

















INDIAN
TILES

ARCHITECTURAL CERAMICS
FROM SULTANATE AND
MUGHAL INDIA AND PAKISTAN

ARTHUR MILLNER

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IRAQ

IRAN

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SAUDI

ARABIA

KUWAIT

BAHRAIN

QATAR

UNITED ARAB EMIRATES

OMAN

Red Sea

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INDIA

Caspian Sea

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Damghan

Tehran

Khargird

Zuzan

Minaret of Jam

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Bafruya

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Kuwait City

Bandar-e-Abbas

Abu Dhabi

Muscat

Riyadh



TAJIKISTAN

C H I N A
T I B E T

BHUTAN

N E P A L

PAKISTAN

BANGLADESH

I N D I A

B a y

o f

B e n g a l

b i a n S e a

N O C E A N

SRI LANKA

Kandy

Colombo

Kochi (Cochin)

Thiruvananthapuram

Chennai (Madras)

Pondicherry

Bangalore

Mumbai (Bombay)

Goa

Vijayanagara (Hampi)

Bijapur (Vijayapura)

Gulbarga

Bidar

Ashtur

Hyderabad

Golconda

Daulatabad

Aurangabad

Nagpur

Bhopal

Ahmedabad

Jaipur

Chittorgarh

Ajmer

Jaipur

Datia

Orchha

Jaipur

Bayana

Sonkh

Bajna

Mathura

Agra

Rapri

Fatehpur Sikri

Gwalior

Orchha

Bhitargaon

Varanasi (Benares)

Jaunpur

Sasaram

Lucknow

Budaun

Delhi

New Delhi

Hisar

Hansi

Panipat

Thanesar

Sirhind

Doraha

Firozpur

Jalandhar

Nakodar

Talanian

Amritsar

Lahore

Dakhni Sarai

Chiniot

Rajataal

Sarai Amanat Khan

Taxila

Islamabad

Peshawar

Shaji-ki-Dheri

Jalalabad

Begram

Kabul

Ghazni

Lal Mahra

Daira Din Panah

Multan

Muzaffargarh

Dera Ghazi Khan

Jalalpur Pirwala

Bahawalpur

Uchh Sharif

Sitpur (Seetpur)

Mehrgarh

Quetta

Mehrgarh

Bhong

Larkana

Mohenjo Daro

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Mansura

Bhitshah

Hala

Mirpur Khas

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Thatta

Karachi

Bhanbhore

Lhasa

Thimphu

Shillong

Dimapur

Kathmandu

(Hazrat) Pandua

Rajmahal

Murshidabad

Chhota Pandua

Bishnupur

Tamluk

Dhaka (Dacca)

Bagerhat

Kolkata (Calcutta)

Bhubaneswar

FOREWORD

Few visitors to historic monuments built under Islamic influence in India and Pakistan are aware that the original appearance of what they see was often profoundly different. Even when the structures remain intact, the alteration of surfaces once covered by glazed tile revetments or studded by glazed bricks radically changes the dazzling visual impact they would have had. In rare instances some of the missing tiles have survived, but they may be in museum collections far from their place of origin.

One example gives an idea of the extent of the loss, and of the importance of the expansive survey carried out in this book. An old sign outside the tomb of Shaikh Muhammad Madani on the edges of Srinagar in Kashmir proclaims the beauty and proliferation of its tiles. Those reading it today will search in vain for this colourful embellishment: all that remains is a small section of a long frieze, reduced to four tiles with yellow ground and cobalt blue calligraphy framed between smaller border tiles. These are set into the walls of a gateway erected during Shah Jahan's reign to add grandeur to the modest tomb and its adjacent mosque, which is dated 1444.

A superficial study of the site by the Archaeological Survey of India in the early twentieth century recorded that the gateway was even then in ruinous condition but still had vestiges of the highly unusual tile revetment that had covered both spandrels of the entrance archway. Photographs and a chromolithograph illustration showed part of a figure that remained on one of them. The description of it as 'a beast with the body of a leopard, changing at the neck into the trunk of a human being, shooting apparently with a bow and arrow at its own tail' identifies it as the zodiac sign Sagittarius, conventionally depicted as a half-human, half-feline archer. In this version, the human part of the mythical creature wears Iranian garb. Its lower, animal body is bright yellow with green spots, a combination that stands out vividly against the dark blue background strewn with flowering plants in hues of white, green, yellow and orange.

The photographs also showed some tiles on the walls of the gateway, though these had clearly been detached and put back in random order. Nevertheless, enough remained to see that the revetment design had consisted of interlocking flower-filled vase motifs, done in the newly fashionable *cuenda seca* technique of Shah Jahan's reign, almost certainly introduced from Iran.

Some years later, in 1923, one Frederick Andrews offered 200 tiles to the Victoria and Albert Museum in London, collected, he said, at the tomb in Srinagar; the museum bought 63. In the 1980s, a further hoard was discovered during a major restoration of



FIG. 1

A *cuerva seca* tile from the tomb of Madani, Srinagar, part of a collection amassed by Frederick Andrews in Kashmir and acquired by the Victoria and Albert Museum, London, in 1923. Mid-17th century, 20.2 × 21.1 cm.

Madani's tomb and mosque, buried in a grass-covered mound. These are now preserved in the city's Sri Pratap Singh Museum, though few are on public display.

This case of loss, though extreme, is replicated across the subcontinent. Tile revetments are fragile and vulnerable. They easily become detached and are subject to being discarded or 'collected' and taken far away. On buildings like the tomb of one Haji Jamal in the Indian Punjab town of Nakodar, dated 1657–58, or the tomb known as Chini ka Rauza in Agra, built about 1640, many of the delicate glazed surfaces have disappeared or their colours have faded.

The ruins of the beautiful city of Mandu, capital of the Islamic sultanate of Malwa from 1401 to 1531, now seem an unlikely place to find evidence of glazed tile ornamentation. Yet its palaces, tombs and other buildings still have traces of the tiles that once covered walls, domes and niches. These small remnants are often high above the heads of tourists, such distance probably having guaranteed their preservation. One structure is signposted 'Gada Shah's House and Shop', though its exact function is uncertain. The unpromising designation belies the grandeur of the ruined building, with its large central space of magnificent proportions enclosed by two storeys of small chambers, and the single remaining span of the original high arched vault. On a visit some years ago, my eye was caught by a flash of brilliant turquoise in a weed-covered pile of broken stones next to the wall outside. A small fragment of glazed tile, no more than a centimetre across, had fallen off some part of the building. The intensity of its colour provided a startling glimpse of how profoundly different the appearance of this monument, and many others in Mandu, would have been in the fifteenth century.

Elsewhere across the subcontinent, more substantial survivals demonstrate the extraordinary range of styles and techniques used across centuries to produce tiles. In Pakistan, famous tombs like that of Shah Rukn-i-Alam in Multan or those of Uchh Sharif have been comprehensively restored, but their modern tile revetments almost certainly preserve the original restrained blue and white colour palette. The deeply embedded tile-making tradition that continues to this day has meant that lost details have always been deemed easy to reproduce, and a single structure may have restorations done at widely different periods.

In Gwalior, the green, yellow and blue glazed embellishments of the walls of the fort and palace built by Maharaja Man Singh (r. 1486–1516) have no parallel elsewhere: on one frieze, geese march solemnly in a line; on another, pairs of the auspicious mythical beasts called *makaras* have conjoined tails that morph into large palmettes on which perch green parakeets.

Further south, in Bidar Fort, the revetments of the sixteenth-century Rangini Mahal belong to an entirely different tradition. They demonstrate the superlative quality of contemporary design in this region suffused with Iranian influence, and may even have been made by Iranian masters.

In Lahore Fort, another unique vestige could not be more different. The early seventeenth-century decoration of cut-tile mosaic on the outer walls, commissioned by the emperor Jahangir, includes depictions of animal fights, hunting scenes and royal processions. These derive ultimately from the art of the book but are done in a naive style far removed from the sophisticated work of the emperor's artists.

As this book demonstrates, such extensive survivals are rare. Restoration, in the sense of trying to copy original tile revetments or small glazed details of brick buildings, however well done, destroys precious evidence of original colours, techniques and design. In the worst cases, the result may be garish. What remains of this disappearing art should be preserved with the greatest care.

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INTRODUCTION

INTRODUCTION

Glazed ceramic tiles are probably not at the forefront of anyone's mind when they think of the Indian decorative arts; such is the richness of artistic and craft skills on the Indian subcontinent that the often somewhat meagre survivals are overshadowed. Stone, metal and wood sculpture, textiles and painting enjoy the limelight, and the ceramics most people associate with the subcontinent are simple clay votive images, domestic earthenware and brick architecture. Yet ceramic tiles are perhaps one of the richest, and certainly the most underappreciated, of Indian art forms;¹ probably nowhere else has such a bewildering array of colours, designs and techniques been produced. The quality of workmanship, at its best, more than rivals the finest in Central Asia or Anatolia.

So why the neglect? There are several reasons. Most significant is that the passage of time has not been kind to Indian tiles: even if the artistic quality is high, the materials lack the resilience needed to survive the rigours of the local climate, and in many cases theft, vandalism and ill-judged repair and restoration have compounded the problem. Although there are abundant clusters, surviving examples *in situ* are rather sparsely distributed across the vast region and not always in areas popular with visitors. For scholars, studying the subject matter can be like detective work, with hours spent in libraries being just as important as visiting the sites themselves. Winding through labyrinthine back streets in search of a panel of Mughal tiles described in glowing terms by an earlier traveller can often end in disappointment: one may find that only a single piece of coloured glaze on a dilapidated tomb remains, or discover that the tiles have been recently removed or plastered over.

In a more general sense, Indian tiles as a subject of study have, until recent years, suffered the traditional fate of 'hybrid' art, the tiles being seen as a degraded or provincial version of Persian ceramics rather than as an example of the talent of Indian craftsmen to absorb new ideas and transform them into something unique and exquisite. As a result, tiles from the subcontinent have been short-changed with only brief mentions either in general histories of Indian architecture or in works covering tiles and ceramics across the entire Islamic world. Fortunately this has begun to change in recent decades, with a number of scholars both in the region and in the West focusing on the subject. The purpose of this book is to provide a record of the main sites across the subcontinent where tiles can be seen or are known to have existed, and to show the range of designs and techniques. It is hoped this will draw together the various strands of the picture so far, generate further interest and awareness, and perhaps suggest new avenues of research. There are too many scattered sites across the subcontinent for all to be included here, but I hope that all the



FIG. 3
A *cuerta seca* earthenware tile depicting a lotus flower, probably from the tomb of Madani, Srinagar, mid-17th century, 18 x 18.2 cm.

PREVIOUS
FIG. 2
Cut-tile mosaic decoration on part of the dado in the veranda of the tomb of Jahangir, Lahore, 1637.

most significant places have been covered. Although some of the information exists elsewhere, it is dispersed and not always easy to find, whether in journals or rare books, so there is a need to gather the material together. It also seems important to try to resist the tendency to compartmentalise the account in line with modern, post-1947, boundaries. Scholars from India and Pakistan have not always been able to present a complete picture. While Sindh, which is partly bounded by mountains and desert, can be viewed as a distinct cultural entity, much of Punjab and especially Lahore have such important historical links across the modern border that the whole area demands treatment as one.²

It is perhaps useful at this point to define ‘tiles’ for the purpose of this book, since for most people the word suggests a glazed square ceramic panel that serves as a decorative cladding on a building or wall. But glazed architectural ceramics come in all shapes and forms, some purely decorative, others partly or wholly structural, and although wall revetments are at the heart of the narrative, tiles placed elsewhere on buildings, such as roofs and floors, are not excluded. There are two closely related subjects that are touched upon but which could not, with limited space, be dealt with in detail: unglazed terracotta decoration in architecture and glazed pottery. Travelling around the subcontinent looking at tiles has also heightened my awareness of painted decoration, which, just like tiles, is threatened by natural and human forces and also urgently needs further study and conservation.

To make the text as accessible as possible to international readers, many of whom may not be specialists, dating uses the Gregorian calendar and diacritical marks are omitted, with spellings following common usage in English. Place names are changing rapidly in the subcontinent, but I have made a pragmatic choice in favour of the most familiar forms, often resulting in a preference for older versions (Bijapur rather than Vijayapura, for example).

FIG. 4

A panel of four blue and white tiles from Sindh, 42 cm square (together). The suggested 16th-century date on the old frame may be correct, although it is difficult to detect significant differences from other tiles attributed to the 19th century (see cat. 133 and 138, for example). Los Angeles County Museum of Art.





SITES

While the sites where tiles can be found are widely scattered across the subcontinent, there are nevertheless distinct patterns to their geographical distribution, governed by two main factors, natural and human: the availability of raw materials and the spread of Islamic rule. It can be no surprise that regions with a plentiful supply of fine clay developed the skills and technology for ceramic craftsmanship, and these were established in ancient times; glazing came later, grafted onto existing traditions. Nevertheless, tiles are far from restricted to regions with plentiful clay, and this leads us on to the second factor: Islam. Although, as we will see, Indian potters had a knowledge of glazing before the arrival of the new religion, it was not only about knowhow; tiles are an almost essential feature of Islamic architecture, with few parts of the Islamic world without a tradition of making and using tiles,³ and their use closely followed and established itself in Muslim-ruled areas irrespective of whether suitable clay was available locally. Tiles were not used everywhere in Muslim India, Gujarat being the most obvious exception, nor was their use confined to Islamic contexts; some Hindu rulers, most notably at Gwalior, co-opted them into their architectural decoration with enthusiasm. The smaller communities of Christians and Jews on the western coast of India also decorated their buildings with tiles; in Goa, the Portuguese rulers had their own tile tradition, and both imports from home and local production appear in religious buildings in the old capital. The famous Paradesi Synagogue in Cochin is paved inside with Chinese blue and white tiles (fig. 6).⁴

The densest distribution of tiled buildings is along a ‘fertile crescent’ from coastal Sindh, up the banks of the Indus, then along the River Ravi at Multan towards Lahore and thence southeast along the route of the old Grand Trunk Road to Delhi and Agra. Beyond Agra, the locations become more scattered: Gwalior, Datia, Orchha and then, further

FIG. 5

The fields near Talanian, in eastern Punjab, are scattered with several Sultanate and Mughal period tombs. In the picture are the 17th-century Mughal tombs of ‘Shagird’ (distant left) and ‘Ustad’.

FIG. 6
Chinese blue and white porcelain tiles on the floor of the Paradesi Synagogue, Cochin (Kochi), installed in 1762.



FIGS. 7, 8
Front and back of a blue and white tile with red earthenware body, Sindh, probably 16th–17th century, 22.5 × 24 cm. Note the ‘frogs’ at the back, chunks of clay removed to aid adhesion to the mortar. Private collection, London.

south, the cities of the Deccan and Goa. East of Agra, several sites along the Gangetic Plain culminate in yet another concentration in Bengal, where the river fans out in a delta.

MATERIALS

Indian tiles are made of two main types of materials: earthenware (fig. 11), made of clay, and fritware (also known as ‘stonepaste’), a composition of clay, silica and quartz. Earthenware tiles are concentrated in the Indus region and Bengal, where the abundance of clay from the banks of major rivers has enabled a long-lasting tradition of clay craftsmanship, while fritware is a technology imported from Iran and Central Asia to areas where stone is more prevalent than clay. In some areas, such as Delhi and Punjab, earthenware and fritware can be seen side by side. There is some disagreement among scholars about the terminology, but ‘fritware’ is used here to cover the range of siliceous compositions easily distinguished from simple earthenware.





Fritware, unlike earthenware, contains only a small proportion of clay: less than 40 per cent, and typically little more than 10 per cent of the total.⁵ The remainder is mostly silica, obtained from river pebbles and sand, resulting in a white, crystalline appearance. Its origins are in the ancient world; it is very similar in composition to Ancient Egyptian faience (fig. 9).⁶ The material was ‘relaunched’ in the Islamic Middle East, coming into use first in Fatimid Egypt (969–1171), and soon after in Iran and Anatolia, as a material for glazed vessels and tiles. The intention was to replicate the qualities of the hugely popular Chinese porcelain, whose hardness and whiteness enabled production of objects of an entirely different order from earthenware. Fritware in the Islamic world never completely ousted earthenware but quickly became the preferred fabric for both luxury vessels and tiles, and its use continued over many centuries. The best-known and earliest descriptions of the process of making fritware are related in the treatise of Abu’l-Qasim, written in Iran in the early fourteenth century,⁷ and a later account, also from Iran, written by Ali Muhammad Isfahani in the late nineteenth century.⁸ In India, we are not yet able to provide a full picture of the range of materials used across the country, although considerable advances in research have been made in recent years.⁹ Physical examination of loose fragments and tiles *in situ* where the surface glaze has been lost reveals a similar composition to fritware from other parts of the Islamic world, though perhaps more crumbly and varied in colour (figs. 10, 12). Technical analysis of tiles on the sixteenth-century Mughal Nila Gumbad in Delhi, undertaken by Maninder Singh Gill and published in 2010, supports the view that, there, at least, ‘they are in the same tradition and broadly conform to the production technology ... as described in the treatise of Abu’l Qasim’.¹⁰ As well as being used for cut-tile mosaic revetments, fritware was also used for square tiles, except in the Punjab, Sindh and Bengal, where there had been well-established earthenware traditions, such as in the making of bricks and votive figurines going back over several millennia.

FIG. 9

A collection of Egyptian faience fragments, Old and New Kingdom (c. 3000–1000 BC), including, at lower left, one of the earliest known types of glazed tiles, seen in the Pyramid of Djoser in Sakkara (27th century BC). Faience, as the term is used in the ancient Egyptian context, was a similar material to the fritware used much later in the Islamic world. Private collection, London.

FIG. 10
Detail of the cut-tile mosaic decoration on the exterior of the tomb of Quli Khan, Mehrauli, Delhi, showing the sandy fritware body where the glaze has come away. Mughal, c. 1610.



FIG. 11
Detail of the damaged edge of the Mughal tile on page 1, showing the earthenware body, c. 1650.

FIG. 12
Fragment of a Sultanate period fritware tile discarded during repairs to the 'Tomb of Bibi Taj', Talanian, Punjab, showing the typical off-white, gritty fabric under the glaze. Lodi period, c. 1500.



It may, in fact, be an oversimplification to distinguish earthenware from fritware too dogmatically in India because sand is often added to clay, resulting in a hybrid material not unlike fritware, and without more detailed analysis it can be difficult to tell the difference between earthenware with a high proportion of sand and fritware that has a high proportion of clay. Two monochrome tiles from Delhi, thought to date from the fifteenth century and now in the Victoria and Albert Museum, London, are a case in point (figs. 13, 14).¹¹



GLAZES AND COLOURS

There is probably a wider range of colours in Indian glazes than anywhere else in the Islamic world apart from Central Asia, but the starting point, in common with Iran, Anatolia and Central Asia, is blue, in two tones: light blue or turquoise from copper oxide¹² and a darker blue from cobalt oxide. A surprisingly small amount of oxide was required in the glaze material,¹³ which is essentially a finer version of the fritware described above and close in composition to ordinary glass. White came soon after and, as analysis on samples from the Makli Necropolis (near Thatta) and Lahore has shown, did not require specific colourants to be added but could be achieved ‘naturally’ from light-coloured slip underneath a colourless glaze.¹⁴ An exception is in Bengal, where the white has been shown to be a lead glaze opacified with tin.¹⁵ Monochrome tiles were soon followed by ‘blue and white’ tiles, where the oxide was painted onto the white slip (see fig. 1.20).

These are the three earliest colours in tiles on the subcontinent, but a wide range of other colours were being used at the same time in neighbouring Afghanistan, such as the late twelfth-century moulded tiles from Ghazni (see fig. 1.18). Other colours that emerged in India a little later were yellow and green, both of which were coloured with lead, tin or zinc oxide, but the green also included blue, from copper.¹⁶ Yellow glazes vary from lemon yellow to a warm sandy ochre, and it seems reasonable to assume that this is due to aesthetic preference rather than lack of technical precision.¹⁷ There is also ‘lead-tin orange’, used in Mughal buildings during the seventeenth century, including in Punjab and Delhi but most prolifically of all in the Jami Masjid at Mathura. It is similar in make-up to the yellow glazes used at the time but with a greater proportion of zinc oxide (fig. 15). In their analysis of this orange pigment, Maninder Singh Gill and Thilo Rehren demonstrate that this colour is not a misfired yellow but a deliberate choice used alongside yellow.¹⁸

Dark purple or ‘aubergine’ is less common but makes regular appearances from the fifteenth century onwards, sometimes tending towards brown. Manganese is the key ingredient, sometimes in combination with iron (fig. 16). As well as areas of plain colour, these pigments are used for dark outlining and as components of the glaze-resisting ‘black line’ in *cuerda seca* tiles (fig. 17). C. Stanley Clarke, writing in the nineteenth century about pottery from Hala in Sindh, suggests a ‘chocolate brown’ is produced from lead glaze coloured with manganese oxide,¹⁹ but a Dr Stocks is quoted in

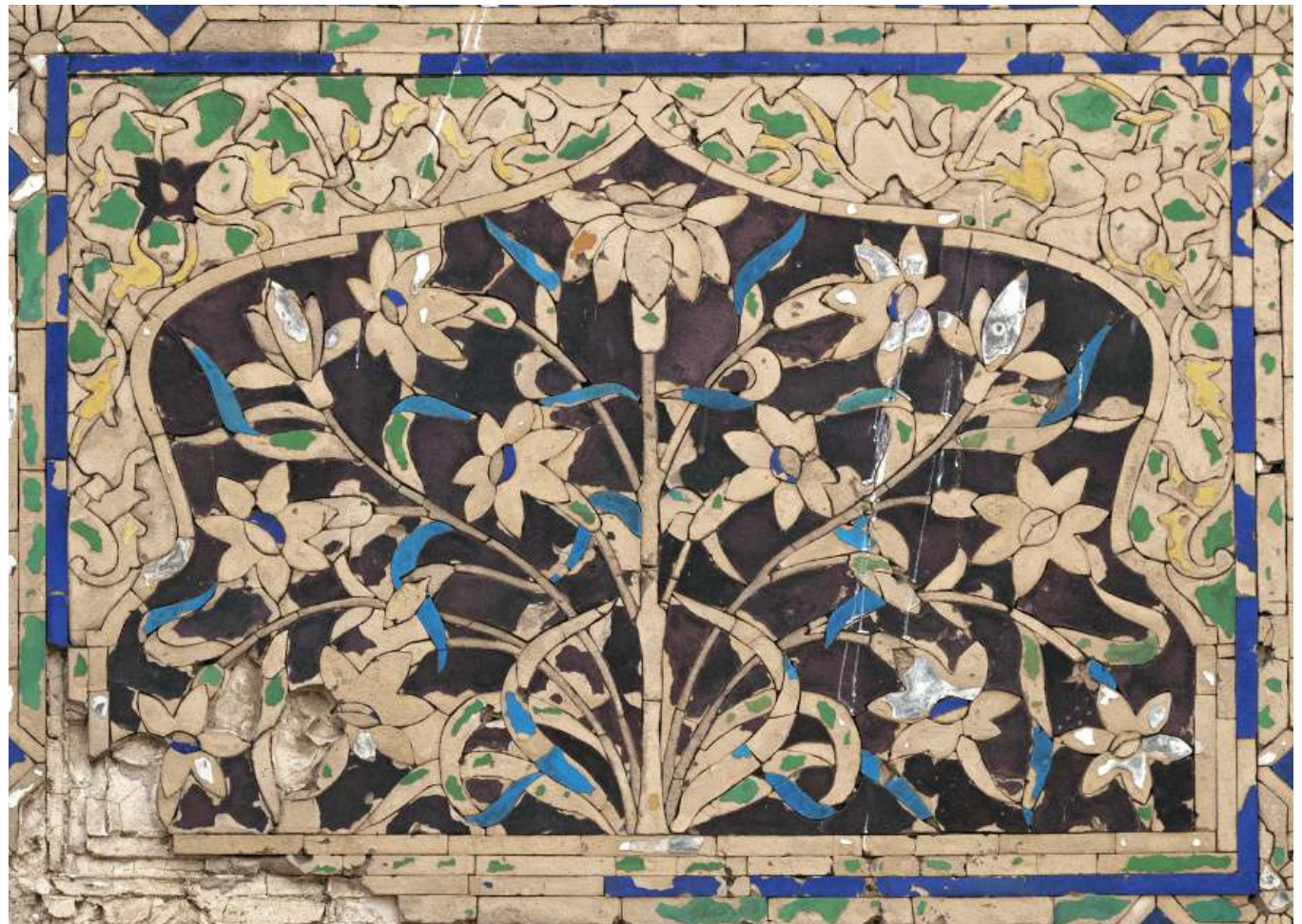
FIGS. 13, 14

The front and back of a monochrome cobalt blue-glazed tile found in Delhi. The reverse shows the pinkish, crystalline body, probably a mixture of clay and a high proportion of sand. Sultanate period, Delhi, 15th century, 13.5 × 13.5 cm. Victoria and Albert Museum, London.

FIG. 15
Detail of a cut-tile mosaic panel on the exterior of the Jami Masjid in Mathura showing the distinctive Mughal orange glaze next to some details picked out in yellow, 1661.



FIG. 16
Detail of a cut-tile mosaic panel on the exterior of the Chini ka Rauza in Agra using manganese purple glaze, which seems to have weathered better than the other colours. Mughal, 1635.





the 1876 gazetteer of Sindh as suggesting that this colour is composed of iron oxide with a small amount of cobalt.²⁰ In the Indus region, reddish-brown is sometimes achieved by reserving parts of the clay body when applying the white slip and then covering the whole with transparent glaze, which allows the natural colour to show (fig. 18). True red is almost unknown as a glaze colour, although it is indicated in some colour plates of now lost dado panels in Bidar (see figs. 5.85, 5.86), and a fragment from the now lost tomb of Husain Shah in Gaur (c. 1519) has what appears to be a bright tomato red, among other colours (see p. 200).

While there is a comprehensive spectrum of cooler colours in Indian tiles, it is the warmer oranges, ochres and browns that give them their distinctive character.

THE MANUFACTURING PROCESS

We do not have any contemporary descriptions of the production of tiles during the Delhi Sultanate (1206–1526) or Mughal (1526–1857) periods, so our information is garnered from three main sources: comparisons with other parts of the Islamic world, observation of modern craftsmen in traditional workshops and physical examination of the tiles themselves.

To form the basic square or rectangular tile body, there were two main techniques: cutting from a flat slab, and moulding. Today in Multan, in present-day Pakistan, using traditional, probably little-altered methods, the clay is first dried out and broken up into small lumps before introducing water, often along with a small proportion of sand, and the mixture is kneaded and carefully blended in several stages, with the pile turned over between each stage. It is then laid out, rolled and, using a template or measure, cut into squares. Moulding involves pressing the clay into a wood frame of the required dimensions. At the leather-hard stage, before firing, refinements are made with a knife to trim the edges or to prise out ‘frogs’ (hollows to help with adhesion) at the back. After firing, tiles are often chipped off along the back edges to ensure a close fit, as well as sometimes trimmed with a file before being positioned (see fig. 8).

For three-dimensional shapes such as architectural finials or glazed bricks and plugs, specially shaped moulds were made, either of wood or unglazed fired clay or, in more

FIG. 17
Detail of a Mughal tile showing the dark outlines associated with the *cuerda seca* technique, composed chiefly of manganese oxide, that serve to separate the different glaze colours, c. 1650. Keir Collection, UK.

FIG. 18
A Multan tile showing how a reddish-brown colour is achieved by allowing the clay body to show through the clear glaze. Punjab, possibly late 15th century, 20 × 20 cm. Keir Collection, UK.

FIG. 19
Detail of cut-tile mosaic in the Badshahi Ashurkhana, Hyderabad, Deccan, c. 1612.



**FIG. 20**

Part of a frieze of 19th-century mosaic tiles in the shrine of Lal Shahbaz Qalander at Sehwan, Sindh. These tiles were shaped before firing, a quicker and easier task than cutting after firing, but shrinkage and distortion in the kiln means that the pieces do not fit together quite as perfectly.

recent times, plaster.²¹ As with the flat tiles, there would also be refinements and finishing with a knife and other tools while the clay was still soft.

Shaped tiles used for mosaic decoration were made by cutting the tiles either before or after firing, depending on the level of refinement required; the typical intricate Mughal and Deccani mosaics were cut into shape after glazing and firing as this was the only way to ensure a perfect fit, shrinkage and distortion in the kiln being hard to avoid (fig. 19).²² One other advantage of cutting after firing was that each colour could be fired at its own optimum temperature, so there was no compromise in the intensity of pigments. Nevertheless, simpler mosaic patterns, as seen in later tilework of Sindh, for example, were cut from the leather-hard clay, guided, at least in more recent times, by sheet metal templates.²³ The glaze was applied after cutting, and this is evident from examining the edges of loose tiles (fig. 20).

TECHNIQUES OF DECORATION

A huge range of techniques is used to decorate tiles in India, from the most basic single-coloured glazed bricks to highly sophisticated pictorial panels composed of a multitude of glazed elements. Tiles are cut, moulded, painted, engraved and inlaid, sometimes undergoing a combination of these techniques at the same time. For the researcher, trying to make sense of these is given an added layer of complexity by the sometimes vague terminology used by earlier writers, generally of the colonial period, to describe often lost tiles in a manner more appropriate to European ceramics. The three terms ‘encaustic’, ‘enamelling’ and ‘maiolica’, for example, are clearly misleading in the context of the subcontinent. For the sake of clarity, techniques here have been separated into two broad categories: monochrome and polychrome.

MONOCHROME

Monochrome tiles take several forms in the subcontinent, all with predecessors in the lands to the northwest. In Iran and Central Asia, glazing on structural elements, primarily

FIG. 21

Glazed bricks on the outside wall of the Lattan Mosque in Gaur, Bengal, c. 1480. This mosque was originally completely glazed both inside and out.



brick, emerged before glazed revetments.²⁴ In the subcontinent, the two appeared more or less at the same time, but true glazed bricks (as opposed to brick-shaped tiles) were used only to form continuous bands of colour and were little seen after the beginning of the seventeenth century (fig. 21).

Recent studies have shown that most monochrome glazes, on both earthenware and fritware tiles, were applied as a single layer of opaque colour on a surface that was ‘primed’ with a fine silica slip.²⁵ To produce a white monochrome tile, the same slip was prepared, but instead of a colour, clear glaze was applied on top.²⁶

Apart from being used directly on a wall, plain tiles were also cut into shapes for mosaic, a technique first seen in thirteenth-century Anatolia and, soon after, in Central Asia.²⁷ Pre-existing skills in carving stone, wood and stucco were clearly harnessed for this,²⁸ which may explain the superb quality of Indian mosaic technique, as in the Badshahi Ashurkhana in Hyderabad, where the elaborate shapes fit together perfectly (see fig. 19). Although some nineteenth-century writers, followed in the twentieth century by the art historian Ram Nath, suggest that the mosaic pieces were placed directly onto a pattern drawn in the soft mortar on the wall,²⁹ an account of the process as witnessed in Iran, written in 1931, is probably closer to the mark, giving us a good idea of the painstaking procedure.³⁰ Arthur Upham Pope describes patient chipping with an adze-like hammer of a large (60-cm) square tile to produce the small, shaped pieces for the jigsaw. Instead of placing the pieces directly onto the surface of the building, in this case the exterior of a dome, the pieces were first placed face down on a brick and plaster reverse template featuring the marked-out design and exactly matching the required curvature. Plaster was then applied to the back of the tiles, which were then transferred to the dome in panels of about 45 centimetres square at a time. The process was probably substantially the same in India. It is notable that in some cases, after the initial cutting, the centres of the shaped pieces were removed so that different colours could be inserted. This is particularly seen in flower motifs where the petals contrast with the centre (fig. 22). This was clearly a tricky job for the craftsmen, and there are many examples where the tile seems to have broken in the process, although once the parts were assembled, the break was often not conspicuous.



Another use of monochrome tiles was ‘tile inlay’, in which shaped glazed pieces were set into prepared unglazed brick recesses. Instead of being joined together, the tiles were separated from each other by brick ridges that stood proud of the tile surface. This technique, seen particularly during Jahangir’s reign (1605–27) (fig. 23), can be traced back to the Seljuk Empire of the mid-eleventh to late twelfth centuries, as seen in the ‘arrow’ decoration in the Gunbad-i-Surkh tomb tower in Maragha, south of Tabriz. Another type of inlay, with glazed ceramic shapes inlaid in marble and stone, was employed by craftsmen particularly during the reign of the Mughal emperor Akbar (1556–1605), but we should perhaps see this as an extension of the practice of stone inlay work (fig. 25).

Another technique evolving from monochrome tiles that was popular during the fifteenth and sixteenth centuries in India is ‘engraving’,³¹ where areas of glaze were scraped away to reveal the rough body texture underneath, providing a contrast (fig. 26). This was probably viewed as a quicker and cheaper way of achieving the effect of inlay. It was relatively rare in tiling elsewhere in the Islamic world, where it was mostly used for calligraphy. The earliest examples are probably those in Seljuk Anatolia, such as on the Grand Mosque at Malatya (first half of the thirteenth century),³² and there are several later examples in Morocco (fig. 24). In India, important examples are the tomb of Jamali Kamali and the Qila-i-Kuhna Mosque, both in Delhi, the palaces of Gwalior and Orchha, and the tomb of Sher Shah Suri at Sasaram. The technique, however, fell from favour by the end of the sixteenth century.

It is interesting to note that, whereas carved or moulded glazed tiles were used to such dramatic effect in Central Asia, they are hardly seen in India. Exceptions are two early Sultanate period tiles in the Victoria and Albert Museum (see cat. 1, 3).



FIG. 22
Detail of a cut-tile flower motif in the Badshahi Ashurkhana, Hyderabad, c. 1612.

FIG. 23
‘Tile inlay’ on the western gate of Fatehabad Sarai, Tarn Taran, near Amritsar, 1606. The tiles are cut and set between unglazed brick ridges, a technique first seen in the Seljuk Empire (12th century).

FIG. 24
Engraved tiles from Morocco, probably Fez, c. 1400. Plain manganese-glazed fritware tiles have been engraved to leave the glazed calligraphy standing out against the rough tile body. Metropolitan Museum of Art, New York.