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The Changing Cultural Space of Mughal Gardens

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Introduction: From Ideal Garden Form to Complex Spatial History

Mughal gardens constructed in South and Central Asia during the sixteenth through eighteenth centuries constitute one of the distinguished chapters in the history of garden and landscape arts. In modern scholarship they have often been cast as a branch of "the Islamic garden." In survey books on world garden history, the Islamic chapter tends to follow that on medieval gardens, and precede either the chapter on Renaissance gardens of Europe or East Asian gardens of China and Japan.[1] As we shall see, neither of these chronologies makes sense, in large measure because the Mughal gardens of South Asia paralleled the development of baroque and early modern gardens in Europe and East Asia, in which there appears to have been a considerable amount of cross-cultural exchange of garden plants, imagery, and iconography. Aside from exploratory essays about the Medicis and the Mughals, and suggestive comparisons of contemporary monumental royal gardens in Europe and India, the global context of Mughal gardens raises more questions than answers.[2]

At the scale of the individual garden, Mughal gardens have likewise evoked a common spatial image – square enclosures, symmetrically divided into four equal parts delineated by slightly elevated walks and water channels that create the garden type known as the *chahar bagh* (four-fold garden). In addition to its iconic form, the chahar bagh is said to have strong symbolic associations with paradise gardens, the "gardens underneath which rivers flow," that await all faithful Muslims who have done good works at the Day of Judgment.[3] Although the Mughals did

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construct rectilinear enclosed gardens with paradisiacal symbolism, the chahar bagh had a range of forms and was complemented by other major garden forms that included irregular and terraced sites as well.

Again, modern scholarship has done much to challenge stereotypes of Mughal garden form and meaning, largely in articles on specific garden sites, cities, and representations of gardens in paintings and texts.[4] This chapter seeks to develop a fresh synthesis of these ideas by using changing concepts of cultural space – that is, the spaces in, around, and representing gardens – to retrace the evolution of Mughal garden arts from their antecedents in fifteenth-century Central Asia, through the expansion of the Mughal empire in the sixteenth through eighteenth centuries, and its ultimate collapse in the mid-nineteenth century, but nevertheless continuing in a fascinating array of conservation, restoration, and imitation projects to the present day. This historical geographic perspective reveals, first, how Mughal gardens were always closely and complexly related to their immediate landscapes. It also sheds light on the ways that gardens embodied the visions, and realities, of larger territories that expanded, contracted, and were continuously restructured over relatively short periods of time. Seen from the present, these changing *cultural spaces* of Mughal gardens help us better understand current-day conservation projects, as illustrated in the following account.

A Mughal Garden Vignette

In 2010, a collaborative project between the Archaeological Survey of India (ASI), the Aga Khan Trust for Culture (AKTC), and the Central Public Works Department (CPWD) expansively redefined the space of an historic Mughal garden. Humayun's tomb-garden, built in Delhi during the 1560s to 1570s to commemorate the second Mughal ruler, was the first monumental Mughal garden constructed in South Asia (fig. 9-1). The garden has a square four-fold chahar bagh layout. The visitor walks down the central axis of the garden to a high plinth surmounted by a chamfered octagonal tomb (known as a Baghdadi octagon which is more square than a perfect octagon), clad primarily in red sandstone with a grand white marble double-dome above. The garden and tomb thus also embody a *hasht bihisht* layout, that is, a nine-fold square composed of three squares on each side, which one perceives only from the upper tomb platform.

There are many interesting questions about the layout, design, construction, and use of this tomb-garden. During the past 150 years, it has variously been used as a farm, refugee camp, Victorian style garden, and in recent decades as a sleepy, dusty spot for school picnics, history buffs, and occasional ceremonial events.

During the late 1990s, the ASI and AKTC restored the interior garden enclosure to a dramatically improved state. In so doing, they wrestled with alternatives and uncertainties regarding original garden soil levels, plantings, paving materials, waterworks functions. They weighed all of the available Mughal-period evidence along with the significance of earlier historical interventions that had

FIGURE 9-1 Humayun's tomb-garden constructed by his son Akbar and wife Haji Begum between 1562 and 1571 CE in Delhi, India. Photograph by the author.

altered the garden, and yet had also become part of the garden's heritage value. They also had to consider modern interests and landscape tastes related to this historic Mughal site. The result was the most comprehensive Mughal garden conservation project in South Asia to date, carried out between 1997 and 2003.[5]

The conserved garden subtly refines one's perception of the interior garden space by re-establishing its sixteenth-century levels, retaining its vestiges of colonial-era tree and lawn planting, while reincorporating citrus plantings based on Mughal paintings and texts, and adding interpretive signage and garden furniture constructed with the hand-carved red sandstone and lime mortar of traditional Mughal masonry practices. These interventions have renewed the visual experience and understanding of Humayun's tomb-garden.[6]

The restored tomb-garden draws many times more tourists than before, and it is depicted on an increasing number of book covers, advertising brochures, commemorative stamps, and so on. Its position has risen in the space of domestic and international tourism as well as in the identity of India's cultural heritage. Until relatively recently, its position in the urban space of the Nizamuddin neighborhood of south Delhi remained a *local* place, ideal for a morning stroll; but for persons from more distant areas the tomb-garden was little known and perceived largely as an *object* walled off from the surrounding city.

Moreover, few tourists crossed the four-lane road to visit the fourteenth-century Sufi shrine of Hazrat Nizamuddin Auliya (d. 1325 CE), which had caused Humayun's tomb to be built – spatially, spiritually, and politically – where it was in the first place.[7] If they did, they would have witnessed thousands of pilgrims seeking the blessings (*barakat*) of the saint by proximity and making prayers and offerings at his tomb, along with weekly performances of devotional *qawwali* music, and annual death-day (*'urs*, literally "marriage") celebrations of the saint, and recitations and performances of works by his poet-devotee, Amir Khusraw (d. 1326 CE). Likewise, few Sufi pilgrims or local Nizamuddin *basti* (urban village) residents crossed the road to visit the World Heritage Site, which had also originally been built in proximity to their saint's tomb and the blessings that emanate from it. The 'urs celebrations performed at the Mughal ruler's tomb-garden by his descendants to mark the day of his death lapsed long ago at the end of Mughal rule in 1858 CE if not before.

Few would know that this modern road is an alignment of the famous Grand Trunk Road that stretched from Kabul to Dhaka in the sixteenth century. Those who do cross the road today face an array of traffic hazards, environmental debris, and socioeconomic distress. And those modern spatial problems obscure the historical landscape of smaller graves, paths, plantings, and buildings that defined the spatial context of Humayun's Mughal tomb-garden. Actually, it was more than the "context" of the garden, for all of the buildings and spaces were laid out on a large grid of enclosures and pathways that are no longer discernible on the ground.

Fortunately, an expansive conservation project, launched in 2007, is linking the conservation of Humayun's tomb-garden with adjacent spaces, an environmental conservation project in Sundar Nursery to the north, and a socioeconomic development program in the Nizamuddin basti across the modern Grand Trunk Road to the west. When completed, this project will draw together cultural heritage, environmental conservation, and socioeconomic development within their widening urban spatial context. Concurrent proposals are striving to extend the cultural heritage corridors north from Nizamuddin along the Grand Trunk Road to the Purana Qila (Old Fort), which Humayun helped to build; and to the west along the Lodi Road past the pre-Mughal Sultanate tombs of the fifteenth century to its terminus in Safdarjung's tomb-garden, the last monumental Mughal tomb-garden in Delhi, completed in 1754 CE.

The story of Humayun's tomb-garden is not entirely unique. Other recent investigations and conservation proposals have addressed the links between the Taj Mahal and Mahtab Bagh gardens across the river from one another in Agra, as well as the terraced tomb-garden of Babur in Kabul and hillside gardens of Kashmir, some of whose stories will be told below.

The point is that we live in a moment when the spatial reweaving of historical landscapes in South Asia for various reasons has become a cultural priority. It replaces an earlier era that focused on Mughal buildings and even sites as "art objects," fenced off from their modern surroundings at arbitrary administrative distances from building plinths and boundary walls. That mentality persists, but

it is gradually yielding to what can be termed a landscape approach. This new spatial approach in landscape history and conservation is exciting and brings up interesting queries. What ideas, methods, and evidence does it entail? What new insights can it reveal about landscapes modified by centuries of dramatic change? And how might that new knowledge be employed by current and future generations? These are some of the questions that have prompted re-examination of the changing artistic space of Mughal gardens.

The next sections follow the Mughal dynastic chronology that structured their sense of identity and the cultural arts that they produced. In each dynastic epoch, we consider how the spaces within gardens were organized and experienced and, just as important, how they related to their surrounding landscapes and regional contexts. Notwithstanding the rich diversity of individual gardens, several recurring spatial patterns stand out including:

(a) the geographical space of water in landscape design in:
    - the Timurid heartland in Central Asia
    - waterfront gardens and tanks
    - Kashmiri terraced gardens;

(b) the ephemeral space of:
    - prospect and refuge in gardens
    - symbolic appropriation of the land
    - observation and experimentation;

(c) imperial dynastic space that evolved:
    - from camps to gardens
    - from gardens to cities
    - from cities to imperial capitals, and
    - from imperial capitals to regional sites;

(d) the afterlife of Mughal gardens in:
    - colonial appropriation
    - twentieth-century heritage conservation
    - new frontiers for urban conservation design and development.

These themes help us return to Humayun's tomb-garden with a deeper understanding of what Mughal culture has contributed to Asian garden arts, how Mughal gardens have entailed dynamic spatial change throughout their history, even when they invoked the iconic chahar bagh, and why these artistic transformations have continuing significance.

Antecedents: Timurid Central Asia and Sultanate Hindustan

The search for origins is always elusive, and it has led some historians of Islamic gardens back to the hanging gardens of Babylon and even to Edenic myths of

the garden at the beginning of time. For Mughal gardens, two more immediate antecedents stand out – one a positive emulation of Timurid Central Asian gardens, and the other a more ambivalent relationship with the gardens of rival Sultanate dynasties that the Mughals defeated when conquering India.

Timurid Central Asia

Gardens figured prominently in the childhood of the first Mughal ruler Zahiruddin Muhammad Babur (reigned in India 1527–30). Babur was a prince of the Timurid empire, who traced his descent from Timur (known in the west as Tamurlane or Timur the Lame), whose empire was centered in the city of Samarkand, in what is now Uzbekistan, and stretched across large parts of Iran and Central Asia from 1370 to 1501.

In his personal memoirs, the *Baburnama*, Babur described the montane streamside gardens of his childhood home in the Ferghana valley in what is now Uzbekistan as "the fine front [embroidery] of a coat." Ferghana has a distinctive geomorphology and settlement pattern, in which streams rush down mountain valleys, irrigating small floodplain villages and gardens along the way, before depositing their sediments on alluvial fans that supported a larger settlement, and spreading out across broad irrigated pasturelands. Gardens were thus small, beautiful, productive, and refreshing; plots of fruit trees and flowers cascading downslope alongside a central stream. Each stream and associated alluvial settlement had its local clans and chiefs, associated to greater or lesser degree with the larger powers concentrated downstream in the cities of Samarkand and Bukhara.

Samarkand stands out as the second great Timurid antecedent for Mughal gardens.[8] It was the capital city of Timur (r. 1370–1405 CE), who at one point had conquered territory from Damascus in the west to Delhi in the east – and purportedly named some of his suburban gardens around the Samarkand citadel after these conquered cities. A contemporary travel account by a Spanish ambassador, Ruy González Clavijo, describes the elaborate courtly protocol by which he was permitted to approach Timur in these gardens, and the lavish garden banquets that followed.[9] The gardens surrounding Samarkand were situated on broad sloping meadows irrigated by streams diverted from the hills upslope. While gardens also graced the citadel, Timurid garden life ways developed in the suburban pastures of this formerly nomadic Turkic tribe. Senior female members of the Timurid court were prominent garden builders and patrons.[10]

By the time Babur rose to power, Samarkand possessed only a shadow of its former glory, and he attacked it from various garden encampments that were little more than cleared meadows that sometimes had a running stream, wildflowers that captured Babur's attention, and occasionally an extant pavilion. Babur would continue to deploy this military use of gardens in Afghanistan and Hindustan, refining the orderly layout of tents demarcated by textile enclosures. Conversely, gardens also served as places of fleeting refuge from the anguish of

defeats on the battlefield, places of rest, which also figured in Mughal memoirs and poetry.

The third main Timurid garden influence on the Mughals occurred in Herat (in present-day Afghanistan). Babur had established himself in Kabul and begun building his first gardens there. But his achievements could not match those of his sophisticated cousins in Herat who seduced him with wine as well as the courtly refinements of their irrigated gardens outside the walled city. As in Samarkand, the gardens of Herat surrounded the citadel, but in this case they were primarily aligned along an elaborate network of irrigation canals.[11] Babur developed several important gardens in Afghanistan, including Istalif, north of Kabul, and the Bagh-i Wafa in Jalalabad, made famous by paintings produced two generations later by his grandson Akbar's atelier. These images, painted from oral tradition and imagination rather than direct observation, depict one garden as a subtle straightening and impoundment of a stream course in the open landscape, while the other is presented as an enclosed chahar bagh.

Babur carried these three Timurid influences from the valleys of Ferghana, the suburbs of Samarkand, and the irrigated channels of Herat – along with his own garden experience at Kabul – into northern Hindustan, which he ultimately conquered in 1527 CE. One of his earliest gardens on the plains was known as the Bagh-i Safa (Garden of Purity) at Kallar Kahar, Pakistan, which featured a rough carved stone platform still known as the Takht-i Baburi (Throne of Babur) in an orchard overlooking a lake.

Sultanate antecedents

Before we describe Babur's subsequent projects in India, we must consider the Sultanate "other," and their gardens, for the Delhi Sultans had built cities, hydraulic works, and to some extent gardens for three centuries before the Mughals arrived. The various Sultanate dynasties came from Ghazni and other cities in present-day Afghanistan with a mixed Turkic and Persianate heritage, and a history of building monumental tombs as well as civic works. Attention is frequently drawn to Babur's negative first impressions of India. He complained about the heat, dust, manners, and waters; but just a little later in the text he commended the fruits, artisans, and many other aspects of India that convinced him to shift his capital there, building irrigated gardens and encouraging his nobles to do the same.[12] Anthony Welch has written an important critical assessment of "the gardens Babur did not like."[13] They may have included the square, enclosed tomb-garden of Sikandar Lodi, who died in 1517 CE only a decade before Babur arrived. Sikandar Lodi's tomb lies less than a kilometer from Humayun's tomb-garden, which was constructed a half-century later, also with an enclosed square chahar bagh layout. Its octagonal tomb and a single-bay mosque on the west garden axis occupy a much larger proportion of the garden space than does the architecture of Mughal gardens like Humayun's tomb, in which the tomb footprint is only one thirty-sixth of the garden space. Scholars have begun to shed light on

other Sultanate gardens, which as one would expect were not quite as rare or displeasing as Babur suggests.[14] But almost none of the purportedly thousands of gardens mentioned in Sultanate histories survive. However, the surviving Sultanate waterworks are particularly impressive, especially in the Mehrauli, Jahanpanah, and Tughluqabad capitals of Delhi. The Sultanate rulers were far greater patrons of civic waterworks than the Mughals, some of whom simply repaired Sultanate canals and reservoirs during their rule while building their own smaller-scale aesthetically refined garden channels and pools.

Mughal gardens were influenced by other Sultanate gardens in regions such as Gujarat.[15] The Sultanate city of Champaner in Gujarat, characterized by exquisitely carved yellow sandstone mosque architecture, had garden spaces within the city and on the lower hillside plateaus, one of whose walls and waterworks partially survives. Just as Timur had taken thousands of stonemasons from Delhi after its conquest to Samarkand, so too artisans followed Mughal conquerors from the Sultanate provinces to their court in Agra as it gained power. Other indirect influences probably passed down through historical and literary texts. For example, Masud Saad Salman, an early Muslim poet exiled in Lahore, yearned for the gardens of his native Ghazni.[16]

These antecedent influences on Mughal gardens were thus positive and negative, based on their spatio-cultural affinity with the "self" and "other" of the budding dynasty. Although most of the antecedent Sultanate landscape projects were grander in scale and civic significance than early Mughal gardens, their gardens per se lacked enduring salience, perhaps because Mughal garden tradition was so deeply rooted in the early dynastic psyche and continuity of dynastic identity, as outlined below.

Early Experimental Spaces: The Gardens of Babur and Humayun

The first Mughal gardens in India were physically small but culturally significant; that is, their physical spaces were modest, but the social space they envisioned was packed with imperial scale and meaning. Several gardens constructed by the first two Mughal rulers, Babur and Humayun, help establish this pattern.

Conquest gardens of the first Mughal ruler Babur (1527–30 CE)

The main surviving Baburi garden in northern India is the Bagh-i Nilufar (lotus garden) at the village of Dholpur, which was excavated by the ASI and garden historian Elizabeth Moynihan (1988). It draws water from a large earthen reservoir, built by the Lodi Sultans, from which a channel led to a small inclined waterfall (*chadar*), and lotus-foliated water tank (fig. 9-2). The floral imagery is from India as are the rock-carving methods, and the earth dam and reservoir. Babur added a garden in thanks for a military victory. To fulfill a vow he foreswore

Figure 9-2 Babur's extant garden waterworks at the Bagh-i Nilufar (lotus garden) built between 1527 and 1528 ce near Dholpur, India. Photograph by the author.

the wine he had first started drinking in a Herat garden and filled the Dholpur tank with lemonade. He later built another garden in gratitude for a victory at the village of Sikri, which later became the Mughal capital of Fatehpur Sikri.

Most common was Babur's marking of landscapes with small garden improvements – a 10 by 10 *gaz* tank for ablutions (one Mughal gaz was approximately 30 to 32 inches long and is translated as cubit or yard), a straightened stream channel, a bench for viewing the landscape, or an allocation of land to a noble for garden construction. These projects were as much or more about the political space of Mughal landscapes as they were about physical design.

Mystical garden experiments of Humayun (1527–56 CE)

The second Mughal ruler Humayun had a less successful military career than his father. Indeed, the Mughal empire collapsed under him, leading to his flight into exile in Persia, and Delhi was only barely recovered when he fell down the stone stairs of a pavilion there and died. None of his physical gardens survive. Even so, texts and paintings indicate that Humayun's gardens had extraordinary imagination and inventiveness that influenced more enduring projects in later decades.

Several examples stand out. A garden party described in his sister Gulbadan Begum's biographical account, the *Humayunnama*, and depicted in a near-contemporary painting, describes a "domesticated-wild" space of fruit trees and rock outcroppings.[17] Another garden picnic scene has an awning hung from a chinar tree in a loosely organized space with music and dance.

Gardens were also places of deepening symbolic significance. Humayun arranged his son's circumcision in a garden, as well as reunions following exile, and negotiations with his rebellious brothers, who constructed gardens in Lahore, Kabul, and elsewhere to establish their own status in those centers. Many gardens and waterworks were playful, showering unsuspecting young guests with surprise dunking, not unlike the *giochi d'acqua* of Italian gardens. At the same time, garden symbolism reached in numerological and mystical directions in Agra where Humayun ordered the construction of a floating *chahar taq* garden, which consisted of four octagonal pavilions lashed together in such a way as to frame a central octagonal pool. This design prefigured his own tomb-garden's design. He also explored the spatial symbolism of the stars, days of the week, colors, physical elements of the universe, and so on.

Humayun's exile in Persia introduced two important influences on the space of Mughal gardens. The first influence came from his usurper, Sher Shah Sur, an Afghan leader who was not a great garden designer but was a superb administrator.[18] In addition to carrying over Sher Shah's imperial administration, subsequent Mughal rulers built upon his alignment of the Grand Trunk Road, the geographical backbone of the Indo-Gangetic plains which to this day runs from Dhaka, Bangladesh to Kabul, Afghanistan. One of the main sites along the Grand Trunk Road in Delhi was the citadel known today as Purana Qila (Old Fort),

which Humayun initially established as a palace-capital known as Dinpanah. Suri mosques, octagonal tombs, city gates, and Sher Shah's tomb set within a water tank itself may have influenced some Mughal ideas about architectural siting, construction, and decorative detail.[19]

Another influence on early Mughal gardens came from Persia itself.[20] In addition to an army to regain his territory, Humayun drew along courtiers who included painters, poets, and musicians. The Shiite court of Shah Tahmasp and his predecessors in Persia had a long record of garden patronage. The Persian influence on all of the arts expanded as artists migrated to courts that had the resources and taste to support them. It is important to underscore that while the gardens of early Mughal rule were physically small, they had broad spatial meaning that took physical shape in the imperial expansion that followed.

Imperial Spaces: From Gardens to Cities to City-Gardens

After Humayun's death, the Mughal army conquered territories and formed a state that spanned much of South Asia. Its garden arts began to flourish in size and sophistication. Each ruler had a long life and/or reign, and an expanding family and court of garden patrons. This section describes the successive developments of garden form and meaning, along with the historical, geographical, and cultural contexts that shaped them – and which they shaped in turn.

Akbar's shift in emphasis from gardens to urban design (1556–1605)

The first long-term Mughal ruler, Akbar, was also one of the greatest, measured in terms of political-economic expansion and pluralistic cultural production.[21] His legacy continues to resonate in contemporary cultural debates in South Asia and the west where he is championed by cultural liberals and castigated by cultural conservatives. For our topic of garden design, his legacy is also mixed as is evident in the several examples provided here.

Akbar's reign begins in a garden, in a hastily constructed coronation platform at the garden of Kalanaur in the Punjab. As a 13-year-old he was too young to immediately grasp the precarious dynastic situation, but he soon learned the joint significance of architectural building and state formation. His earliest projects were defensive, reinforcing his own forts and attacking those of others. These forts included courtyards whose functions ranged from military review to public petitioning, private strategizing, and secluded family life. As subsequent rulers have renovated them extensively, little remains of the Akbari period forts besides their overall enclosure shapes and open spaces that are akin to the open *maidans* (squares) that provide large sparsely vegetated spaces or fields used for public gatherings and informal activities.

The great garden innovation of this period was Humayun's tomb-garden, described at the start of this chapter. The designers, Mirak-i Sayyid Ghiyas and

his son Muhammad-i Mirak came to Delhi from Herat by way of Bukhara.[22] They laid out a square garden enclosure 450 by 450 gaz that they divided into both four, and nine, equal parts – a chahar bagh and hasht bihisht garden – which is the only garden of this type in South Asia. Although sophisticated in its layout and proportions, it was probably designed with simple methods on five-gaz gridded paper. The tomb had a hasht bihisht layout like the garden, which bears comparison to Humayun's chahar taq composition in Agra. Akbar's garden design role was presumably paramount in the selection of the site and scale, but otherwise supervisory, along with his stepmother, Humayun's senior wife, Hajji Begum. Humayun's tomb-garden established the dynastic model for a ritual funerary space that continued throughout the Mughal period and reached its pinnacle in the Taj Mahal in Agra. Humayun's tomb-garden's proximity to the shrine of Sheikh Nizamuddin Auliya Chishti had special significance for Akbar, who drew spiritual inspiration from the Chishtiyya Sufi order, walking on foot from his capital in Agra to the shrine of Muinuddin Chishti in Ajmer, where he also built a fort and garden.

A local Chishti saint at Fatehpur Sikri inspired Akbar's most enduring architectural legacy in the ceremonial capital he constructed there. Sheikh Salim Chishti forecast the birth of Akbar's son and heir who was named Salim after the sheikh, and who would later become the emperor Jahangir. Perched along a rocky ridge overlooking an impounded reservoir, Fatehpur Sikri is a masterpiece of urban and architectural design. Although it is exquisitely sited and encompasses a staggered composition of courtyards and elegantly carved red sandstone buildings, Fatehpur Sikri has few gardens per se. This observation prompts the question, what was a Mughal garden? The rock-cut pool at Dholpur was called a garden, but the red sandstone lined pool of Fatehpur Sikri known as the Anup Talao was not. There presumably were gardens in and around the stone courtyards, but contemporary Mughal and European accounts rarely mention them.[23] Akbar's official history, the *Akbarnama*, refers to gardens on various occasions but not with the passion of Babur or imagination of Humayun.

Akbar's reign thus marks a transition from garden design to urban design, and thus a recentering of the space of Mughal culture from the garden suburbs to fortress courtyards. Akbar's political conquests of and alliances with Rajput rulers, and his early excursion to Kashmir where he once again built a fort, and which he described as his regional garden, set the stage for a synthesis of city- and garden-building in the century that followed.[24]

Persianate garden efflorescence in the reign of Jahangir and Nur Jahan (1605–27 CE)

Emphasis on garden aesthetics returned with Jahangir who, like his great-grandfather Babur, was a keen naturalist, listing the flora and fauna of his travels which were partly the basis for his garden projects. Also like Babur, he kept a private journal that shed light on his personal reflections and aspirations.

Unlike his predecessors, he had to wait a long time to succeed his father, which entailed various projects as a prince. One of the most notable is the so-called Hiran Minar water complex near Sheikhupura Fort, southeast of the capital city of Lahore in what is now the Punjab province of Pakistan. The Hiran Minar is a large rectangular water tank with guard towers at each corner, ramps down to the water for animals on each side, and a beautiful pavilion in the center that is connected to one side of the tank by a causeway, which is on axis with a nearby free-standing minaret (fig. 9-3). The minaret is purportedly dedicated to a pet antelope named Minraj, who was trained to lure other animals to the tank for hunting. The Hiran Minar complex thus embodies the complex Mughal relationship between hunting, natural history, and pets.

After Jahangir ultimately succeeded his father in 1605, he constructed an exquisite water court in Agra Fort known as the Jahangiri Mahal.[25] It bears comparison with Babur's Dholpur water garden. Though even smaller in size, its jewel-like stone carving and elegant proportions included a miniature water chute, narrow water channel, and deep lotus-foliated pool, which overlooks the vast Yamuna River floodplain, reinforcing the Mughal pattern of small water systems that had a large aesthetic impact, as did the narrow water channels of Humayun's tomb-garden and Fatehpur Sikri. But the Jahangiri Mahal does not appear to have been conceived as a garden per se. Other fortress courtyards did however become gardens during Jahangir's reign, such as those he built in Lahore Fort that included plantings with their pavilions and waterworks. Jahangir also undertook more extensive palace-garden construction at the pre-Mughal site of Mandu in central India, where he built gardens, water tanks, and pavilions, perhaps because in Mandu he was unconstrained by his immediate forbears.[26]

One of his first acts was to build a dynastic tomb for his father Akbar, located in the village of Sikandra just north of Agra. Like his father, he built the tomb in a symbolic location, but not in the city in which he ruled – perhaps there was not enough space for two generations of Mughal rulers in the same city! Akbar's tomb at Sikandra is a curious place, both in its location north of the city, and in its design. Like Humayun's tomb, it has a large square chahar bagh enclosure in which the tomb is centrally sited. The walled enclosure has monumental gateways and pavilions on each axis. Elevated walks and water channels partitioned the garden into a hierarchy of chahar baghs, rather than the hasht bihisht layout of Humayun's tomb-garden. The tomb structure itself also consists of multiple horizontal stories like a larger and stronger version of Akbar's Panchmahal pavilion at Fatehpur Sikri, again in contrast to the hasht bihisht composition and double-dome of Humayun's tomb. Its red sandstone cladding was combined with an unusually large pattern of sandstone and marble floral ornamental details. Jahangir did not like the first phase of the building and had it torn down and rebuilt.[27] As his memoirs did not comment on it further, we do not know his final opinions of it, or those of other Mughal writers, and we are left instead with the later descriptions, drawings, and impressions of European travelers.

FIGURE 9-3 The Hiran Minar hunting pavilion and waterworks built *c.* 1606 CE by Jahangir near Sheikhupura Fort in the Punjab region of Pakistan. Photograph by the author.

Jahangir soon married a woman who would bring her entire family and Persianate culture into the center of the Mughal court and garden culture. Nur Jahan (d. 1645 CE) had extraordinary political ability and aesthetic taste, as did her brother Asaf Khan (d. 1641 CE) and her father Mirza Ghiyas Beg who held the title of Itimad ud-Daula (d. 1622 CE). Their patronage brought renewed focus on gardens as an expression of Mughal dynastic identity. The Shiite influence on the Mughal court thus continued from Humayun's association with Shah Tahmasp to Akbar's support for the literary family of Abul Fazl to Jahangir's alliance with the family of Nur Jahan.

Most notable were the monumental gardens of Kashmir. Jahangir improved the spring at Virnag, the crystal clear source of the Jhelum River, in which he ornamented fish with pearl rings. Water flowing from the spring was directed down terrace gardens. Jahangir built the terraced garden that came to be known as Shalamar, which stepped down from its hillside water source toward the level of Dal Lake, which it ultimately reached by a long perfectly straight canal. Nur Jahan was said to have initiated the manufacture of the *otto* (essence) of rose at Shalamar garden.

Her brother Asaf Khan built the nearby Nishat Bagh in Srinagar, which had a single pavilion at the top and a magnificent set of terraces overlooking Dal Lake (fig. 9-4). Unlike the gardens of the plains, or those of Kashmir today, water supplies were abundant for these gardens, which led to a shift away from narrow channels with subtle bubbling fountains and rippling cascades, and toward dramatic cascades and fountain displays. Spatially, these Kashmiri gardens had extensive prospects with no visual boundaries, perhaps like the earliest Mughal gardens of montane Central Asia and Afghanistan.

Nur Jahan is credited with several garden pavilions along the Yamuna riverfront, including those of the Ram Bagh.[28] Originally thought to have been Babur's garden, the architecture is of later Jahangir period style and decoration. In the tomb-garden of Itimad ud-Daula, just downstream from the Ram Bagh along the Yamuna riverfront in Agra, Nur Jahan constructed a complete tomb-garden for her parents that consisted of a white marble-clad tomb set within a simple chahar bagh space delineated once again by walks and plantings. Itimad ud-Daula's marble tomb set an important partial precedent for the Taj Mahal's extensive marble cladding, and even today local guides refer to it as "Baby Taj."

However, Nur Jahan's greatest funerary gardens were those for her husband, her brother, and ultimately herself in what has come to be known as the Shahdara tomb-garden complex across the Ravi River from Lahore Fort. It is the most extensive multi-garden funerary complex in the Indo-Islamic realm.[29] Like Humayun's tomb, the complex was laid out on a decimally proportioned grid. Each of the gardens is proportional to one another, with Asaf Khan's 300 by 300 gaz garden exactly one quarter the size of Jahangir's 600 by 600 gaz garden.[30] Jahangir's tomb sits on a 100-gaz plinth, with tall minarets at each corner which frame an extraordinary "empty" roof space above the single-story tomb. Nur Jahan's own tomb was likewise square and single-storied, while Asaf

FIGURE 9-4 The Nishat Bagh garden built *c.* 1633 CE by Asaf Khan, brother-in-law of the Mughal ruler Shah Jahan on a hill above Dal Lake near Srinagar in the Vale of Kashmir. Photograph by the author.

Khan's was octagonal with a dome above. The Mughal rulers all had square tombs and gardens while octagonal tomb-gardens were more common among high-ranking nobles. Unlike the gardens of Kashmir, the water channels of Shahdara were narrow and shallow, fed by wells that lifted water onto aqueducts that ran atop the garden walls. By the time this funerary complex was completed, however, imperial gardens had taken a new direction during the rule of Shah Jahan.

Synthesis of gardens and cities in the reign of Shah Jahan (1627–56 CE)

Like his father Jahangir, Prince Khurram, the future Shah Jahan, was an accomplished patron of the arts before he assumed the throne. He built hunting palaces that underscored the age-old Persian dynastic symbolism of the hunt. He left no autobiographical memoirs, but his reign is the most richly recorded in terms of illustrated manuscripts, such as the *Padshahnama*, which contains highly detailed landscape images including several gardens.[31] He patronized numerous historians, painters, and court poets who presented idealized garden imagery and allegories.

Shah Jahan's gardens have survived more than others in part because their architectural elements were sturdily constructed. Even minor garden walks had lime-mortared brick masonry foundations a half-meter thick, while larger platforms and water tanks had foundations greater than a meter in depth. Even when these have collapsed or been robbed of brick by subsequent generations, the lineaments of their garden layouts survive. They include fortress garden courtyards such as the parterred Anguri Bagh (grape garden) in Agra Fort, and the Diwan-i Khas (Hall of Private Audience) courtyard in Lahore Fort. Shah Jahan continued the garden-building passion in Kashmir, refining the Shalamar garden begun by his father.

What Nur Jahan had begun in the way of white marble cladding and *parchin kari*,[32] or hard semi-precious stone floral inlay, at her father's tomb, Shah Jahan carried to perfection at the Taj Mahal, built in 1632–48 CE in commemoration of his wife Mumtaz Mahal who bore all of his 14 royal children.[33] The Taj Mahal gardens have received interesting attention over the years.[34] They were the first to undergo British conservation, which included documentation, decorative stonework repairs, new lighting, and massive removal of *jangli* or overgrown vegetation, which was replaced by grass lawns and Victorian flower beds. Debate has focused on why, unlike all of its imperial tomb-garden precedents, the Taj Mahal tomb was situated on a plinth at the riverfront end of the garden, rather than at the center, where a raised white marble pool stands instead. One provocative thesis drew inspiration from Ibn al-Arabi's mystical images of the throne of god.[35] Others challenged this symbolic interpretation, arguing instead for the pragmatic aesthetics of the riverfront as the logical site for this extraordinary structure.[36]

A Smithsonian archaeological excavation of the garden opposite the Taj Mahal in the late 1990s led by Elizabeth Moynihan raised other possibilities.[37]

The Mahtab Bagh had side-walls perfectly aligned with those of the Taj Mahal. When included in the overall Taj complex, it resituates the tomb near the center of the complex with the river Yamuna running between the Taj Mahal and Mahtab Bagh gardens. If correct, this may represent the largest scale Mughal effort to emulate a "garden beneath which rivers flow" as presented in the Koran.[38]

Notwithstanding Ebba Koch's book, *The Complete Taj Mahal*, this greatest of Mughal tomb-gardens still poses interesting unanswered questions about the spatial character of Mughal gardens.[39] For example, all of the royal tomb-gardens discussed thus far were laid out in regular decimally proportioned spaces – 5, 10, 50, 100 gaz, and so on. However, the modules at the Taj Mahal involve multiples of irregular prime numbers, such as 17 and 23 gaz. What explains this mathematical irregularity? The original planting design of the Taj Mahal is likewise unknown, and will remain so until new manuscripts are found and/or new paleobotanical analyses are undertaken. The hydraulics and water budget of the Taj Mahal warrant detailed analysis. The garden's spatial form and aesthetics are also likely to stimulate many more studies in the decades ahead.

If the Taj Mahal was Shah Jahan's masterpiece of garden architecture – an advance that built upon but went far beyond any of his predecessors in its range of functions, spaces, and linkages with riverfront gardens and urbanism upstream – his new capital of Shahjahanabad in Delhi was his crowning achievement in what might be called city-garden design – the fusion of garden and urban design at the height of Mughal imperial power and spatial vision.

Shah Jahan moved his capital from Agra to the new site in north Delhi in part for the greater space and lower congestion that it offered. He must also have considered Delhi's symbolic significance as the capital of every major Muslim dynasty since the thirteenth century. It was surprising that no attempt had been made to relocate there since Humayun's small-scale attempt at the Dinpanah or Purana Qila site just north of his tomb.

In addition to its walls, roads, and fortifications, Shahjahanabad contained at least three major levels of urban garden design. First, Shah Jahan built garden quadrangles within the fort. Although heavily altered in the colonial era, these gardens lay below a series of white marble pavilions and courts along the Yamuna River side of the fort, linked together by the Shah Nahr (Royal Channel), an elegant shallow marble water channel fed by a well from the Yamuna that cascaded down a *chadar* or water chute at the northeast corner of the fort into the channel. The water flowed gently under white marble screens (*jali*) one of which is carved with the scales of justice, and into a shallow square marble pool that circumscribes an elegantly designed lotus-petalled pool.

Royal gardens built by Shah Jahan's daughter Jahanara (d. 1681 CE) established the central east–west spine of the city, though they too have all but disappeared. The Jahanara Bagh was described – from outside only – by the traveler François Bernier in 1663.[40] Jahanara's gardens were fed by their own canal, which ran parallel to what was once a tree-lined water channel and major avenue known as Chandni Chowk, which is now the busiest street in old Delhi. Other gardens

of the royalty and nobility lined a canal that ran from the Yamuna River to the citadel and its moat.[41]

Up until the partial destruction of Shahjahanabad by the British after the uprising in 1857, and its dramatic repopulation during the twentieth century, the larger courtyard houses (*havelis*) also had gardens, which Stephen Blake describes as *khanah baghs* (household gardens).[42] This takes us down to a residential scale, which is rarely discussed or depicted in Mughal sources. It completes the portrait of a city-garden assemblage that developed over the course of two centuries.

Aurangzeb, his brothers, sisters, daughters, and saints (1656–1707 CE)

Though the empire continued to expand, artistic and garden patronage changed during the reign of Aurangzeb. A violent struggle for succession ensued even before Shah Jahan's death, which led to the king's imprisonment, the execution of his brothers, and the ascent of Aurangzeb Alamgir. Aurangzeb is most often contrasted with his elder brother Dara Shikoh (d. 1659 CE), who drew mystical instruction from Mulla Akhund Shah of Kashmir and Mulla Shah's *pir*, or teacher, Mian Mir, buried in Lahore. Indeed, the Mian Mir area of Lahore is one of the only Mughal complexes to include a Sufi tomb-garden, built for Mulla Shah, along with a large square water tank comparable to the Hiran Minar, built for Dara Shikoh's wife Nadira Begum. Dara Shikoh had literary and cross-cultural interests that included translation of Sanskrit texts, not unlike the great Khan-i Khanan Abdur Rahim (d. 1627 CE) of Akbar and Jahangir's era.

In an earlier time, Aurangzeb had written to his father with concerns about leaks in the Taj Mahal dome and flooding of the Mahtab Bagh across the river. As ruler, however, he focused on fortifications and mosque construction. He in effect shifted the capital from Delhi to Aurangabad in the Deccan, a beautiful landscape of rolling hills and verdant valleys irrigated by long underground tunnels known as *qarez* that were an ancient water supply technology from Persia. The unconquered hilltop fortress of Daulatabad in this area had a series of gardens, tanks, baths (*hammams*), and other waterworks on its lower terraces built by earlier provincial rulers, which may have influenced Mughal garden projects.

Aurangabad itself had several beautiful gardens, including one built in emulation of the Taj Mahal by Aurangzeb's sons in memory of their mother. While the Bibi ka Maqbara tomb (1651–61) is often criticized as a clumsy imitation of the Taj Mahal, its gardens had a fascinating water supply system, beautiful siting, and an intriguing rectilinear composition.[43] Aurangzeb himself requested a simple grave, open to the sky, that lies in the compound of a Chishti Sufi saint in the nearby town of Khuldabad; this placement is striking because orthodox leaders like Aurangzeb and his modern apologists generally advocate simple burial in a common graveyard (*qabristan*). The Khuldabad Sufi shrine has also been characterized as a garden, and the general area was known as *rauza* (funerary garden).[44]

Leadership in Mughal garden design in the historic capital cities was taken over by Aurangzeb's sisters, Jahanara and Zebunissa (d. 1702 CE). Jahanara shared her brother's mystical nature, and she took care of her father Shah Jahan during his house arrest in Agra Fort until he died. She is now credited with building the Bagh-i Jahanara in Agra.[45] It has a large riverfront garden with a boat landing and the garden foundations are still visible. Her grandest garden in Shahjahanabad has already been mentioned, though almost nothing of it survives aside from foreign travelers' imaginative accounts.

Zebunissa by contrast supported her father Aurangzeb in his succession struggles and became a patron in her own right in Delhi, though like other Mughal princesses she was prevented from marrying, which gave rise to speculative gossip about secret lovers and palace trysts.[46] She too had literary and mystical aspirations which perhaps, along with her later political alliances, led Aurangzeb to imprison her. While Lahore residents locate her grave in the south part of that city, contemporary histories located it in a garden outside Shahjahanabad, which was later moved to Akbar's tomb-garden at Sikandra. With the passing of these female patrons and fragmentation of the empire, the space of Mughal gardens entered a new phase of regionalism.

The Regionalization of "Mughal" Gardens

As indicated earlier, Mughal gardens evolved in conjunction with Central Asian, Persian, Indian, and European garden traditions. Within India, garden history connections with Gujarat, Rajasthan, Kashmir, Punjab, and parts of the Deccan were particularly fruitful. Some of these cross-cultural relationships grew stronger as the Mughal imperial center waned during the eighteenth century.

Rajput gardens, for example, coevolved with Mughal gardens, due in part to marriages between Mughal rulers and the daughters of Rajput nobles. When Mughal power declined, the garden impulse in the Rajput centers of Marwar, Mewar, Bundi, Kota, Udaipur, Orchha and others continued to develop. While retaining the overall Mughal geometry, they took on selected asymmetrical forms, elaborate parterres, and exquisite water features. The garden of Deeg, for example, had a large elevated tank that supplied hundreds of fountains, each of which was fed by its own holes in the elevated tank. On special occasions, colored powders were placed in those holes, which led each fountain to have its own regulated flow and color, and when the fountains played, the ruler had large spherical rocks rolled on the stone roof of his pavilion to simulate the sound of thunder!

The fortress garden of Nagaur in the hyper-arid Marwar region of western Rajasthan achieved a beautiful synthesis of Mughal and Rajput garden forms (fig. 9-5). One of its chahar baghs appears rectangular but is actually a slightly rhomboid shape. Its main chahar bagh is square, but two quadrants were planted while the other two were shallow lotus pools. The elegance of these regional

FIGURE 9-5 The Ahhichatragarh palace-garden complex built by Mughal and Rajput rulers from the sixteenth through nineteenth centuries on the citadel of Nagaur in the Marwar region of Rajasthan. Photograph by the author.

variations on Mughal and local garden design awaits further scholarly study, for they are some of the most exquisitely detailed garden spaces in South Asia.[47]

Eighteenth-century gardens were further characterized by increasing articulation of ornamental details. What they lost in spatial scale and imperial allusion, they sought to regain through heightened intimacy and taste. The Shiite courts of Lucknow and Hyderabad stand out as major centers of eighteenth-century Indo-Islamic garden design for funerary as well as palace, pleasure, and sometimes waterfront enhancement. Fresh attention is being given to the widespread gardens of the Deccan region of southern India, which includes a study of the poetics of garden scent.[48] Even Varanasi, the most sacred Hindu city on the Ganges River, boasted a few late Mughal gardens.[49] In some cases, such as the Rajput examples, this trend was artistically successful, while in others it lead to preciously small bulbous domes, overly reticulated cusped arches, and dramatically carved plastered surfaces that meant to imitate the more costly and elegant marble cladding of earlier times. The Sikh gardens in Punjab had a mixed record in these respects. While a garden known as the Hazuri Bagh, sited between Lahore Fort and the monumental Badshahi Masjid of Aurangzeb, is dwarfed by both of

these architectural complexes, other Sikh residential gardens in the Punjab add an important chapter to the legacy of Indo-Islamic garden history.[50]

Back in Delhi, garden construction continued to surround the large tombs of nobles such as Safdarjung and Najaf Khan, which marked a Shiite funerary area in Delhi and the relative rivalry and ascent of Shiite Lucknow. Safdarjung's tomb has unusually large water channels, which may have consumed more water than any of the larger imperial gardens of the city. The water system and planting design of Safdarjung's tomb have yet to be reconstructed even on a conjectural basis.

The last Mughal rulers sought to be buried near the Sufi Chishti shrine of Qutbuddin Bakhtiyar Kaki (d. 1235 CE) in first capital city of the Delhi Sultanate, to the south of Shahjahanabad. Toward the end of the 1857 revolt, the last Mughal emperor Bahadur Shah Zafar II tried to flee there, but he and his retainers had to stop and seek refuge in Humayun's tomb-garden along the way. A British force captured them and executed the Mughal princes on the way back to Shahjahanabad. Unlike his ancestor Babur, who fled to the gardens outside Samarkand, the last Mughal did not escape nor did he return to Delhi after his banishment to Burma and his death there in 1862, where he remains buried in an unmarked grave.

The Afterlife of Mughal Gardens: Colonial and Postcolonial

Garden historian John Dixon Hunt has drawn attention to the importance of the continuing reception and reinterpretation of gardens long after their original construction, in this case through a century of late Mughal political decline (that nevertheless witnessed some outstanding local garden projects), a century and a half of colonial rule, and 60 years of postcolonial initiatives.[51] This certainly applies to Mughal gardens, which British travelers began to appropriate as part of the expanding political and economic domain of the East India Company. Various European entrepreneurs transformed tombs into residences, churches, clinics, and libraries, depending upon their special interests. In each case the garden made for comfortable surroundings and recreation especially for the British who had by then developed sophisticated theories of garden history at home. Agro-horticultural and ancient monument protection organizations were created to promote related interests in the colonies. Viceroy George Nathaniel Curzon (1899–1905) made early interventions at the Taj Mahal, while a later viceroy raised the question of how much might be made by selling the Taj Mahal for its salvage value! In one of the first art historical writings on gardens in India, E. B. Havell in 1904 lamented the rapid decline of those gardens, which he attributed to the loss of indigenous expertise and the growing imitation of western garden fashions.[52] It was a familiar romantic colonial lament, which contributed

in small ways to the support of local gardeners and the emergence of Mughal garden history.

The first groundbreaking book on Mughal gardens was written in 1913 by the wife of a British officer stationed in India, Constance Mary Villiers-Stuart.[53] She hoped it might influence the landscape design for the new colonial capital in New Delhi. Serious treatment of garden history and conservation were set back, however, by the cursory treatment of the topic in the archaeologist Sir John Marshall's otherwise enduring *Conservation Manual* of 1927.[54] Most civic and pleasure gardens were lost due to land pressures, but even tomb-gardens and fortress garden courtyards were dramatically altered in part because the horticultural branch of the Archaeological Survey of India became largely a maintenance operation.

Postcolonial Mughal gardens

With independence in 1947 and the partition of India and Pakistan, many Mughal gardens and forts became refugee camps on both sides of the border. Over time, they acquired somewhat different meanings in each country, as a representation of the Islamic garden in Pakistan, and of national cultural heritage in India. In both cases, however, Mughal gardens have been publicly perceived largely as places to relax, walk, and picnic with family and friends. As historical gardens continue to be encroached upon and reconstructed, however, "new Mughal gardens" are being created for South Asian diaspora communities in Britain and in the luxury homes of new moguls.[55] While the field of Mughal garden history grew slowly during the 1960s and 1970s, it advanced substantially during the late twentieth century when garden archaeology projects in Agra, Delhi, Nagaur, and Kabul shed new light on garden history and technology.[56]

The Nizamuddin project vignette introduced at the beginning of this chapter is going still further by linking cultural heritage conservation of Humayun's tomb-garden with urban ecological design at a large-scale arboretum immediately north of the tomb-complex, and the socioeconomic development of the dense Muslim community in the Nizamuddin basti neighborhood in south Delhi. The arboretum will help visitors understand the native and adapted vegetation and their microenvironments that have influenced human settlement and architectural design in Delhi.[57] The Nizamuddin basti programs include educational programs in a local school for which the building is a learning aid.[58] In so doing, the greater Nizamuddin project draws upon the full depth of Mughal garden history, from its antecedents in Central Asia and Sultanate Delhi to its pivotal role in the expansion of dynastic territory and symbolic meaning, its pathos for the last Mughal rulers, and its waves of reuse and conservation to the present day. In each of these cases, the changing cultural spaces of Mughal gardens have an inner, an outer, and a dynamic dimension that have shaped the identity of a region and the development of an art form.

Notes

1 Ruggles, *Islamic Gardens and Landscapes*; Wescoat, "Mughal Gardens."
2 Jones, *A Mirror of Princes*; Wescoat and Wolschke-Bulmahn, *Mughal Gardens*, 5–29.
3 Though see Smith and Haddad, *The Islamic Understanding of Death and Resurrection*; Wescoat, "From the Gardens of the *Qur'an*."
4 Koch, *Mughal Art and Imperial Ideology*; Parihar, *Some Aspects of Indo-Islamic Architecture*; Wescoat and Wolschke-Bulmahn, *Mughal Gardens*, 5–29.
5 Aga Khan Trust for Culture, *Project Brief*.
6 Ruggles, "Humayun's Tomb and Garden."
7 Hasan, *A Guide to Nizamuddin*; Nizami, *The Life and Times*.
8 Golombek, "The Gardens of Timur"; Golombek and Wilber, *Timurid Architecture*, vol. 1, 174–80.
9 Clavijo, *Embassy to Tamerlane 1403–1406*; Lentz, "Memory and Ideology."
10 Golombek, "Timur's Gardens."
11 Allen, *A Catalogue*.
12 Wescoat, "Gardens vs. Citadels."
13 Welch, "Gardens that Babur Did Not Like."
14 Siddiqui, "The Discovery of Architectural Remains."
15 Siddiqui, "Discovery of Fourteenth and Fifteenth-Century Historic Garden Remains."
16 Sharma, *Early Persian Poetry*.
17 Wescoat, "Gardens of Invention and Exile"; Wescoat, "Ritual Movement and Territoriality."
18 Also known as Sher Shah Suri (i.e. of the Sur dynasty).
19 Brand, "Orthodoxy, Innovation, and Revival"; Asher, "Babur and the Timurid Char-bagh."
20 Parodi, "Humayun's Sojourn."
21 Habib, *Akbar and His India*; Wink, *Akbar*.
22 Subtelny, "A Medieval Persian Agricultural Manual in Context"; and Subtelny, "Mirak-i Sayyid Ghiyas."
23 Brand and Lowry, *Akbar's India*; Brand *et al.*, *Fatehpur-Sikri*.
24 Koch, "My Garden Is Hindustan."
25 Klingelhofer, "The Jahangiri Mahal."
26 Brand, "Mughal Ritual in Pre-Mughal Cities."
27 Jahangir, *Tuzuk-i Jahangiri*, 72.
28 Koch, "Notes on the Painted and Sculptural Decoration of Nur Jahan's Pavilions."
29 Brand, "Shahdara Gardens of Lahore"; Brand, "Surveying Shahdara."
30 Wescoat *et al.*, "Shahdara Gardens of Lahore."
31 Beach *et al.*, *King of the World*.
32 Known in Europe as *pietra dura*.
33 Begley and Desai, *Taj Mahal: The Illumined Tomb*.
34 Koch, "'My Garden Is Hindustan'."
35 Begley, "The Myth of the Taj Mahal."
36 Koch, *The Complete Taj Mahal*.
37 Moynihan, *The Moonlight Garden*, 5–29.
38 E.g., Koran, 47:12 and many other verses.

39 Koch, *The Complete Taj Mahal.*
40 Bernier, *Travels in the Mogul Empire.*
41 Ehlers and Krafft, *Shahjahanabad/Old Delhi.*
42 Blake, "The Khanah Bagh in Mughal India."
43 Parodi, "Bibi-ka Maqbara."
44 Ernst, *Eternal Garden.*
45 Koch, "The Zahara Bagh."
46 Krynicki and Hamid, *Captive Princess.*
47 Joffee and Ruggles, "Rajput Gardens and Landscapes"; Singh "Conserving the Spirit of a Rajput Garden."
48 Ali, "Fragrance, Symmetry and Light"; Hussain, *Scent in the Islamic Garden.*
49 Rotzer and Deokar, "Mughal Gardens in Benaras."
50 Dar, *Historical Gardens of Lahore*; Parihar, *Some Aspects of Indo-Islamic Architecture.*
51 Hunt, *The Afterlife of Gardens.*
52 Havell, "Indian Gardens."
53 Villiers-Stuart, *Gardens of the Great Mughals*; but see Wescoat, "Mughal Gardens."
54 Marshall, *Conservation Manual.*
55 The "mogul" spelling has been used for tycoons of the modern era.
56 Moynihan, *The Moonlight Garden*, 15–42; Francke-Vogt *et al.*, "Bagh-e Babur."
57 Aga Khan Trust for Culture, *Annual Report 2008–2009.*
58 Aga Khan Trust for Culture, *Annual Report 2008–2009.*

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