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THE MUGHAL WATERFRONT GARDEN

Gardens belong to the better-studied areas of Mughal patronage. The context, function, and meaning of early Mughal gardens in particular have recently moved to the center of scholarly interest;[1] their formal aspects have received far less attention, and their typology and the relation between form and function have not as yet been sufficiently considered. Formal analysis will, however, be the major source from which one can expect to draw conclusions when one addresses the theory and design of gardens, the theme of this publication, in a Mughal context. The Mughals were not much inclined to theorize; they expressed their concepts much better in forms than in words.

Babur, the first Mughal (he ruled in India from 1526 to 1530), is credited with having introduced into Hindustan — the Indo-Gangetic plain — the Timurid form of the *chahārbāgh* or *chārbāgh*. A *chārbāgh* is generally taken to be the Persianate walled-in garden divided by intersecting walkways, ideally but not necessarily, into four compartments (fig. 1A and B) [2] However, no garden of this description survives which can be attributed with certainty to Babur or one of his followers.[3] Contemporary accounts provide limited information because they focus on plantation and individual features rather than on the overall garden plan. The growing interest in the Mughals as heirs to Timurid traditions has made the poverty of our understanding of early-Mughal garden form all the more unfortunate A little more light is brought into the matter by Ahmad Yadgar who, in the 1570's, wrote a history of the Afghan dynasties of India and their struggles against the invading Mughals, Babur and Humayun.[4] Ahmad Yadgar tells us that a *ṭarḥ-bandī-yi khiyābān* "plan with walkway(s)" was the most salient, and — in a Hindustani context — revolutionary feature of Babur's first garden at Agra [5] The whole passage reads. "And in the second year of his reign [in India] Hażrat Gitī Sitānī [i.e., Babur] laid out a garden without equal on the bank of the river Jamna. And it was the first example of the plan with walkway(s) in Hindustan. Before that the plan with walkway(s) was not used in Hindustan. . . . And on the pattern of this garden Mirza Kamran [Babur's son] made another garden at Lahore."[6] This characterization — helpful as it is — still leaves room for a range of possibilities. Did Babur's primordial *chārbāgh*, named the Bagh-i Hasht Bihisht, have a single walkway, or did it show two or more intersecting walkways? The latter version is suggested by the evidence provided by all Mughal gardens surviving in the plains of Hindustan. But here again arise questions: Did Babur's first *chārbāgh* show the intersection of walkways in the center which would imply the canonical four-part form (fig. 1A)? did it have several intersections along one axis which would produce an overall rectangular plan (fig. 1B)? or did it merely have a feature with intersecting walkways integrated somewhere in its design, as *pars pro toto* so to say (fig. 1C)? The last solution is suggested by the remains of Babur's only surviving garden, the Bagh-i Nilufar. Carved between 1527 and 1529 out of the rocky plateau of Dholpur[7] on what seems to have been a rather irregular plan,[8] the extravagant Lotus garden appears to have had more in common with contemporary Mannerist gardens of Italy than with a *chārbāgh* of the Persianate tradition. But this is what Babur called it,[9] and he perhaps applied the term because of the cross-axial feature of the pool and its four channels, or because of another four-part feature which has not survived.

Babur himself fails to inform us of the overall design of his gardens. Although he repeatedly draws attention to the fact that they were symmetrically planned and well laid out — features he considered new and noteworthy in a Hindustani context[10] — Babur was obviously less preoccupied with the plan of his gardens than with another aspect, namely their supply of running water.[11] In his pre-Indian gardens, such as the Bagh-i Wafa, newly founded in 1508–9 near Jalalabad in present-day Afghanistan,[12] or the garden at Istalif near Kabul refashioned by Babur in 1519,[13] there would be a spring or a small stream on a hillside which would determine the layout of the whole garden.[14]

After the conquest of Kashmir, the Mughals could easily transfer this concept into the celebrated landscape of the valley, but the gardens they established on the Indo-Gangetic plain had to be conceived with another kind of available water source in mind, namely a large river.[15]

Consequently Babur and his followers laid out their first gardens at Agra on the banks of the river Yamuna or Jamna, announcing thereby a new era in the evolution of the city (figs. 2–5). The riverfront site was not only to become a major factor in the urban planning of the Mughals, but it was also to have a decisive impact on the design of Mughal gardens of the plains. I have touched on these two points before,[16] but I should like again to make them the subject of my investigation in the light of new findings.

The riverfront garden scheme at Agra seems to have been adopted to a certain extent for the new residential quarters of the Mughals at Lahore, as the garden Mirza Kamran built there on the pattern of Babur's first garden at Agra[17] testifies.[18] By the time of Akbar (r. 1556–1605) we have evidence for a similar urban development at Delhi. The Jesuit father Montserrate described Mughal Delhi in 1581 as having many lovely gardens and residential suburban quarters filled with a rich profusion of fruit (trees) and flowers on both sides of the Jamna which, at that time, flowed close to the city on the east.[19]

More weight, however, was given to the development of Agra as a riverbank city because in 1558 Akbar had moved the imperial headquarters from Delhi to Agra, and it had again become the main capital of the Mughal Empire, or, in the words of Akbar's historian Abu'l Fazl, the "abode of the Caliphate and center of the Sultanate" (*dār al-khilāfat wa markaz al-sulṭanat*). Abu'l Fazl further tells us that "abodes (*manāzil*) were distributed to the grandees . . . on either side [of the river] the servants of fortune's threshold [i.e., the court] erected pleasant houses and made charming gardens" (*az do jānib . . . manāzil-i dilgushāy wa busātīn dilkash tartīb dādand*).[20] From Abu'l Fazl's description it is evident that Akbar's Agra already appeared very much as it is shown on the early-eighteenth-century map in the Jaipur City Palace Museum.[21] The Mughal city consisted of bands of gardens lining both sides of the river Jamna (figs. 2–5).

Mughal Agra certainly continued to develop as a riverbank garden city in Jahangir's time. The Dutch eyewitness Pelsaert tells us that "the breadth of the city is by no means so great as the length, because everyone has tried to be close to the riverbank, and consequently the waterfront is occupied by the costly palaces of all the famous lords, which make it appear very gay and magnificent."[22] Pelsaert, who saw the city in the 1620's, lists thirty-three gardens with their names; about a third of them were created or remodeled during Jahangir's reign.

From this period also date the earliest preserved Mughal riverfront gardens which can be securely identified and dated. These include the Ram Bagh built, or rebuilt, by Nur Jahan as Bagh-i Nur Afshan in 1621[23] and the Zahara Bagh, a distorted form of Bagh-i Jahanara, built in the late 1620's by Mumtaz Mahal (figs 5–6) The garden belonged later to Shah Jahan's favorite daughter Jahanara, who had inherited it from her mother.[24] In seventeenth-century Mughal India to bequeath a large, architecturally planned garden to one's children was an imperial prerogative, only exceptionally extended to a member of the imperial family and the nobility. Muslim nobles in particular were limited in their rights to own inheritable property, bequeath it to their heirs, or to endow *awqaf*. Gardens generally reverted to the crown unless their owners had converted them into tomb gardens.

The Ram Bagh (Bagh-i Nur Afshan) (fig. 6) and the Zahara Bagh (Bagh-i Jahanara) are the earliest preserved examples of a garden design which eventually became typical of riverfront Agra. In this garden form the main buildings were not placed in the center of the garden, but were set on a terrace (*kursī*) built along the riverbank. On the landward side of the terrace was the garden, a *chārbāgh* subdivided into (four) garden plots by intersecting paved walkways or *khiyābāns* which may contain water channels The buildings on the riverfront terrace were framed by the corner towers of the enclosure wall of the garden. This arrangement provided the main garden pavilions with the climatic advantages as well as the view of the river and presented a carefully composed front to those who saw it from a boat or across the river (figs. 5, 8, 13, 19). The riverfront group could be viewed from both sides: from the inside the buildings presented an equally satisfying backdrop for the garden (figs. 9, 11).

In the Ram Bagh the main group of riverfront buildings consists of two oblong pavilions forming the wings of an open courtyard on a terrace with a sunken pool in the middle; the whole ensemble is placed in the southern riverfront of the garden (fig 6). Since the pavilion wings face the river on their shorter sides, the courtyard is open to the river (as well as to the landward side) and the ensemble does not present a pronounced façade towards the river.[25] More typical of the scheme are the versions where a single large pavilion on its terrace is placed in the center of the frontage flanked by subsidiary wings or smaller structures. This scheme appeared in the Zahara Bagh,[26] but — like all other residential gardens of Agra — it is not very well preserved. Therefore a garden from Shah Jahan's hunting palace at Bari (completed in 1637), so far unpublished, will have to serve as a blueprint for the type.[27]

The small isolated garden, today called Dhobi Mahal, is one of several walled-in complexes laid out on the shores of a lake, which there takes the place of the river (figs. 7–9). The enclosure is rectangular (ca. 48m.× 34m., without gate) and surrounded on three of its sides by a wall; the fourth side on the waterfront is taken up by the wing with the garden building. The waterfront wing consists of a raised terrace (*kursī*) with the main pavilion in the center flanked by symmetrically arranged pillared wings; in front of the main pavilion is a sunken pool (*ḥawż*). The terrace arrangement is combined with a lower garden in the shape of an oblong four-part *chārbāgh* with a pool (*ḥawż*) at the intersection of its paved walkways (*khiyābāns*) which contain shallow channels. This oblong *chārbāgh* is a purely residential form and does not appear in the funerary gardens of the Mughals.[28] The garden was also surrounded by a paved walkway.

When I first identified this garden form I assumed that it was invented by the Mughals to adapt the centrally planned *chārbāgh* to their favorite waterfront sites.[29] However, it is also possible that this type of Mughal garden was inspired by a Timurid model. No Timurid garden of this type survives, but a closely related form is known through its description in the Persian manual on agriculture and horticulture, the *Irshād al-zirāᶜa*, written by Qasim ibn Yusuf Abu Nasir in Herat in 1515. Maria Subtelny has shown that the source of Qasim ibn Yusuf's information and inspiration was Mirak-i Sayyid Ghiyath, a renowned garden builder in late-Timurid Herat and the father of the architect of Humayun's tomb.[30] After Herat had been taken by the Uzbeks (1507) and the Safavids (1510) the persecution of the Qizilbashis forced him to leave his homeland. Mirak came to India, perhaps together with the author of the *Irshād*, and is mentioned by Babur in 1529 as working on his constructions at Agra and Dholpur.[31] The *Irshād al-zirāᶜa*, which thus represents primary evidence for how late-Timurid traditions could have been handed down to Mughal India, devotes a whole chapter to the layout of the Timurid *chārbāgh*.

Various attempts have been undertaken to reconstruct the *chārbāgh* described in the *Irshād*.[32] All versions agree that the garden had an oblong plan with the main building on a terrace set at the southern end of the main axis formed by a channel flanked by paved walkways. The four-part element seems to have been represented by garden plots (*chaman*) arranged in two pairs on either side of the main axis. According to Subtelny two of the garden plots were divided into nine beds, and two into four squares, thus forming sub-*chārbāgh* patterns.[33]

The juxtaposition of a building on a terrace and a four-plot garden also appears in the later Mughal waterfront garden. What distinguishes the Mughal versions from their Timurid predecessor is that the pavilion was not positioned at the southern end of the garden but at the waterfront in whatever direction it happened to be. More important than the change in orientation, however, is the difference in the formal approach. The Mughal adaption reinforces the principle of organization and binds the elements of the Timurid model into a strictly planned architecturalized composition. The components of the *Irshād chārbāgh* were related loosely to each other, plantings playing a bigger role in the concept than solidly built garden architecture. The terrace there did not cover the whole southern area of the garden but was embedded in an orchard; the *chārbāgh* element was not generated by the rigid cross of the intersecting walkways but was put in the form of less sharply defined plots and beds in the area between the axial channel and the surrounding walls. The built features of the Timurid garden were confined to the surrounding frame and to the elements on the main axis.[34]

If the *chārbāgh* of the *Irshād al-zirāᶜa* did indeed serve as a model for the Mughal waterfront garden, the way the Mughals adapted it was characteristic for the whole relationship between Timurid and Mughal architecture. The Mughals with their clear and rational approach — aiming at strict functional planning and perfect symmetry — systematized and disciplined ideas which had been more vaguely expressed in Timurid architecture.[35] This trend gains momentum in Shah Jahan's time and also represents the characteristic contribution of the period to the development of the waterfront garden.

It has been suggested that the garden form described in the *Irshād* was what the late Timurids understood by the term *chārbāgh* because the author does not allude to any other form.[36] However, it will be remembered that Babur, our main contemporary eyewitness, mentions features of his gardens, as well as of earlier Timurid foundations, which cannot be brought into accordance with the description by Qasim ibn Yusuf. Babur's first *chārbāgh* at Agra, built in 1526, eleven years after the *Irshād al-zirāᶜa* was written, and described *expressis verbis* as *chārbāgh*, seems to have had intersecting walkways, an element absent in Qasim ibn Yusuf's definition. Babur's Bagh-i Nilufar at Dholpur was a *chārbāgh* with an irregular plan. For the early Mughals who transferred Timurid traditions to India the *chārbāgh* of the *Irshād* was clearly not a canonical form. The first Mughal garden planners also employed other solutions, one of them being perhaps their architecturalized adaption of the *Irshād chārbāgh*.

Another variant seems to have been the centrally planned *chārbāgh* with the building at the main intersection in the middle of the garden. The splendid and confident introduction of this plan into the monumental funerary architecture of the Mughals in Humayun's tomb (1562–71)[37] leads one to believe that there were earlier treatments of it in residential garden architecture.[38] The problem is that the earliest preserved Mughal residential example of the centrally planned type, the first (lower) *chārbāgh* of the Shalimar Gardens at Kashmir which originally stood by itself, dates only from 1620.[39] The centrally planned *chārbāgh* remained the exclusive plan of Mughal tombs, also in a riverfront context, until the Taj Mahal. That it was also used together with the additive "*kursī*-cum-*chārbāgh*" formula for residential gardens along the riverbank, at least up to Shah Jahan's time, can be seen in the description of the gardens of Mughal Agra by Peter Mundy, a reliable European eyewitness, who stayed in the city in the early 1630's. He says that "the better sort" of gardens had an enclosure wall with four towers at the corners with domes and galleries, anywhere from one to four gates, and long walks lined by cypresses leading "comonly . towards the midle . . . where is the cheife howse of pleasure and Tancke . . . . This square Garden is againe devided into other lesser squares, and that into other like bedds and plotts."[40]

Eventually, however, the "riverfront *kursī*-cum-*chārbāgh*" formula — which for simplicity's sake may be called a "riverfront garden" or "waterfront garden" — became the more widely used residential form. The early-eighteenth-century artist of the map in the Jaipur City Palace Museum considered it so characteristic of the urban landscape of Mughal Agra that he even showed centrally planned *chārbāgh*s in this way, such as the tomb garden of I^ctimad al-Dawla (1626–28) (figs. 2, no. 4; 3, 4).[41] The impression that Agra with its chains of riverfront gardens on either side of the Jamna made on contemporaries is put in highly poetic words by Shah Jahan's historian Muhammad Salih Kambo. "On either side of that sea [he means the Jamna] full of pleasantness, buildings and gardens (*ʿimārat-hā wa bāgh-hā*) of paradisiac space are placed together in such a handsome close way that the sight of the beholder from the heart-attracting entertainment of each one of them gathers the flowers of bounty of the month of [spring] Urdi Bihisht. Because of the riverfront buildings (*ʿimārat-hā-yi sāḥil*) and the flower gardens, in front [of the landward side] of all of which it appears that garden is linked to garden and garden plot (*chaman*) to garden plot, the desire to stroll in the garden of Paradise is completely erased from the page of memory . . . . In particular, the spacious buildings (*ʿimārāt-i wazīʿ*) and wonderful pavilions (*nashīman-hā-yi badīʿ*) of the princes of exalted origin and other famous amirs . . give a display of the garden of Rizwan[42] and the palaces of the garden of paradise."[43]

Comparable urban schemes were developed in the capitals of the two other great Muslim empires. In Ottoman Istanbul royal and non-royal suburban garden villas lined the Bosporus.[44] In seventeenth-century Safavid Isfahan garden residences were built on the shores of the Zayanda river.[45] However, in its systematic and uniform planning — in which we again recognize the peculiar Mughal logic — riverfront Agra differs from these more informal waterfront schemes. The planning actually anticipates a prominent landlocked feature of the urban development of Isfahan under Shah ʿAbbas I, namely the scheme of the Chahar bagh realized since 1596. It consisted of gardens laid out on both sides of a large avenue (*khiyābān*), and its canal which extended across the river between the palace in the city and the suburban Bagh-i ʿAbbasabad.[46] Did Jahan's court poet Kalim allude to the fact that Mughal Agra resembled the scheme of Isfahan when he compared the river Jamna framed by garden buildings and towers with a cypress-lined *khiyābān*, the façades of the buildings reflecting each other like faces in a mirror?[47]

In Shah Jahan's reign we notice two important trends. First, as already pointed out, the elements of the riverfront garden were arranged in a perfectly symmetrical composition. Second, outside of Kashmir where the Mughal garden had developed its own form of terraced compositions, this garden formula became the predominant one of the period; the actual form of the component parts might be changed without disturbing the organization. At Agra, the pattern was employed not only for urban residential gardens but also for Shah Jahan's new palace garden in the Agra Fort, the ensemble now called Khass Mahal and Anguri Bagh, rebuilt as the main complex of the female quarters (*zanāna*) between the early 1630's and 1637 (figs. 10–11).[48] The waterfront plan appears, although enlarged to an unparalleled scale, in the funerary garden of the Taj Mahal, begun late in 1631 or early in 1632 and completed in 1641 (figs. 12A, 13).

The Taj complex and the fortress palace were positioned in the overall scheme of the riverbank garden city as a garden would be; consequently they adopted the predominant garden form of this urban plan. In other words, the form both of the palace garden and of the funerary garden of the Taj was dictated by their urban context. The design of the garden of the Taj Mahal[49] trans-

posed an established Mughal residental garden type of possible Timurid antecedents into the context of monumental funerary garden architecture. Begley was perhaps overlooking evidence nearer home when he attempted to derive the plan of the Taj Mahal from complex concepts of Islamic cosmology[50] All the evidence suggests rather that the aim of the planners was to perfect the earlier tradition of the waterfront garden, and then to enlarge it to a scale beyond the reach of ordinary mortals in order to create an ideal paradisiacal garden palace for the deceased. Moreover, the waterfront scheme was not only used for the organization of the tomb garden, but also for the spatial organization of the other two main units that make up the Taj complex (fig. 12).[51] The garden configuration of rectangular unit and quadripartite square is repeated in the rectangle of the forecourt (*jilaw khāna*) (fig. 12E) with its subsidiary courts followed on the same axis by a square divided by cruciform bazaar streets into four quadrants containing *karwānsarāʾīs* (fig. 12F). The whole complex of the Taj Mahal may thus be read as a band of two configurations based on the waterfront scheme.

The allusions to the waterfront garden plan do not end here because abbreviated miniature versions of the large tomb garden also served as settings for three subsidiary tomb enclosures (fig. 12B–D). Two of these funerary enclosures are placed at the southeast and southwest corner of the forecourt, and one appears as an independent unit outside the east wall. The funerary enclosures situated inside the complex are modified abbreviations of the main tomb garden; each one has an octagonal tomb flanked by small wings set on a terrace aligned on one side of a small square *chārbāgh* with a pool at the crossing of its paved walkways. The funerary unit situated outside the east wall varies the scheme in that a small mosque is placed on the terrace instead of the tomb; the tomb itself, also octagonal, is set in the center of a small garden of which only traces remain. We are on safe grounds in assuming that it also had the form of a *chārbāgh* (fig 12D). These subsidiary funerary enclosures, in which the waterfront garden is transferred to a landlocked situation, were dedicated to the chief lady-in-waiting of Mumtaz, Satti al-Nisa Khanum (1647–48), and lesser wives of Shah Jahan.[52]

Since the waterfront garden appeared at the time when the Taj was built in the Agra Fort also in a *zanāna* context one feels tempted to assume that in the imperial context it had — at least in the earlier 1630s — a *zanāna* connotation attached to it. However, introducing the waterfront garden into the monumental tradition of imperial funerary architecture gave it a distinctly imperial connotation. The trend gains momentum in the Lahore Fort where a highly architecturalized variant of the waterfront garden is used for the complex of the Shah Burj (Shish Mahal) rebuilt in 1631–32 by Shah Jahan as one of his earliest additions to the Lahore palace (figs. 14–15) [53] The group of riverside buildings is here compressed into a massive polygonal block. The *chārbāgh* element is represented by the paved courtyard which is divided into four parts by narrow channels running off from a central pool. The Shah Burj was, as indicated by its name, a building with an exclusively imperial connotation. As one of the established ceremonial building types of Shahjahani palaces, it was reserved for the emperor's private council and accessible only to a select few who had the emperor's special confidence.[54]

Eventually the waterfront garden became the main module for the planning of Shahjahani palaces and gardens The plan could be used independently from a waterfront site. In the Shalimar Gardens at Lahore (1641–42),[55] for example, a single terrace is set between two square *chārbāghs* acting thus as a constituent element for a plan which reads as two overlapping waterfront schemes (fig. 16) In the elevation the two *chārbāghs* are set on different levels, the terrace element being assigned to the lower one. The whole concept thus merges the type of terraced garden which the Mughals had developed in Kashmir with compositional elements borrowed from the waterfront scheme.

The use of the waterfront garden as a modular unit culminates in the fortress palace of Shah Jahan's new capital city Shahjahanabad (fig. 17) built between 1639 and 1648.[56] The plan for the palace, which is today called the Red Fort, is based on a giant *muthamman baghdādī*[57] which here takes the form of a rectangle with chamfered corners. The pavilions and halls for the emperor and the *zanāna* stand on terraces threaded along a canal on the riverfront (figs. 18–19). "In front of each Iram-like[58] pavilion (*nashīman*)," says the emperor's historian Kambo, "is a garden (*bāghcha*) of perfect freshness and pleasantness, so that this [whole] paradisical ground [i.e., the palace] from one end to the other because of its exuberant vegetation has drawn a veil across the green sky and the sight is presented to the eyes of the beholder like the highest paradise."[59] In the organization of each individual complex we clearly recognize the formula of the waterside garden which was in the palace of Shahjahanabad used as a modular unit for planning the whole riverfront.[60] Moreover, the riverfront scheme, which had been borrowed from the Mughal riverfront city, was now

usurped by the palace. The access to the riverfront for other members of the imperial family and the nobles was considerably limited. When Kambo tells us that the imperial princes and famous nobles built spacious and wonderful buildings (*ʿimārāt-i wasīʿ wa badīʿ*) and extraordinary pavilions (*nashīman-hā-yi gharīb*) on both sides of the fort along the riverfront,[61] he seems to repeat what he had said about Agra rather than to take in what was right before his eyes. The surviving Mughal urban landscape and recent reconstructions of Shahjahanabad[62] which, with help of contemporary literary sources, work back from a nineteenth-century map of the Oriental and India Office Collections in the British Library,[63] show that not only the nobles but also the members of the imperial family had to build their *hawīlī*s[64] inside the city rather than as garden residences on the riverfront (fig. 17). The few residences on the waterfront were built by persons especially favored by the emperor,[65] and there were none at all on the opposite river bank.[66] The evidence compares in no way with the "democratic" riverfront garden scheme of Agra (compare figs 2–4 with 17–19) which had been imitated to some extent in Akbar's Delhi and probably also in Lahore. The best indication of the new state of affairs at Shahjahanabad is perhaps in the garden of Shah Jahan's favorite daughter Jahanara At Agra her garden, the Bagh-i Jahanara or Zahra Bagh, was praised as one of the fabled sights of the riverfront,[67] while at Shahjahanabad her Sahibabad gardens, large (982 *gaz* × 242 *gaz*) as they were,[68] were laid out *inside* the city. In Shah Jahan's new capital the waterfront garden scheme had become an imperial prerogative.[69]

On the landward side the fortress palace was encircled by gardens and garden residences (*bāghāt wa sarābustān-hā*).[70] The poets projected into these satellite gardens a sentiment which must have been echoed by many a new *hawīlī* resident of the city regretting the lost waterfront:

> The flower garden has fallen at its [the fortress palace's] feet
> so that perhaps it will be given a place inside.
> The heart of the tulip garden outside is full of grief,
> because it has fallen outside the garden [of the palace].[71]

The palace of Shahjahanabad provided no inspiration for the future; as an entity it represented the end of a development. A number of elements did emerge from the palace to have a lasting effect on Indian art, but the waterfront garden was not among them. The later history of the garden has still to be written, but it does not seem to have played a great role under the later Mughals and those Indian patrons who took inspiration from the Great Mughals.

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NOTES

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1. James L. Wescoat, Jr. "Picturing an Early Mughal Garden," *Asian Art* 11, 4 (Fall 1989): 59–79; idem, "Landscapes of Conquest and Transformation: Lessons from the Earliest Mughal Gardens in India, 1526–30," *Landscape Journal* 10 (1991): 105–14; idem, "Gardens versus Citadels: The Territorial Context of Early Mughal Gardens," *Garden History: Issues, Approaches, Methods*, ed John Dixon Hunt (Washington, D.C: Dumbarton Oaks, 1992), pp 331–58 Wescoat persuasively suggests that Babur placed his gardens outside the citadels or fortress palaces of pre-Mughal rulers in deliberate opposition to them As symbols of the appropriation of land and "royal emblems of territorial control" (Wescoat, "Picturing an Early Mughal Garden," p 76), the gardens had a definite political meaning For Catherine Asher the gardens of Babur had a significance beyond mere territorial conquest and the introduction of a new aesthetic; she shows that they also had funerary dynastic and religious associations, and, in the last analysis, were conceived as "a visual metaphor for his ability to control and order the arid Indian plains and ultimately its population." See Catherine B Asher, *Architecture of Mughal India* (Cambridge: Cambridge University Press, 1992), p. 37; see also pp 20, 23; eadem, "Babur and the Timurid Char Bagh: Use and Meaning," in *Mughal Architecture: Pomp and Ceremonies, Environmental Design*, 1991, nos. 1–2, pp. 46–55 Further connotations of early Mughal gardens are delineated by Wescoat, "Gardens of Invention and Exile: The Precarious Context of Mughal Garden Design during the Reign of Humayun (1530–1556)," *Journal of Garden History* 10, no 1 (1990): 106–16.
2. The form of the *chahārbāgh* is discussed by Ralph Pinder-Wilson, "The Persian Garden: *Bagh* and *Chahar Bagh*," *The Islamic Garden* (Washington D.C: Dumbarton Oaks, 1976), in particular pp. 79ff. Lisa Golombek, "From Tamerlane to the Taj Mahal," *Essays in Islamic Art and Architecture in Honor of Katharina Otto-Dorn*, ed A Daneshvari (Malibu, 1981), p 47, addresses the problem whether the Timurid *chahārbāgh* described a garden divided into four quarters or rather a garden containing quadripartite beds Cf. Wescoat, "Picturing an Early Mughal Garden," p 69 I return to this point below Yet

another version of the Timurid *chārbāgh* is analyzed later in this paper It is also possible that, at times, the term *chārbāgh* was extended to any architecturally planned garden; see Pinder Wilson, p 81 The *chārbāgh* of Darwesh Muhammad Tarkhan in Samarqand, for instance, had, according to Babur's description, two or more terraces; Ẓahīr al-Dīn Muḥammad Bābur, *Bābur-nāma*, Eng trans A S Beveridge (1921; rpt New Delhi, 1970), pp 80–81 For a new Eng trans with a highly useful transcription of the Chaghatay Turkish text and its Mughal Persian translation, see Wheeler M Thackston, Jr., Zahiruddin Muhammad Babur Mirza, *Baburnama*, 3 vols , Turkish Sources 16 (Cambridge Mass : Harvard University, 1993); for the garden of Darwesh Muhammad Tarkhan see 1: 96–97. The terrace feature of the garden is described as "*marṭaba martaba*" in the Turkish and Persian text; omitted in the English trans.

3 Howard Crane, "The Patronage of Zahir al-Din Babur and the Origins of Mughal Architecture," *Bulletin of the Asia Institute*, N.S 1 (1987): 108–10, provides a catalogue of Babur's buildings and gardens

4 The author, who describes himself as a servant of the Sur kings, compiled his work *Tārīkh-i Shāhī* or *Tārīkh-i Salāṭīn-i Afāghina* (ed. M Hidayat Husayn [Calcutta: Royal Asiatic Society of Bengal, 1939]) on the order of Daʾud Shah Karrani ruling at south Bihar from 1572 to 1576 when Bengal was overrun and incorporated into the Mughal Empire See D N Marshall, *Mughals in India: A Bibliographical Survey*, vol 1 (Bombay, 1967), p 51

5 For the primordial Agra *chārbāgh* which was named Bagh-i Hasht Bihisht, see Bābur, *Bābur-nāma*, trans Beveridge, pp 531–33, 537, 543, 544, 616, 634, 686; cf. Thackston, 3: 643–45, 658–61, 734–35, 750–51, 802–3 Zayn Khān, *Ṭabaqāt-i Bāburī*, trans S H Askari, annot. B P. Ambastha (Delhi, 1982), pp 156–61; Abu'l Faẓl, *Akbar nāma*, Pers text ed Āghā Ahmad ʿAlī and ʿAbd al-Rahīm, 3 vols. (Calcutta: 1873–86), 1: 105; trans H Beveridge, 3 vols. (1902–39; 2nd rpt Delhi, 1979), 1: 258; Muhammad Amīn or Amīna-i Qazwīnī, *Bādshāh-nāma*, Pers ms , British Library: Oriental and India Office Collections (henceforth quoted as BL), Or. 173, fol 26a Pers pagination, 27a library pagination; Muḥammad Ṣalih Kambō, *ʿAmal-i Ṣāliḥ or Shāh Jahān nāma*, rev Pers text ed. Waḥid Qurayshī based on the Calcutta ed (1912–46) by Ghulam Yazdānī, 2nd ed , 3 vols (Lahore, 1967–72), 1: 19

6 "*Wa ba-sāl-i duwum-i julūs Hazrat Gītī Sitānī bar lab-i dariyā-yi Jawn bāghī bī-nazīr buniyād kardand Ṭarḥ-bandī-yi khiyābān auwal dar Hindūstan namudār shud Wa illā dar Hindūstān pīsh azīn tarḥ-bandī-yi khiyābān na-būd Wa bar tartīb-i īn bāgh Mīrzā Kāmrān dar Lāhāur bāghī dīgar tartīb dād*" Aḥmad Yādgār, *Tārīkh-i Shāhī*, ed M Hidayat Husayn, pp 120–21) Cf the translation of H M Elliot and John Dowson (*The History of India as Told by Its Own Historians*, 8 vols (1867–77; rpt Lahore, 1976) 5: 38): " and pathways were introduced into Hindustan for the first time, not having been in use before "

7. Bābur, *Bābur-nāma*, trans Beveridge, pp 585, 606–7, 615, 634, 639, 642; cf trans and text ed Thackston, 3: 702–3, 723–24, 732–33, 750–51, 758–59.

8 Elizabeth B Moynihan, "The Lotus Garden Palace of Zahir al-Din Muhammad Babur," *Muqarnas* 5 (1988): 135–52, in particular fig 4 Our fig 1C is based loosely on this plan

9 Bābur, *Bābur-nāma*, trans Beveridge, p 615; trans. and text ed Thackston, 3: 732–33

10 Bābur, *Bābur-nāma*, trans. Beveridge, pp. 519, 531f ; trans and text ed. Thackston, 3: 642–43 Cf Zayn Khān, *Ṭabaqāt-i Bāburi*, p 160

11 Bābur, *Bābur-nāma*, trans. Beveridge, pp. 465, 531f., 581; trans and text, ed Thackston, 3: 560–61, 642–45, 696–97 Babur generally uses this criterion to judge gardens; for instance in his eyes the main defect of the *chārbāgh* of Darwesh Muhammad Tarkhan at Samarqand was that it had no stream (trans Beveridge, p 81; trans and text ed , Thackston, 1: 96–97).

12 In 1508–9, "I had constructed a *charbagh* garden called Bagh-i Wafa on a rise to the south of the Adinapur fortress It overlooks the river, which flows between the fortress and the garden It yields many oranges, citrons and pomegranates The ground is high, with constant running water, and the weather is mild in winter In the middle of the garden is a small hill . from which a one-mill stream always flows through the garden. The *charchaman* [four garden plots; was this the feature which made the garden a *chārbāgh*?] in the middle of the garden is situated atop this hill In the southwest portion of the garden is a ten-by-ten pool surrounded by orange trees and also pomegranate trees All around the pool is a clover meadow The best place of the garden is there When the oranges turn yellow it is a very beautiful sight — really beautifully laid out" (Bābur, *Bābur-nāma*, trans and text ed Thackston 2: 272–73; cf trans Beveridge, pp 208–9)

13 "There are few places known to equal Istalif . In this village is a garden called Bagh-i Kalan From the middle of the garden a one-mill stream flows constantly On the banks of the stream are plane and other trees. Formerly the stream ran higgledy-piggledy, but I ordered it to be straightened. Now it is a very beautiful place" (Bābur, *Bābur-nāma*, trans and text ed Thackston, 2: 280–83; cf trans. Beveridge, pp 216–17)

14 For this feature in the Timurid context, see Golombek, "From Tamerlane to the Taj Mahal," p 47.

15 "Most of the provinces of Hindustan are located on flat terrain. So many cities and so many provinces — yet there is no running water anywhere The only running water is in the large rivers. There are still waters in some places, and even in cities that have the capability of digging channels for running water they do not do so" (Bābur, *Bābur-nāma*, trans and text ed Thackston, 3: 584–85; see also pp 586–87; cf the trans of Beveridge, pp. 486–87) Rivers also determined, of course, the sites of the earlier Timurid gardens of Samarqand and Herat; the elaborate system of canals (which Babur missed in Hindustan) allowed, however, for sites more independent of rivers, often on the slopes of hills On the geographical setting and the irrigation system of Timurid Central Asia and Khurasan, see Lisa Golombek and Donald Wilber, *The Timurid Architecture of Iran and Turan*, 2 vols (Princeton, N.J.: Princeton University Press, 1988), 1: 19–29; for gardens, see especially pp 174–78; vol. 2, maps 7 and 8; Terry Allen, *Timurid Herat*, Beihefte zum Tübinger Atlas des Vorderen Orients, Reihe B, no. 56, ed H Gaube and W Röllig (Wiesbaden, 1983), in particular pp 51–55 and maps 1 and 2; Bernard O'Kane, *Timurid Architecture in Khurasan* (Costa Mesa, Calif , 1987), pp 1–2, 15–16, 104–6; Wescoat, "Garden Versus Citadels," pp 342–55

16 Ebba Koch, "Notes on the Painted and Sculptured Decoration of Nur Jahan's Pavilions in the Ram Bagh (Bagh-i Nur Afshan) at Agra," *Facets of Indian Art*, ed R. Skelton et al (London, 1986), in particular pp. 51–54; eadem, "The Zahara Bagh (Bagh-i Jahanara) at Agra," *Environmental Design*, 1986, no 2, pp. 30–37; eadem, *Mughal Architecture An Outline of Its History*

and Development (1526–1858) (Munich, 1991), pp 33f, 86–88, 99 James L. Wescoat, Jr, "Early Water Systems in Mughal India," *Environmental Design*, 1985, no 2, pp 50–57, while realizing the relevance of rivers for Mughal gardens, has not explained in which way the riverfront situation affected their design He merely draws attention to the fact that many of the gardens related to the outside landscape by being open to the river

17 See n 6 above It seems that the garden was laid out on the bank of the river Ravi It is traditionally identified with the site called Kamran's Baradari (recently heavily restored) on an island in the river Ravi (Saifur Rahman Dar, *Some Ancient Gardens of Lahore*, 2nd ed. [1977; Lahore, 1989], p 9), but the surviving constructions there date certainly from the seventeenth century See James L. Wescoat Jr., Michael Brand, and M Naeem Mir, "The Shahdara Gardens of Lahore: Site Documentation and Spatial Analysis," *Pakistan Archaeology* 25 (1990): 358–62 However this does not exclude the possibility that the site is indeed that of the garden of Mirza Kamran and that its buildings were rebuilt at a later date It was usual for Mughal gardens to pass through a chain of successive owners which led to repeated remodeling.

18 Wescoat, "Gardens of Invention and Exile," pp 110–11 Wescoat postulates a riverfront garden scheme for Lahore similar to that of Agra, but it still has to be substantiated by textual and/or archaeological evidence Father Anthony Montserrate who accompanied Akbar on his expedition to Kabul in 1581 reports a riverfront garden scheme for Delhi, but not for Lahore (see n 19 below)

19. "*Porro hortorum amoenitatem, trans, et citra Jomanem (qui ad ortum solis, urbem pene contingit) et suburbana, longum esset recensere, cum multa sint; et coeli clementia, omnium frugum, fructuumque ubertate praestantia.*" Father Anthony Monserrate, S.J , *Mongolicae Legationis Commentarius or The First Jesuit Mission to Akbar*, Latin text, ed H Hosten, S.J , *Memoirs of the Asiatic Society of Bengal*, 3/9 (Calcutta, 1914), p 590; Eng. trans. J S Hoyland, *Commentary of Father Monserrate*, annoted by S N Banerjee (London, 1922), pp 97–98 At that time Mughal Delhi was situated in the area between the Purana Qilʿa, the Dargah of Nizamuddin, and the tomb of Humayun. See G D. Lowry, "Delhi in the 16th Century," *Environmental Design*, 1983, no 1, pp 7–17; Ebba Koch, "The Delhi of the Mughals prior to Shahjahanabad as Reflected in the Patterns of Imperial Visits," *Art and Culture: Felicitation Volume in Honour of Professor S Nurul Hasan*, ed. Ahsan Jan Qaisar, S.P. Verma (Jaipur, 1993), p.7 No physical evidence of these gardens has been discovered so far.

20. Abu'l Fazl, *Akbar-nāma*, vol 2, Persian text, pp 76–77; trans., pp 117–18 For the further development of the riverfront garden scheme in 1560, see ibid , Persian text, pp 122–23, trans., pp 187–88.

21 Maharaja Sawai Man Singh II Museum, Jaipur, No 126 The map on cloth measuring 294×272 cm inscribed in *devanagari*, is so far the best document available on Mughal Agra It was first published by Chandramani Singh, "Early 18th-Century Painted City Maps on Cloth," in *Facets of Indian Art*, pp 185–92; and, with a color illustration, by Susan Gole, *Indian Maps and Plans: From the Earliest Times to the Advent of European Surveys* (New Delhi, 1989), pp 199–201 I am grateful to the Maharaja Sawai Man Singh II Museum for the permission to photograph and publish the map, and to Dr. B M Jawalia, Keeper of Manuscripts, for assisting me in its reading

22 *Jahangir's India: The Remonstrantie of Francisco Pelsaert*, trans W H Moreland and P Geyl (1925; rpt Delhi, 1972), pp. 2ff. A similar statement is made by William Finch, "William Finch, 1608–11," *Early Travels in India, 1583–1619*, ed William Foster (1921; rpt New Delhi, 1985), p 185: "Most of the noble mens houses are by the rivers side." Pelsaert (p 1) also tells us that "the luxuriance of the groves all round makes it resemble a royal park rather than a city " There were no building restrictions "and everyone acquired and purchased the plot of land which suited or pleased him best "

23 Koch, "Notes on the Painted and Sculptured Decoration," pp 51–65

24. So far it is the only foundation which can be connected with the patronage of Mumtaz Mahal; see Koch, "The Zahara Bagh," pp 30–37

25 For a detailed plan of the terrace with the pavilions, see Koch, "Notes on the Painted and Sculptured Decoration," pp 52–53; and eadem, *Mughal Architecture*, figs 97, 98

26 For a sketch plan, see Koch, "Zahara Bagh," p 36 The plan is derived from R A. Jairazbhoy, "Early Garden-Palaces of the Great Mughals," *Oriental Art*, N S 4 (1958): 71

27 I present here the first results of a detailed survey of the palace complex carried out since 1978. The documentation will be fully published in my forthcoming book, *Hunting Palaces, Suburban Residences and Summer Houses of Shah Jahan*. For a brief description of the palace of Bari, see Koch, *Mughal Architecture*, pp 103–5

28 It appears also in other Shahjahani palace gardens such as the Anguri Bagh of the Agra Fort (see fig 10). If we are to trust the much published reconstruction of David Stronach, the oblong *chārbāgh* would have such an early antecedent as the Achaemenid *chārbāgh* in the palace of Pasargadae founded by Cyrus the Great (r. 559–530 B C., see, for instance, Stronach, "The Garden as Political Statement: Some Case Studies from the Near East in the First Millennium B C ," *Aspects of Iranian Culture in Honor of Richard Nelson Frye, Bulletin of the Asia Institute*, N S 4 (1990): 171–80, in particular 174–78, fig 3, where the author also discusses the possible impact of the design on later Muslim gardens Mahvash Alemi, "Il giardino persiano: tipi e modelli," in *Il giardino islamico architettura, natura, paesaggio*, ed. Attilio Petruccioli (Milan, 1994), p 39, sees too much conjecture in Stronach's reconstruction

29 Koch, "Zahara Bagh," in particular p 31

30 M E. Subtelny, "A Medieval Persian Agricultural Manual in Context: The *Irshād al-Zirāʿa* in Late Timurid and Early Safavid Khorasan," *Studia Iranica* 22, fasc 2 (1993): 167–217; eadem, "Mirak-i Sayyid Ghiyas and the Timurid Tradition of Landscape Architecture: Further Notes to 'A Medieval Persian Agricultural Manual in Context'," *Studia Iranica* 24,1 (1995): 19–60; eadem, "Agriculture and the Timurid *Chaharbagh*: The Evidence from a Medieval Persian Agricultural Manual," in this volume. Lisa Golombek put me into contact with Maria Subtelny, with whom I had several stimulating exchanges of views and information about Timurid and Mughal garden architecture She has also very kindly allowed me to quote from her unpublished manuscripts which bring us a great step further in our understanding of Timurid gardens and their planners

31 Bābur, *Bābur-nāma*, trans Beveridge, p 642; trans and text ed. Thackston, 3: 758–59

32 The most thorough and detailed reconstruction is by Sub-

telny, "Timurid Tradition of Landscape Architecture," pls 5–6; eadem, "Agriculture and the Timurid *Chahar bagh*," fig 5. Subtelny also discusses earlier attempts to reconstruct the garden of the *Irshād* such as that of Pinder-Wilson, "The Persian Garden," pp 82–84, fig. XIII, 8 Mahvash Alemi, ("Chahar Bagh," *Environmental Design*, 1986, no 1, pp 38–45; eadem "Il giardino persiano," pp 45–46 [English version "The Royal Gardens of the Safavid Period: Types and Models," in this volume]), has presented yet another reconstruction of the *chār-bāgh* of the *Irshād al-zirāᶜa*, the overall shape of which comes quite close to that of Subtelny Alemi considers the garden type in the Safavid context

33 This subdivision of *chārbāgh* quadrants was to become a typical feature of Mughal *chārbāghs*, the first preserved example being the garden for Humayun's tomb at Delhi (1562–71) For an illustration of the plan, see Sylvia Crowe, Sheila Haywood, Susan Jellicoe, and Gordon Patterson, *The Gardens of Mughul India* (London, 1972), p 73 Cf also the description of Mundy quoted below at n 40.

34. This emphasis on the main axis is also characteristic of Safavid *chārbāghs*; see Alemi, "Il giardino persiano," in particular illustrations on pp 42, 47, 48f

35 Lisa Golombek ("From Tamerlane to the Taj Mahal," p 49) has noticed that Timurid geometry had never dealt so successfully with the architectural ideas which were taken up and explored by the Mughals: "The [Mughal] architects understood Timurid architecture better than their [Timurid] predecessors who were caught up in the process of creating it." Reluctant to find fault with Timurid geometrical genius, she has claimed that the Mughals merely fulfilled Timurid intentions However, this belittles the Mughal achievement: while the Mughals absorbed Timurid forms, their style so thoroughly transformed the Timurid elements by their own individuality that it no longer represented its traditional roots

36 Subtelny, "Timurid Tradition of Landscape Architecture," p 39.

37 For a plan see Crowe et alii, *Gardens of Mughul India*, p. 73

38 On the problem of missing forerunners for the *chārbāgh* of Humayun's tomb, see also Golombek, "From Tamerlane to the Taj Mahal," pp 47–48

39 In the present state of the lower *chārbāgh*, named Bagh-i Farah Bakhsh by Shah Jahan, the axis crossing the principal longitudinal axis of the main water channel is only represented by a terrace step and shallow channels That there was originally also a paved walkway is indicated by buildings (a hammam and a ruined structure) placed opposite each other at the points where the cross axis meets the center of the garden wall The upper *chārbāgh* named Bagh-i Fayz Bakhsh, which was added by Shah Jahan in 1634, shows this cross-axial feature more distinctly For a plan, see Koch, *Mughal Architecture*, p 87, fig 95.

40. See *The Travels of Peter Mundy in Europe and Asia 1608–1667*, ed R C Temple, vol. 2: *Travels in Asia 1628–1634* (London, 1914), p 214. At Agra centrally planned *chārbāghs* are best preserved in a funerary context (tomb of Iᶜtimad al-Dawla, 1626–28)

41. For a plan of the garden, see Crowe et alii, *Gardens of Mughul India*, p 121 However, as a concession to the riverfront scheme, the subsidiary pavilion situated at the riverfront is larger and more elaborate than the buildings at the other three end points of the cross axes

42 The gatekeeper or gardener of paradise

43 Translation of Muhammad Ṣalih Kambō, *Bahār-i Sukhan*, Pers. ms, BL Or 178, fols 248a and b

44 See Gülru Necipoğlu, "The Suburban Landscape of Sixteenth-Century Istanbul as Mirror of Classical Ottoman Garden Culture," elsewhere in this volume

45 For the development of Safavid Isfahan, see most recently Sussan Babaie, "Safavid Palaces at Isfahan: Continuity and Change (1590–1666)," Ph D diss , New York University, 1994, pp. 60–70, with further literature A famous now-lost waterfront palace of seventeenth-century Isfahan was the Ayina Khana, located on the south bank of the Zayanda Rud; ibidem, pp 250–52, figs 29–31 Babaie dates it "sometime before 1050/1641 " Until the time of Shah ᶜAbbas I (r. 1587–1629) only the northern shore of the Zayanda river was occupied by royal palaces and aristocratic estates See Lisa Golombek, "Urban Patterns in Pre-Safavid Isfahan," *Studies on Isfahan Proceedings of the Isfahan Colloquium Held at Harvard University, January 21–24, 1974, Iranian Studies* 7, nos 1–2 (1974): 18–44, in particular pp 21 and 31

46 "According to the world-obeying order, the khans, great amirs, viziers, sadrs and noble ᶜamils erected fine *chahār-bāgh* parks each to his own taste and opposite one another along both sides of the avenue beginning at ᶜAbbasabad At the entrance to each park they built lofty structures of brick and stucco, the walls and roofs of which were faced with colored tilework Some were decorated with delightful portraits and colorfully exotic paintings " Mirzā Beg ibn Hasan Junabādī, *Rawżat al-Ṣafawiya*, translated together with the other main sources on the development of Isfahan under Shah ᶜAbbas I by R.D McChesney, "Four Sources on Shah ᶜAbbas's Building of Isfahan," *Muqarnas* 5 (1988): 113; cf. pp 124–25 For a map of this scheme, see Nader Ardalan and Laleh Bakhtiar, *The Sense of Unity: The Sufi Tradition in Persian Architecture*, 2nd ed (1973; Chicago and London, 1975), fig 176, which minimizes, however, the role of the gatehouses as show pieces of the gardens highlighted in the sources; they corresponded to the riverfront buildings of the Agra scheme.

47 "*Binā-hā-yi dilkash buwad az dū sū, ba-sān rukh wa āyina dū ba dū hama sarw-hā-yi khiyābān-i āb*" Abū Ṭālib Kalīm, *Bādshāh nāma*, Pers ms, BL, Ethé 1570, fol 115b, margin; typed transcript S.M Yunus Jaffery, p 210.

48 ᶜAbd al-Hamīd Lāhawrī, *Bādshāh-nāma*, Pers text ed Kabīr al-Dīn Ahmad and ᶜAbd al-Raḥīm, 2 vols (Calcutta: Royal Asiatic Society of Bengal, 1866–72), 1, pt. 2: 240–41 For translation, see Nur Bakhsh, "The Agra Fort and Its Buildings," in *Archaeological Survey of India, Annual Report* (henceforth quoted as *ASIAR*) 1903–4, pp 164–93, in particular pp.180–81 For an overall plan of the Agra Fort, see Koch, *Mughal Architecture*, fig. 36; the position of the Anguri Bagh is indicated with the number 5; for a detailed discussion, see Ebba Koch, "Mughal Palace Gardens from Babur to Shah Jahan (1526–1648)," *Muqarnas* 14 (1997)

49 For scale plans, see Koch, *Mughal Architecture*, fig 108; W E Begley and Z A Desai, *Taj Mahal. The Illumined Tomb An Anthology of Seventeenth-Century Mughal and European Documentary Sources* (Cambridge, Mass, 1989), fig. 13, the grid of which is not, however, correct

50 Wayne E Begley, "The Myth of the Taj Mahal and a New Theory of Its Symbolic Meaning," *Art Bulletin* 61 (1979): 7–37. The issue is raised briefly in Koch, *Mughal Architecture*, p. 99 On this point, see also Subtelny, "Timurid Tradition of Landscape Architecture," p. 49

51 The whole complex is not preserved, but appears on late-18th-century–early-19th-century plans, such as the one of the Museum für indische Kunst, Staatliche Museen, Preussischer Kulturbesitz, Berlin (MIK I 10060) reproduced by Pratapadityia Pal, Janice Leoshko, J M Dye III, Stephen Markel, *Romance of the Taj Mahal,* exhibition catalogue (Los Angeles, 1989), fig. 41 Another version is in the Museum of the Taj Mahal: see Z.A Desai and H.K Kaul, *Taj Museum* (New Delhi: Published by the Director General Archaeological Survey of India, 1982), p 21 (no illustration) The complex with the sarais and bazaars has been reconstructed by Begley and Desai, *Taj Mahal The Illumined Tomb,* fig 17 Our sketch plan reproduced in fig. 12 is based on the early plans and my own survey

52. None of the tombs bears an inscription but we can tentatively identify that of Satti al-Nisa Khanum, because Lāhawrī (2: 629) tells us that she was buried in the tomb "to the west of the Illumined Tomb of Her late Majesty the Queen, adjoining the square (*chawk*) of the forecourt (*jilaw-khāna*) " This refers either to the tomb at the southwest corner of the *jilaw khāna* (fig 12B) or to the tomb outside its west wall. Cf Begley and Desai, *Taj Mahal: The Illumined Tomb,* pp 125–26, from which the translation of Lahori is quoted; see their figs 74–79 and XV for illustrations of the tombs The burial of lesser wives of Shah Jahan in the other subsidiary tombs is based on varying traditions; the contemporary chronicles are silent on this point

53 Lāhawrī, 1/1: 223–25; cf Kambō, *ʿAmal-i Ṣāliḥ,* 2: 6–7 For trans , see Nur Bakhsh, "Historical Notes on the Lahore Fort and Its Buildings," in *ASIAR,* 1902–3, pp 220–23. For an overall plan of the Lahore Fort, see Koch, *Mughal Architecture,* fig 93, where the Shah Burj is indicated with number 3; see pp. 114–15 for Shah Jahan's additions to the Lahore Fort The palace contains the so-called Jahangir quadrangle and the garden of the Diwan-i Khass, two more garden enclosures modeled on the waterfront pattern; they seem also to have been added to the ensemble in Shah Jahan's reign, probably in 1634 and 1645 respectively; see Koch, "Mughal Palace Gardens " For a detailed plan of the Shah Burj and a view of the courtyard façade of the riverfront wing, see also James L. Wescoat, Jr , "L'acqua nei giardini islamici: religione, rappresentazione e realtà," in *Il giardino islamico,* p 122

54 See Lāhawrī, 1/1: 150–51, 153; trans. Nur Bakhsh, "The Agra Fort and Its Buildings," *ASIAR,* 1903–4, pp 191–93

55 For a detailed plan and section, see Sajjad Kausar, Michael Brand, James L. Wescoat, Jr *Shalimar Garden Lahore: Landscape, Form and Meaning* (Lahore, 1990), fig 2

56 Reliable general information on the Red Fort of Delhi based on contemporary texts is provided by Gordon Sanderson, *A Guide to the Buildings and Gardens, Delhi Fort,* 4th ed (Delhi, 1937) For recent treatments see Peter Andrews, "Mahall," *Encyclopaedia of Islam* (henceforth cited as *EI,* 2nd ed.), 5 (1986): 1219–20; Koch, *Mughal Architecture,* pp 109–13 with a new plan of its present state: Asher, *Architecture of Mughal India,* pp 192–200

57. The *muthamman baghdādī* ("Baghdadian octagon") was a favorite Mughal plan figure in the shape of a square or rectangle with corners chamfered so as to form an irregular octagon Its attraction seems to have been that it could be read both as octagon and square.

58 Reference to the legendary Iram at Aden built by King Shaddad ibn ʿAd as a terrestrial paradise See W Montgomery Watt, "Iram," *EI,* 2nd ed , 3 (1979): 1270; John Renard, *Islam and the Heroic Image: Themes in Literature and the Visual Arts* (Columbia, S C , 1993), pp 167–68. It was a favorite of Persian authors for eulogistic comparisons.

59 Kambō, *ʿAmal-i Ṣāliḥ,* 3: 26.

60 Today these gardens are only partly preserved This is true also of the main garden of the palace, the Bagh-i Hayat Baksh, which is placed in the northeast corner of the riverfront I am now engaged in its reconstruction with the help of contemporary descriptions as well as plans and views dating from before the Mutiny in 1858 After that the fort suffered major alterations at the hands of the British in adapting it for military use I present the reconstruction of the Bagh-i Hayat Bakhsh in "Mughal Palace Gardens " That it shows a perfectly symmetrical riverfront garden scheme can be made out on the eighteenth-century plan reproduced in fig 18

61 Kambō, *ʿAmal-i Ṣāliḥ,* 3: 36 It seems that the panegyric developed for Agra had such a lasting impact that Kambo found it difficult to break away from it to take in the new state of things One notices, however, that he avoids lauding the garden features of the non-imperial residences of Shahjahanabad as he did for Agra (see n. 43 above)

62 Stephen P. Blake, *Shahjahanabad The Sovereign City in Mughal India 1639–1739* (Cambridge: Cambridge University Press, 1991), pp 71–82, map 5 Attilio Petruccioli and Antonino Terranova, "Modelli culturali nell' impianto e nelle trasformazioni di Old Delhi," *Storia della città* 31–32 (1984): 123–44

63 India Office Records X (1659) The map has now been fully (and attractively) published in *Shahjahanabad — Old Delhi: Tradition and Colonial Change,* ed Eckart Ehlers and Thomas Krafft, Erdkundliches Wissen 111 (Stuttgart, 1993)

64 The *hawīlī* is a building complex for residental use with one or more open courts or gardens closed to the outside. In Mughal India the term was used for non-imperial residences. For an attempt to reconstruct the Mughal *hawīlī*s at Shahjahanabad, see Blake, *Shahjahanabad,* in particular pp. 44–51

65. Blake (*Shahjahanabad,* pp 74–76, 81, map 5) lists only four 17th-century Mughal *hawīlī*s on the river bank, all built by persons especially esteemed by Shah Jahan According to Blake, three were situated to the northwest of the palace, of which two formed the residence of the heir apparent Prince Dara Shukoh and one belonged to ʿAli Mardan Khan, *amīr al-umarā* To the south of the fort was the *hawīlī* of Saʿadullah Khan These as well as the other major Mughal gardens of Shahjahanabad are highlighted on our fig 17

66 Ehlers and Krafft in their brief analysis of the Mughal gardens of Shahjahanabad ("Islamic Cities in India? Theoretical Concepts and the Case of Shahjahanabad/Old Delhi," in *Shahjahanabad/Old Delhi,* pp 16–17) merely observed that the Mughal gardens of Shahjahanabad were mainly situated in the suburbs "in the vicinity of the city outside the city wall " The contemporary eyewitness François Bernier (*Travels in the Mogul Empire: A D* 1656–1668, trans. Archibald Constable [1891; 3rd rpt New Delhi, 1972], p 247) seems to fuse Agra and Shahjahanabad into one picture when he states somewhat ambiguously that "the dwellings of the *Omrahs* [*umarā*], though mostly situated on the banks of the river and in the suburbs, are yet scattered in every direction "

67 Koch, "Zahara Bagh," pp 34–36

68 Kambō, *ʿAmal-i Ṣāliḥ,* 3: 37–38. That means they extended over a length which almost equaled that of the 1000 *gaz* of the

fort. The Shahjahani *gaz* used in architecture equals 81 to 82 cm., ideally, 81 21 cm., or 32 inches.

69. As far as I know this aspect of the urban development of Shahjahanabad has not yet been considered. Much of the literature on Shahjahanabad is cited in Ehlers and Krafft, *Shahjahanabad/Old Delhi.*

70 Kambō, *ʿAmal-i Ṣāliḥ*, 3: 36

71 *"Fitād ast gul-zār dar pay-yi ū, ki shāyad dahad dar darūn jāy-yi ū Dil-i lāla-zar-i birūn pur zi dāgh, az ān shud ki uftāda birūn zi bāgh"*; Mīr Muhammad Yahyā Kāshī, *Bādshāh-nāma*, Pers ms, BL Or 1852, fol 15a Persian pagination; fol 11a library pagination, last two lines

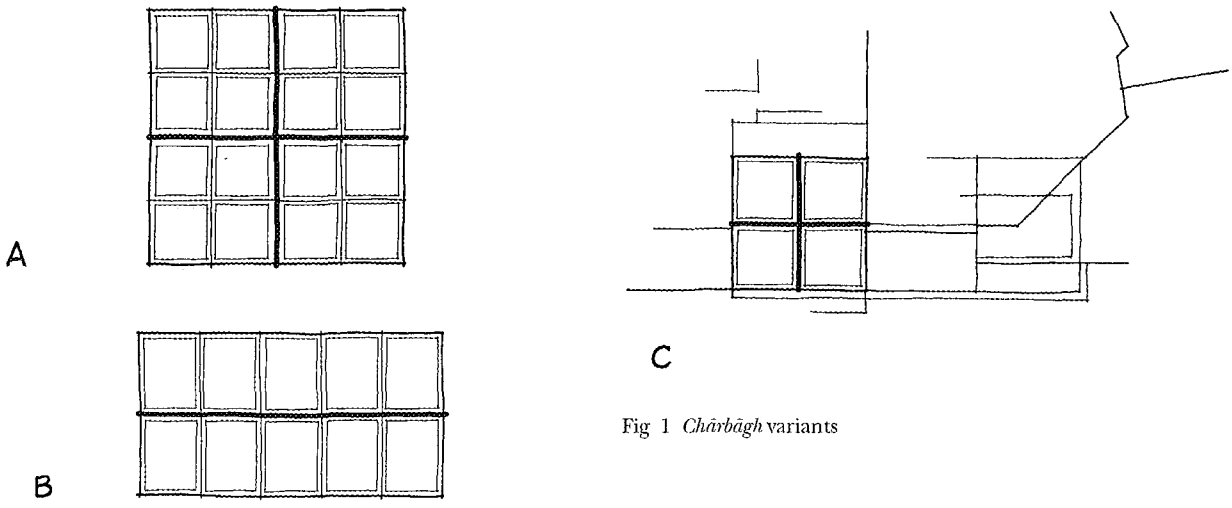


Fig 1 *Chārbāgh* variants

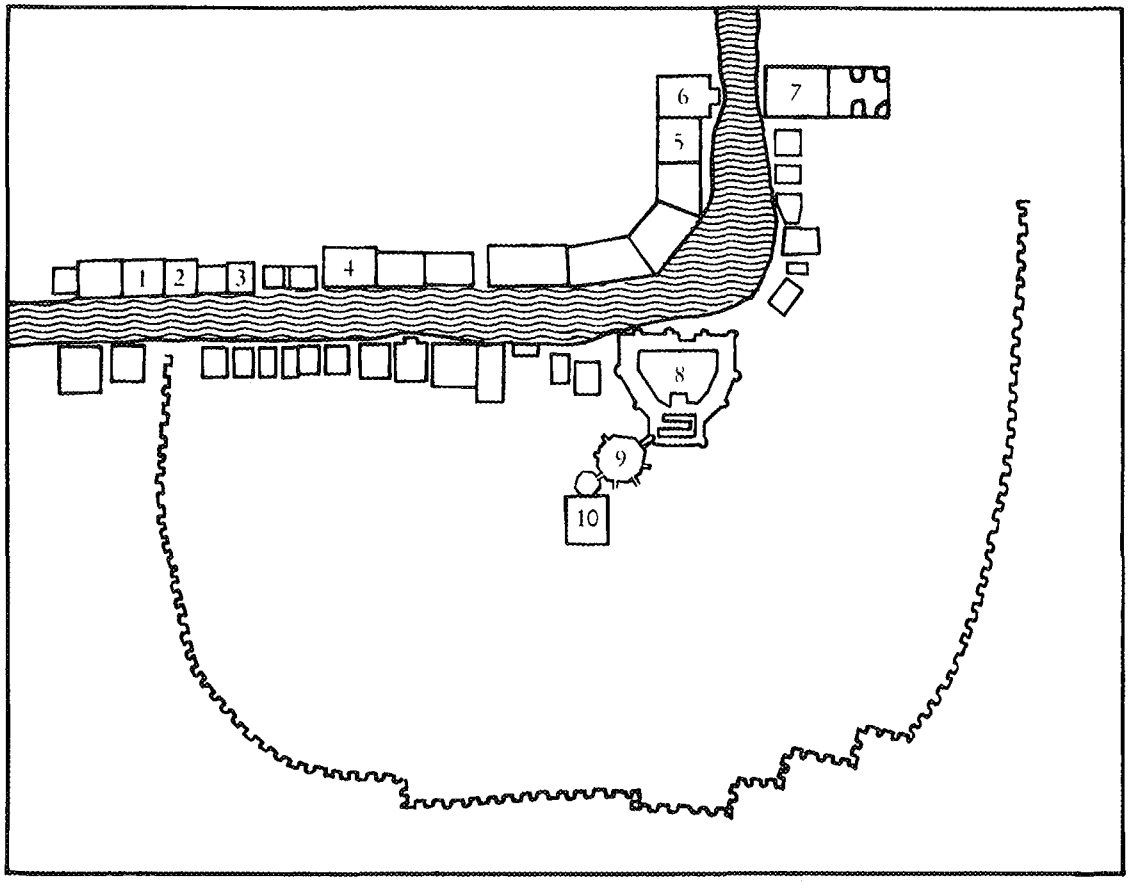


Fig 2 Line drawing map of Agra (1) Ram Bagh (Bagh-i Nur Afshan), (2) Zahara Bagh (Bagh-i Jahanara), (3) Chini ka Rawza (tomb of Afzal Khan), (4) tomb of I^{c}timad al-Dawla, (5) Chaharbagh Padshahi (Bagh-i Hasht Bihisht), (6) Mahtab Bagh, (7) Taj Mahal, (8) Red Fort, (9) Octagonal bazaar (not preserved), (10) Jami^{c} Masjid

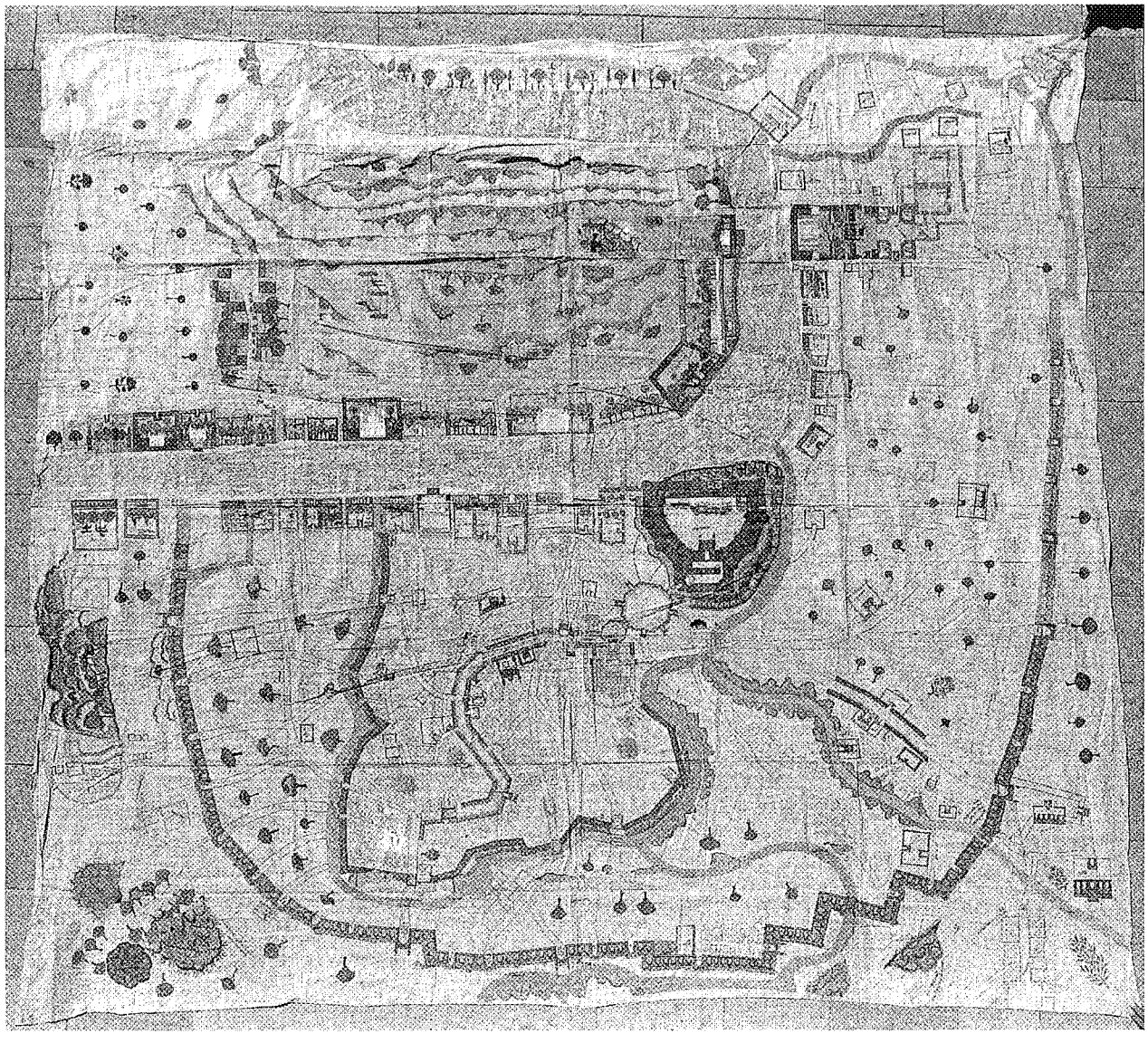


Fig 3. Map of Agra Early 18th century Watercolor on cotton fabric, 294 × 272 cm Jaipur, Maharaja Sawai Man Singh II Museum, Cat. No. 126. (Photo: Courtesy Maharaja Sawai Man Singh II Museum, Jaipur)

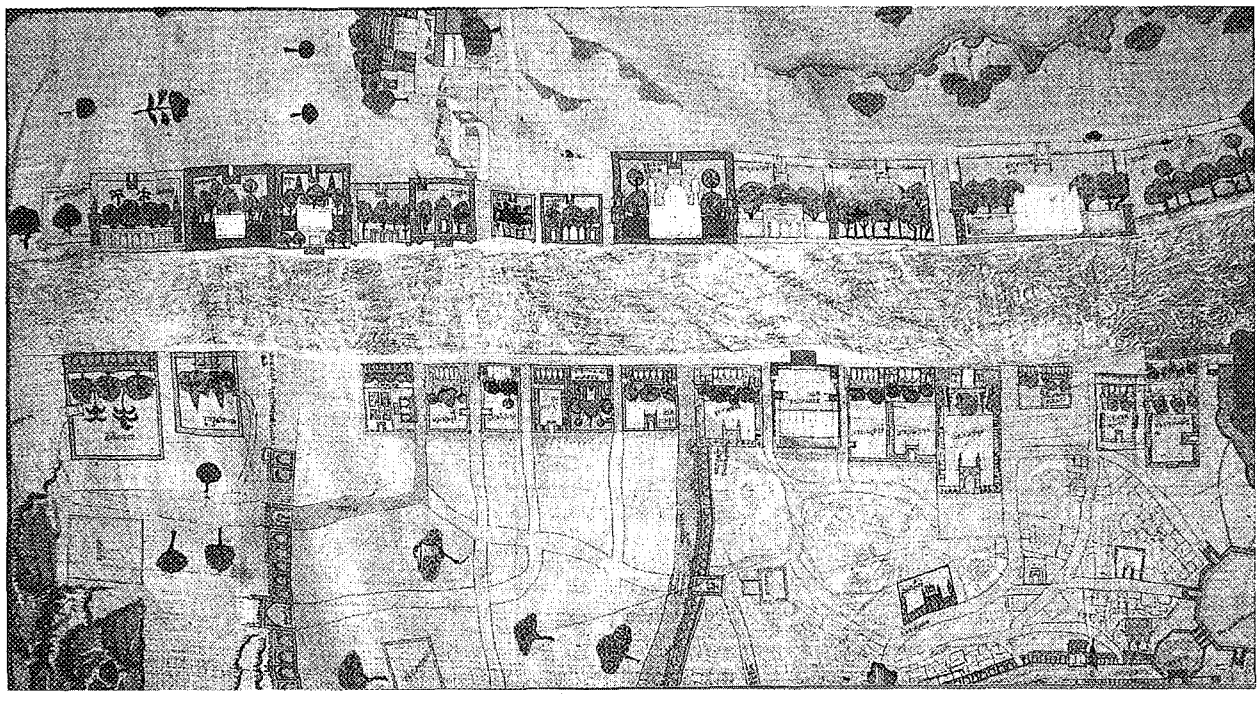


Fig 4 Map of Agra Detail with the riverfront scheme.

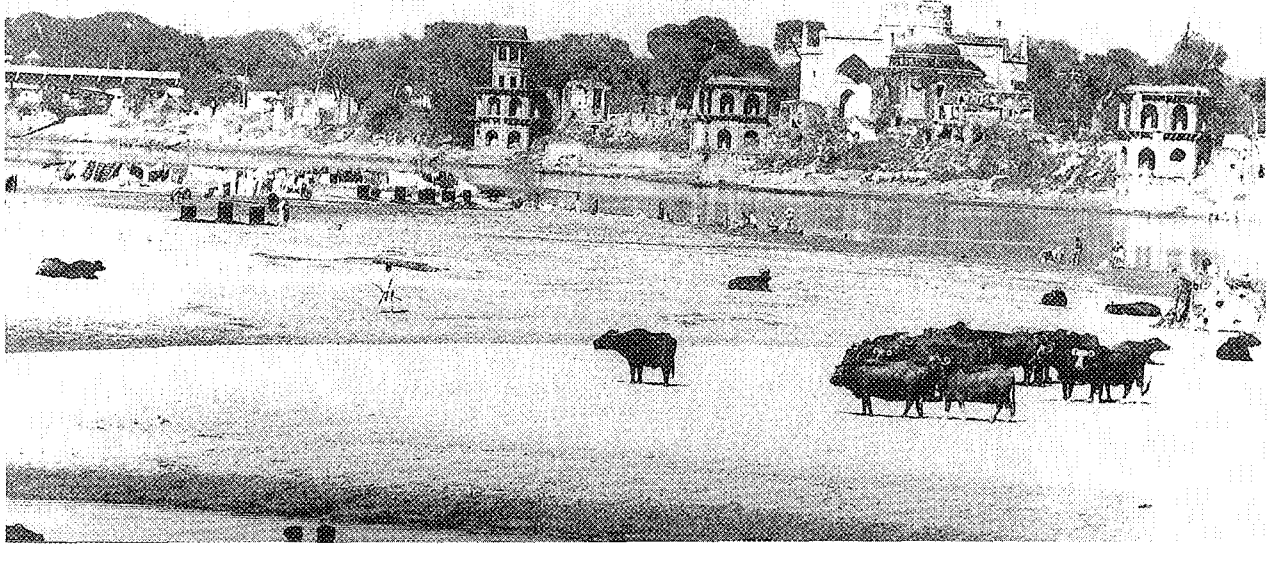


Fig 5 View of east bank of Jamna showing the surviving riverfront structures from the Zahara Bagh to the Chini ka Rawza

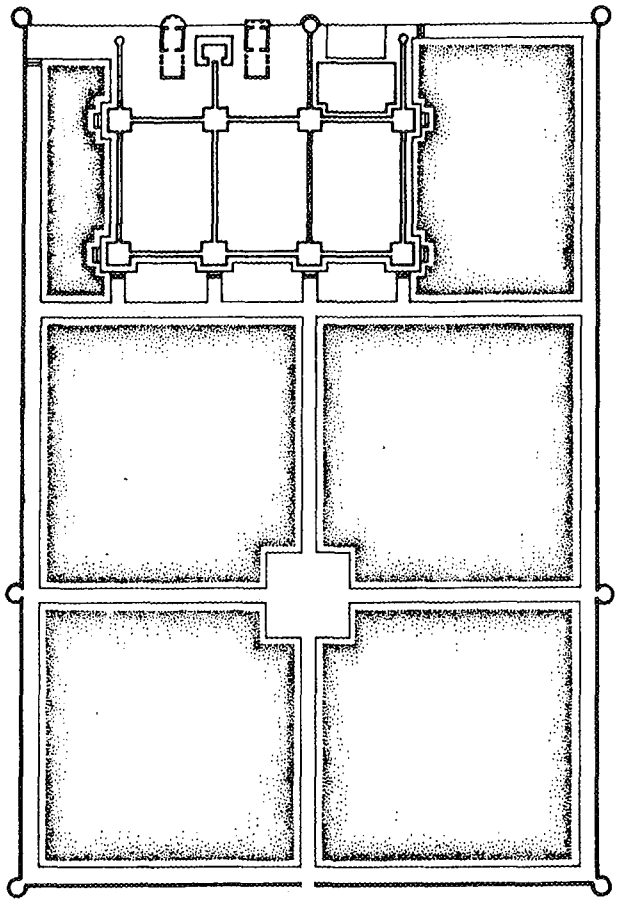


Fig 6 Agra Ram Bagh (Bagh-i Nur Afshan), 1621 Reconstructed plan (Plan: after Attilio Petruccioli)

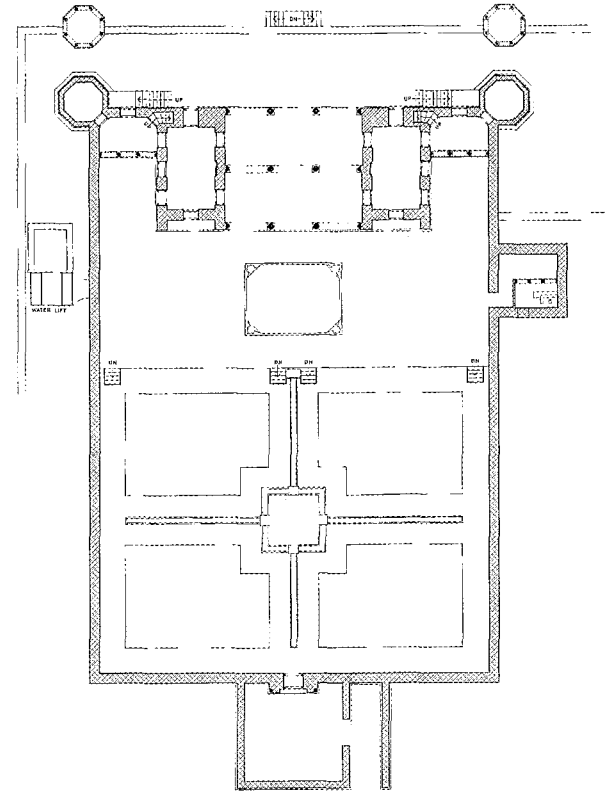


Fig 7 Bari Lal Mahal, hunting palace of Shah Jahan, completed 1637 Walled-in garden now called Dhobi Mahal Plan (Drawing: R A Barraud and E Koch)

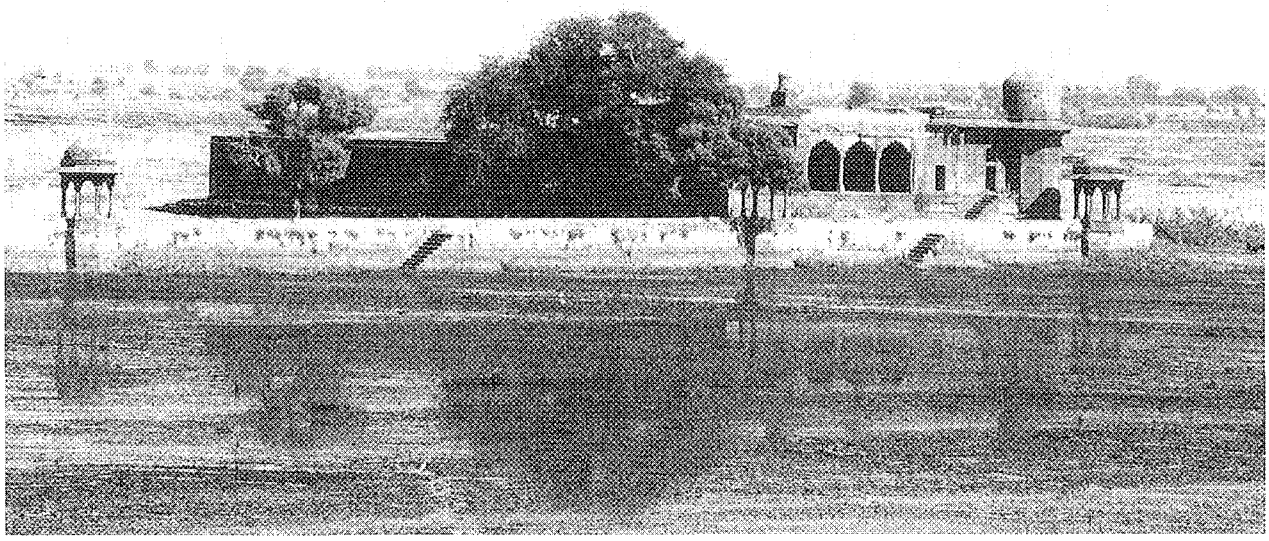


Fig 8 Bari Dhobi Mahal, seen across the lake

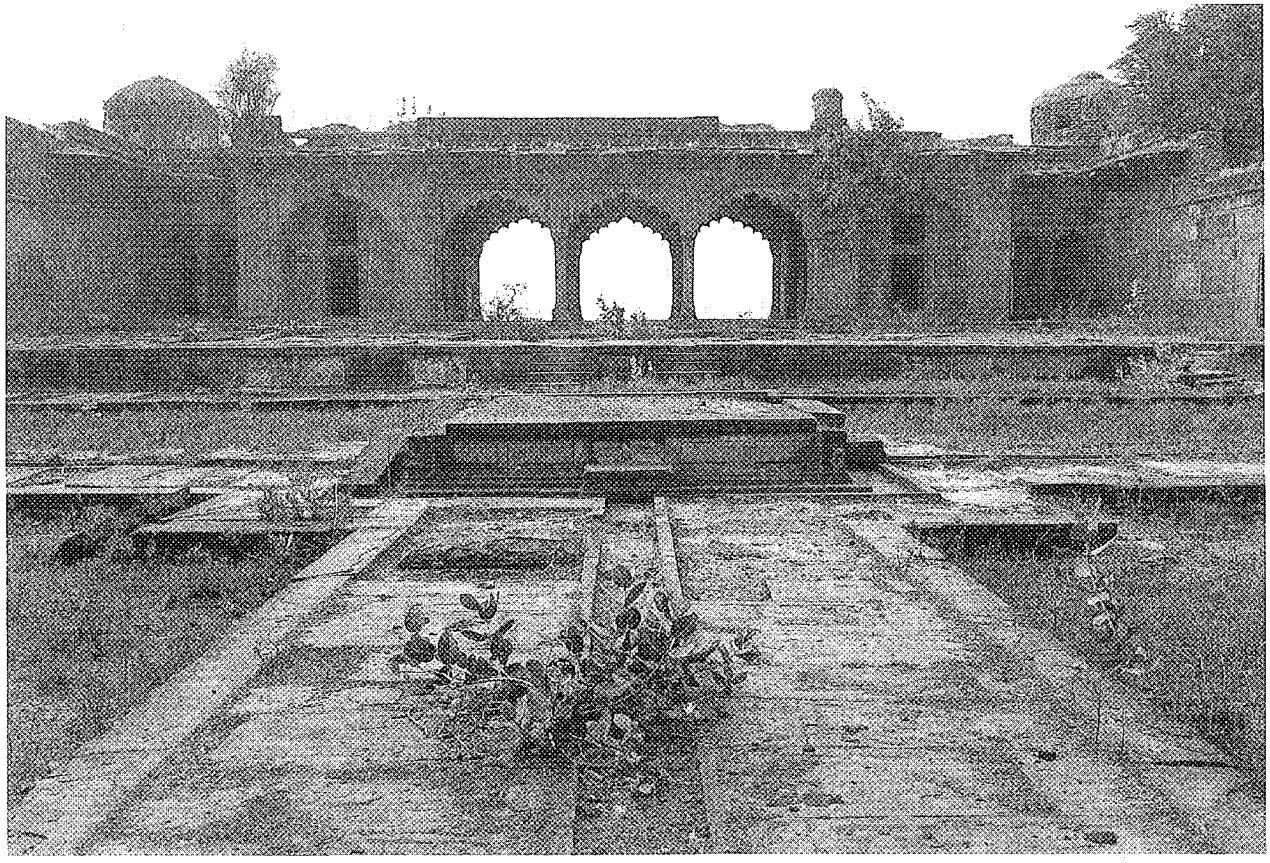


Fig 9 Bari Dhobi Mahal, interior from north

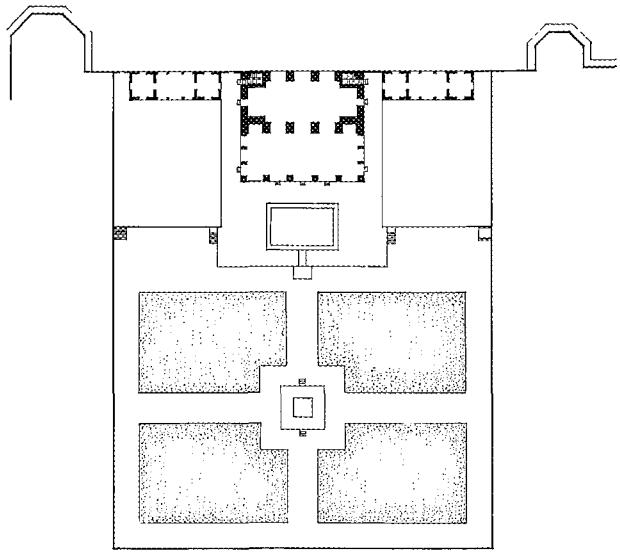


Fig 10 Agra Fort The ensemble of the palace garden, today called Anguri Bagh and Khass Mahal (Drawing: R A Barraud and E Koch)

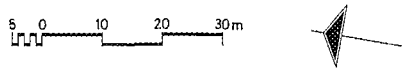
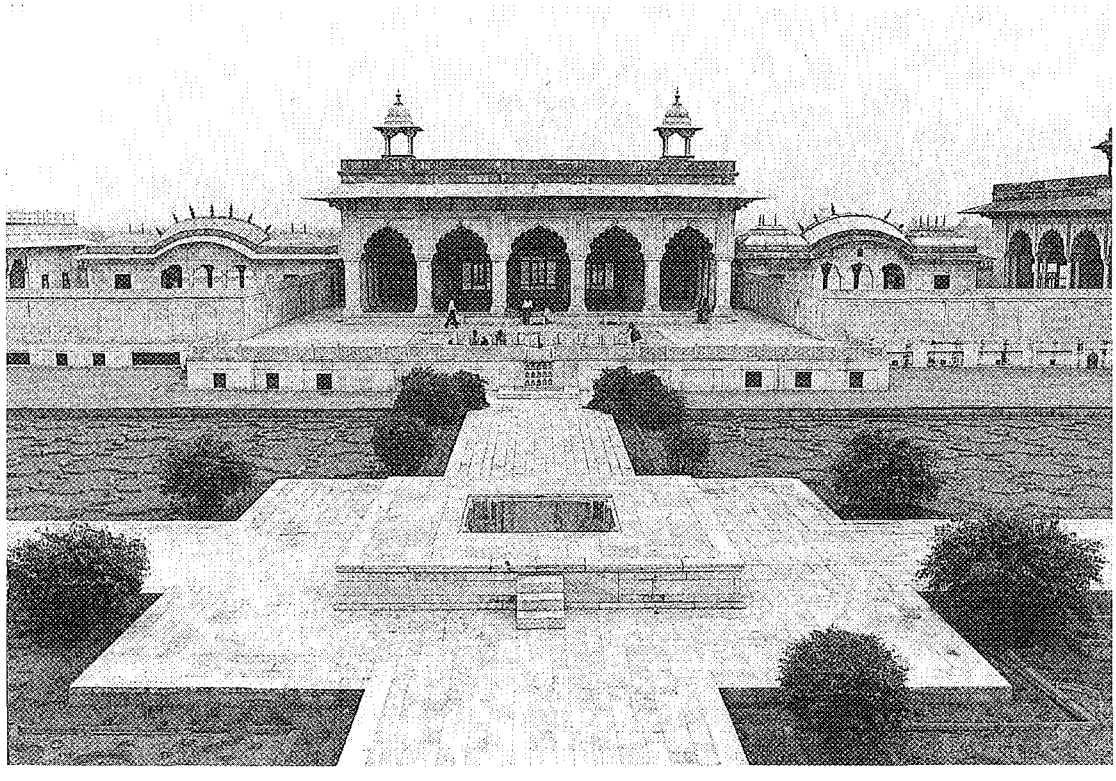


Fig 11 Agra Fort Anguri Bagh and Khass Mahal, consisting of Shah Jahan's sleeping pavilion (Khwabgah) flanked on both sides by pavilions with curved-up roofs On the left the Bangla-i Darshan and on the right by the Bangla-i Jahanara, completed 1637 Seen from west



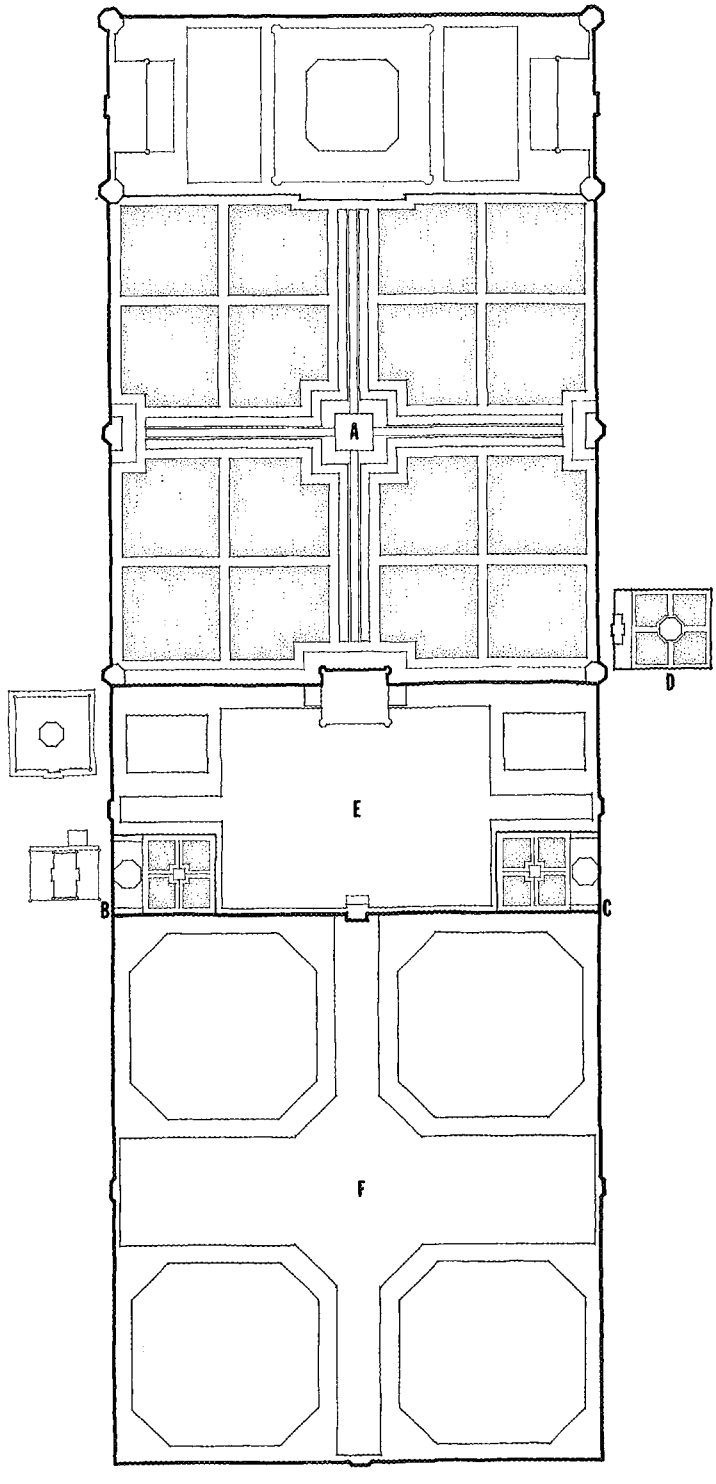


Fig. 12 Taj Mahal Reconstruction sketch plan of the original complex: (A) tomb garden, (B, C, D) subsidiary tomb enclosures, (E) forecourt and subsidiary courts, (F) bazaars and caravanserais (Drawing: R A Barraud and E Koch)

Fig 13 Taj Mahal Group of waterfront buildings seen across the river

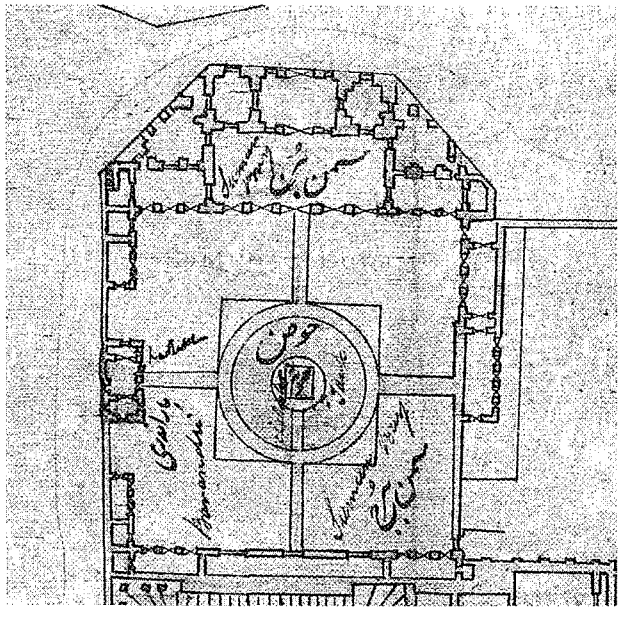


Fig. 14 Map of the Lahore Fort dated 1894 Detail of the Shah Burj (Shish Mahal) inscribed as Samman Burj (Photo: courtesy Lahore Fort, Department of Archaeology and Museums, Government of Pakistan)

Fig 15 Lahore Fort. Shah Burj (Shish Mahal), completed 1631–32 Courtyard seen from the roof of the riverside wing

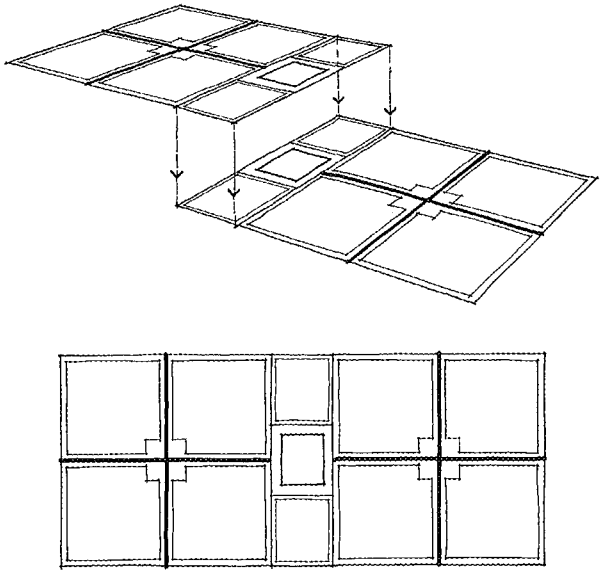


Fig 16 Sketch plan of Shalimar Gardens, Lahore, 1641–42 (Drawing: R A Barraud and E Koch)

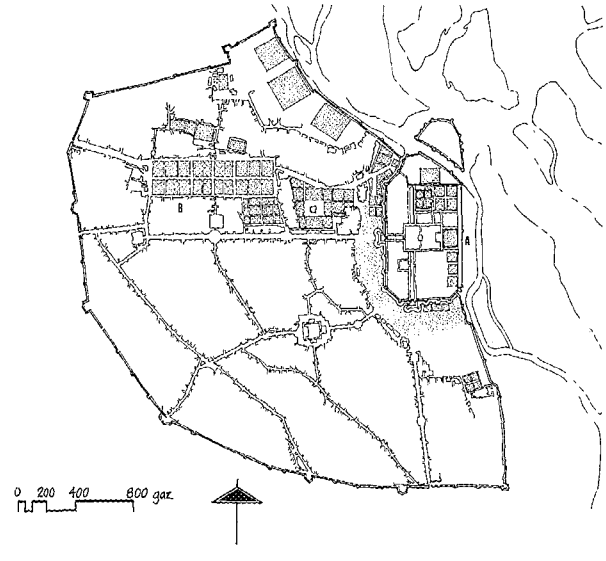


Fig 17 Map of Shahjahanabad showing the main Mughal gardens in the fort and in the city: (A) Red Fort, (B) Sahibabad gardens. (Drawing: R.A. Barraud and E Koch)

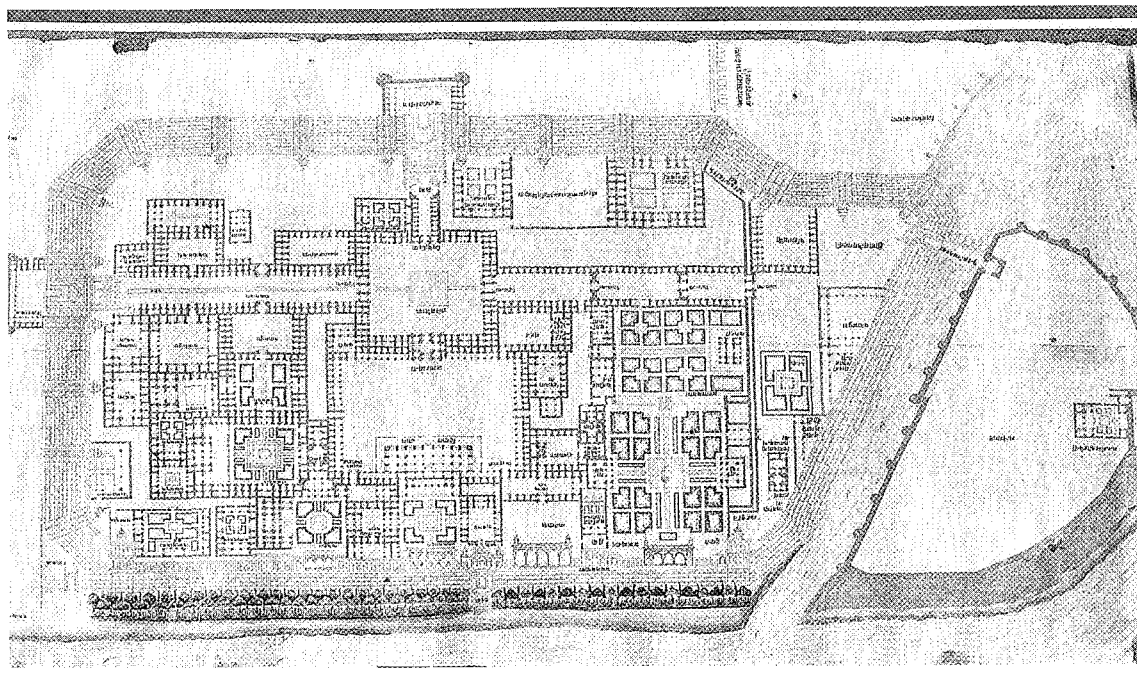


Fig 18 Plan of the Red Fort of Delhi 18th century Watercolor on paper, 65×143 cm Jaipur, Maharaja Sawai Man Singh II Museum, Cat. No 122 (Photo: courtesy Maharaja Sawai Man Singh II Museum, Jaipur)

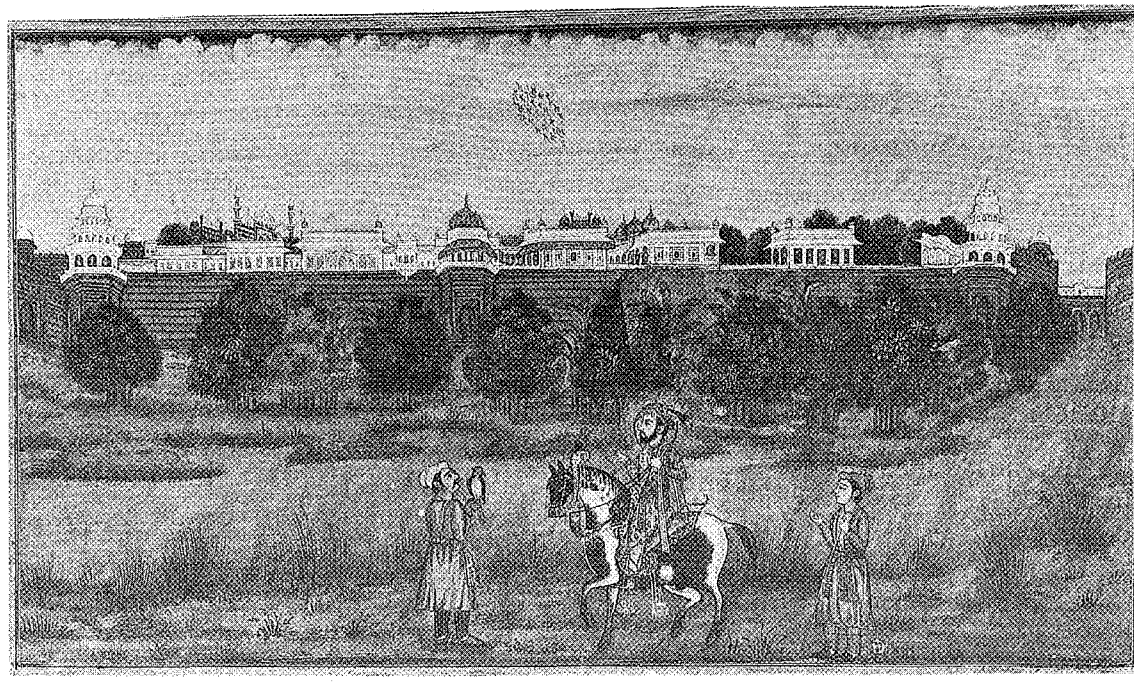


Fig. 19 Riverfront view of the Red Fort of Delhi with Shah Jahan on horseback in the foreground Illustration from a 19th-century copy of M Salih Kambō, *ʿAmal-i Ṣaliḥ*, British Library, Add 20735, fol 371 (Photo: British Library, Oriental and India Office Collections, London)