.

While Islamic architecture is certainly one of the unifying factors in the diversity of Muslim cultures, not all Muslim architecture is necessarily Islamic. This fact is often overlooked both by those who recognise the reality of an Islamic architecture and try to explain all Muslim buildings as Islamic, and by those who, finding nothing Islamic in some Muslim buildings, reject the validity of an Islamic basis of architecture altogether.

Much of the confusion in the current debate has no doubt arisen out of the use of the word "architecture" itself. When used with such prefixes as Pakistani, Muslim and contemporary, it suggests a single, identifyable, homogeneous entity, capable of being identified by certain characteristics which are typical or common to all buildings in that culture. It would, however, be more accurate to consider architecture, as much as any other aspect of a given culture, as a matrix of several sub-categories. Architecture in Pakistan may be divided into three horizontal or hierarchic layers and two distinct vertical streams or currents. The first layer may be called the core, or mainstream or leading edge, that is, the dominant, but not necessarily predominant forms in a given culture which reflect the patronage and world views or values of the socially, politically and economically dominant elite. The second layer may be called the fringe, or flank or trailing edge. That is, the area of expression which reflects the material and intellectual condition of a class which aspires to the values and position of the dominant class without the material or intellectual resources to dominate, but with every pretension to producing architecture with a capital "A". The third layer or outer ground of vernacular traditions would refer to that area of building activity in which the primary concern, purpose or intent is utilitatian with no pretensions or aspiration to produce "Architecture", but which does employ a developed building tradition.

The two vertical streams or currents spring from fundamentally

different bases, world views or philosophies. One is secular, temporal and materialist; the other is religious, spiritual and metaphysical.

While this matrix presents us with several categories which are more or less distinct, there is also a continuous process of cross-fertilisation between them. Moreover, of the two streams, secular and religious, sometimes one and sometimes the other tends to prevail as the dominant current in a particular culture, with the roles changing from time to time. Thus until about a hundred years ago the ethos of Pakistani culture and society was religious. It was not conceivable, for example, that a person should be educated without first being schooled in the Qur'an and Sunna. In the case of the master builder and building craftsman this would imply, in addition, the formal induction into a Sufi order. It is not surprising that the building activities based around the Sufi circles, the *khanqahs,* mosques and tombs, became the laboratories and powerhouses which generated so many of the dominant architectural forms, structural systems, and decorative techniques of the period. Thus even the most secular of buildings were seldom without elements which owed their inspiration to the mainstream of religious architecture. Today, however, the secular materialist current exercises the dominant influence over a significant section of our culture, particularly that of the educated professional elite. Thus the design of many religious buildings today is based on concepts of architecture derived from the secular mainstream.

That there seems to be as yet no consensus on the definition of Islamic architecture may due in part to a problem of methodology. Attempts at defining Islamic architecture have often employed either a "formal" framework or the evolutionary framework of the environmental determinists and functionalists. That is, generalisations based on formal characteristics, such as plan, massing, structural elements, materials, and so forth, which establish a definable "style". A more accurate understanding or appreciation of Islamic architecture requires some other framework than the formal, stylistic or historical. It needs the framework of Islamic cosmology and ritual. This is no less true of the various other art forms of Pakistan. For example one of the strongest living traditions in Pakistan's culture is the gnostic or *arifana* poetry of the Sufi saints. An analysis of the literary style, structure and poetic form can no doubt help explain the poetry of Lal Shah Baz or Khawaja Ghulam Farid but will bring us no closer to an appreciation of its beauty, power and ecstatic evocative effect unless we are familiar with the meaning and conetent of its message and purposes. This requires the framework of the Islamic concept of *Wahdat* and *Haq*, of Reality and man's role in the universe.

Islam views reality as existing on two planes or levels — two worlds — the apparent and the hidden, the transient and the permanent, the physical and the metaphysical. Underlying the apparent physical reality of discrete phenomena it sees a Divine

Unity. The unique role of man in this cosmology is to reflect, to contemplate, to know and, through enlightenment, to be united with the Absolute, the One Reality.

While other religions conceive of the Absolute as an unattainable mystery or tend to divorce the path to that mystery from the conduct of life in this world, in Islam unity with the Absolute is attainable, and the path is revealed through knowledge, love and correct conduct of life in this world. In other words, Islam integrates the dual aspects of reality — the spiritual and material — and prescribes a ritual to help live the life of this world, yet be constantly reminded of the other.

Awareness or consciousness of the larger Reality through the contemplation of physical elements of the universe is one of the central concerns of Islam. It is not difficult to comprehend and be reminded of the Cosmic Unity through contemplation upon natural objects. To look upon a tree and be aware of its roots, the soil and the earth. To see in a flower the fruit and the seed, the process of life. To recognise the ocean in a single drop of rain; the structure of matter in a single snowflake.

But this nexus becomes less obvious in man-made objects, materials removed from their natural environment and transformed by man. They provide nothing to help transport the mind beyond the object's own immediate materiality. Art and decoration, however, can make even of these objects an occasion to reflect to see beyond their immediate materiality, to remember and to focus upon the greater eternal reality. Thus even as he gives shape and form to material objects, the artist reminds himself, and us, that the artifact is merely a means, a prop to be used to support and sustain us on the right path to our real goal.

In Islamic architecture the formal elements (plan forms, structural elements, materials, and design motifs) are the variables that change through time and place, reflecting the diversity and multiplicity of Islamic cultures. The constants are the building types peculiarly related to Islamic ritual — mosques, tombs, *khanqahs, madrassahs, hammams,* and so forth — and the underlying meaning, message, content or purpose which derives from the cosmology of Islam.

The earliest archaelogical remains of Muslim architecture in Pakistan, excavated at Bhambore (109 AH, 727 AD) include a mosque, a *mektab* and a *serai*[1]. These are three of the building types common to Islamic architecture. While the form of these buildings is no longer fully obvious, there is sufficient evidence to indicate a square plan with covered cloisters and corridors on three sides, and a prayer chamber on the fourth, but no *mehrab.* The roof of this hall was supported by finely carved timber columns on carved column bases. Of the three entrances the principal, eastern, entrance was emphasized with a porch and steps. Facing the north entrance is what appears to have been a *mektab,* and to the east of the mosque was probably an attached *serai.*

The earliest surviving structures of the Muslim period in Pakistan are at Uchch, Multan and Ajudhan (Pakpattan). At Uchch these are in the form of large rectangular, hypostyle halls with richly decorated timber columns, beams and ceilings. In the brick domed tomb chamber at Multan, (Baha ul-Din Zakaria, Rukn-i-Alam, Shams Sabzwari) we witness the introduction of Tughlaq architecture into the sub-continent[2]. Thus even at this early stage Islamic architecture in Pakistan is seen to employ a variety of plan forms, structural systems, materials and finishes.

Before the full flowering of Mughal architecture, the Suris had already begun to evolve a new expression from the Afghan and Indian repertoire of building techniques and forms. In Pakistan this can be seen in the Fort, gates, and tombs at Rohtas[3], and also in the mosque tomb and *serai* of Sarang Khan at Rewat and in the so-called Akbari *Serai* at Shadara.

The buildings of the Mughals and more specifically of Shah Jahan have become synonymous in the popular mind with Islamic architecture. They are indeed magnificent and impressive, as no doubt they were intended to be. But they were also, after all, built for one imperial dynasty over a relatively short span of time in one part of the Islamic world and cannot be equated with or taken as the model for Islamic architecture generally. We cannot forget that Mughal architecture in Pakistan was restricted essentially to the monuments in and around the Lahore Fort, Shadara, Sheikhupura and Attock. More typical of the architecture of the same period in Pakistan are the buildings constructed in the numerous local or provincial styles. These include the glazed-tile mosaic, brick architecture of Lahore, of which the mosques of Dai Anga, and Wazir Khan, and several garden gates, pavilions and tombs are well-known examples. The more flamboyant, sculpturesque style of the lower Punjab, with its use of patterned blue and white glazed tiles, is well illustrated by the tombs of Bibi Jawindi at Uchch and Tahar Khan Nahar at Muzzaffargarh. The two distinct styles of the Lower Sind, the one employing a trabeated structural system with richly carved limestone, and the other, glazed tilework with arcuated brick structures, are seen in the Chawkandi and Makli tombs and the Jami Masjid at Thatta. The taller-proportioned brick and glazed-tile architecture of Upper Sind is best preserved in the tombs of the Mirs and the Kalboras, and in the group of monuments at Sukkur, associated with the family of Ma'sumi Sayyids[4].

The concern of the Muslim artists and craftsmen with the Islamic concepts of *Tawhid* and the essential nature of Beauty, of apparent and hidden Reality, and of man's quest and goal, and the relation of these concerns with the motifs and schema of Islamic art and design, have all been convincingly established and demonstrated in recent literature by Burchkhadt, Nasr, el Said, Ardalan, Bakhtiar and others[5]. These characteristics are no less true for the Islamic art and architecture of Pakistan than for Islamic cultures elsewhere. The metaphoric use of natural forms, the more abstract symbolism of geometry, and the literal

message of calligraphy are now beginning to be better understood as a result of these publications.

The brilliant painted-timber columns, beams, and ceilings of the tomb of Jalaluddin Shah Bokhari or of Makhdoom Jahania Jahangasht at Uchch, the delicately patterned brickwork of Shah Rukn-i-Alam at Multan, the lacelike stone carving of Jam Nizamuddin at Makli, the glazed-tile mosaic panels of Wazir Khan's Mosque, or the floral frescoes on the walls and ceilings of Begum Shahi Masjid in Lahore, the *pietra dura* and marble inlay patterns of Jahangir's Tomb at Shadara, and the geometric glazed-tile patterns of the Jami Masjid of Thatta, all reveal a common concern with de-emphasizing the materiality of physical surfaces, with remembrance of God through His abstract attributes and qualities, and through the Word made manifest in calligraphy.

The compositional schemes of these buildings are always designed to emphasise Unity. Thus as the observer moves through a building, the elements in his field of vision at each stage are appropriately scaled up or down and framed to establish a single universe of members, knit into a web of harmonious relationships. A garden, a court, a facade, a panel, a rosette, each becomes a microcosm of a macrocosmic, "metacosmic" Unity.

Thus the essential concepts of Islam have provided a great reservoir of inspiration which guided and nourished the grand tradition for some thirteen centuries. Today the tidal wave of modernity has overtaken the mainstream of architecture in Pakistan, converting it into a backwater on whose surface the flotsam of the international style mingles aimlessly with the debris of the grand tradition.

Will the present interest in Islam end up in "instant" stick-on architecture from a catalogue of domes and arches, or will it lead to a rediscovery of the theoretical bases of the grand tradition? The latter will require courage to swim against the tide, patience to carry out methodical research, and conviction in the role of a genuine and vital architecture in Pakistan tomorrow.

NOTES

[1] "Bhambore", Pakistan Archaeology, No. 5, 1968, pp 179, 180.

[2] Brown, Percy, Indian Architecture (the Islamic period), Taraporevala's Bombay, 3rd Edition, p. 34. See also Chughtai, Dr. Abdullah, Muslim Architecture in West Pakistan, pp 3, 4.

[3] Brown, Percy. Op Cit., p. 93.
Also Rajput, A.B. Architecture in Pakistan, Pakistan Publications, Karachi, 1963, p. 7.

[4] Baluch, Nabi Bakhsh, editor. Tarikh e Ma'sumi. Urdu translation, Sindhi Adabi Board, Karachi, 1959, pp 1–26.

[5] Burckhadt, T. Art of Islam, language and Meaning, World of Islam Festival, 1976.

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NOTE

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This glossary includes only those terms used more than once in the text or are unexplained. Most of the terms are used in Urdu except for the European terms which are not commonly known in the Third World. The translations should not be considered definitive and are included as a matter of convenience.

abshar cascade.

aedicule small construction inside a larger building, decorative part of a facade (relief), small edifice standing on a public way (From aedes, house, Latin).

aina kari glass mosaic workmanship.

andarkot inner sanctuary.

antarala internal beauty (Hindi translation).

aramgah rest house.

ardhama-nandapa half protected (Hindi translation).

bagh garden.

baoli stepped well or water tank.

baradari literally 'twelve pillared' pavillion, portico, columned building.

braderi clan.

burj tower, bastion.

chajja eaves (overhang used as a shading device).

chaitya archway.

dar door.

da'wat invitation.

dewrhi forecourt.

diwan audience hall.

ewan (or *iwan*) corridor, verandah or hallway.

garbha filled, contained. (Hindi translation).

gidan (Baluchi) thatched vault construction.

gopa round shelter.

gumbad small dome (usually solid).

gurdwara Sikh place of worship with hospice and school.

hammam bath (turkish).

haveli dwelling, monastery or retreat.

hujra (Pushto) walled area of a clan compound for males only.

jali literally 'net', screen, lattice or perforated pattern.

jharoka window, opening.

khana place, dwelling, house, room.

khanqah monastery, retreat, hospice.

khwabgah bedroom, literally 'place of dreams.'

kodal (Pushto) elongated vault structure.

madrassah school, college.

mahal palace.

maktab khana clerks room, translation or recording place.

mandapa pillared assembly hall.

manzil building, palace, apartment.

masjid mosque, literally 'place of prostration'.

mehrab (or *mihrab*) niche or arched recess denoting the direction of Makkah for prayer.

mimar builder, architect, mason, craftsman.

minar (or *manara*) minaret, pillar.

mohalla neighbourhood.
muharirs clerk.
munabat kari stucco tracery.
mungh windcatcher.
muqarnas honey combed cornice.
musallah prayer mat.

namdah woollen felt mat.
naos interior of temple.

pietra dura inlaid mosaic of hard and expensive stones.
pronaos sort of porch, colonnade standing in front of a temple.

qutb axis or pivot, stake, highest state of sanctity among Muslim saints.
qila fort.

rivaq vault, arcade.
rukn pillar.

sang stone.
sang-e-abri river-bed stone.
serai inn, halting place, caravaruserai.

tah khana basement.
takht seat, imperial throne.
toba waterhole.
torona gateway.
tawhid belief in Allah.

urdu camp.

vihara monastery.

zanana women's private quarters.
zavia side. point of view. side one is looking towards.

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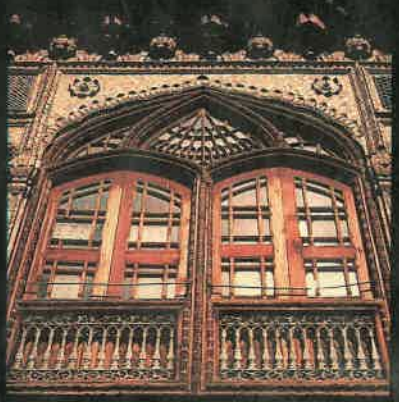

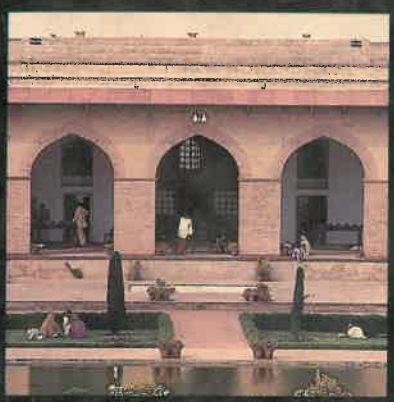

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