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## THE LOTUS GARDEN PALACE OF ZAHIR AL-DIN MUHAMMAD BABUR

That place is at the end of a beaked hill, its beak being of solid red building stone. I had ordered the hill cut down to the ground-level and that if there remained a sufficient height, a house was to be cut out in it, if not, it was to be levelled and a tank cut out in its top. As it was not found high enough for a house, Ustad Shah Muhammad the stone-cutter was ordered to level it and cut out an octagonal, roofed tank. North of this tank the ground is thick with trees, mangoes, *jaman*, all sorts of trees; amongst them I had ordered a well made, 10 by 10; it was almost ready; its water goes to the afore-named tank. To the north of this tank Sl. Sikandar's dam is flung across; on it houses have been built, and above it the waters of the Rains gather into a great lake. On the east of this lake is a garden; I ordered a seat and four-pillared platform to be cut out in the solid rock on that same side, and a mosque built on the western one.<sup>1</sup>

Intrigued by this passage in the *Babur-Nama*, in 1978 I searched for and located the site and remains of Babur's Lotus Garden. It turned out to be the most extensive example of his architecture known to survive. It had been considered lost; the last known reference to it was written about 1587 by Gul-Badan in the *Humayun-Nama*.<sup>2</sup> In January 1985 and again in 1986, I undertook the documentation of the site for the Archaeological Survey of India.<sup>3</sup> It is beyond the scope of this paper to describe in detail the roughly twenty-three acres included in the documentation.<sup>4</sup> The following is confined to the Lotus Garden palace and its influence on Mughal palace design with introductory comments on Babur's gardens in general.<sup>5</sup>

Babur is credited with introducing into India the paradise garden traditionally used by the Timurids as elegant camping grounds.<sup>6</sup> Not merely settings for occasional enjoyment, gardens were Babur's preferred residence just as they were for his ancestor Timur (Tamerlane, 1336-1405). The Timurids' inclination for fighting was equaled by their enthusiasm for building, and during the century following Timur's death the forms and ornamentation of their architecture became ever more refined. The exuberantly tiled, glittering

cities of Samarqand and Herat with their green belts of great baghs were Babur's architectural ideal. Several of Timur's residential gardens in Samarqand were described by Ruy de Gonzales de Clavijo, the Spanish ambassador to Timur's court.<sup>7</sup> Large enclosures with fragrant fourfold gardens, coursing water and brimming pools, plantations of trees with colorful pavilions scattered throughout became a Timurid tradition. Fruit trees were planted in profusion, and Donald Wilber, who has written with such authority and insight on Persian gardens, relates these Timurid enclosures to the Persian *bustan*, or orchard.<sup>8</sup>

In 1506, Babur spent forty days visiting his royal relatives in Herat shortly after the death of Sultan Husain Baiqara (1468-1506) who had presided over the city's golden era of prosperity and artistic achievement. At the time Babur was only twenty-three years old, but he had already lost his inherited throne in Fergana, won and lost Samarqand twice, and ruled in Kabul for two years. He was somewhat intimidated by the way of life he found there and disapproved of the morals, but he was a dutiful tourist. "Every day of the time I was in Heri I rode out to see a new sight";<sup>9</sup> all were listed, but not described, in his journal. Fortunately, we can visualize what he saw from Terry Allen's thorough documentation and catalogue of Timurid Herat, which imparts a rare sense of place.<sup>10</sup>

The palace where Babur was lodged was set in a park in what was considered the most splendid quarter, with several magnificent ensembles of religious establishments. However, Sultan Husain's own Bagh-i Jahan Ara evidently had more influence on Babur. Allen regards Sultan Husain's "dispensing with the association of ruler's residence with the ruler's madrassah and khanaqah" as a break from Timurid architectural development in Herat.<sup>11</sup> Sultan Husain's model, close to the Samarqand original, was followed by Babur; he included a chapel mosque in his Lotus Garden and mentions similar mosques in other gardens



1. Former Timurid pavilion, showing watercourse passing through the building.

now lost, but he did not include a variety of religious buildings in his gardens.

Variations of Timurid baghs became Babur's main architectural interest and endeavor; he never undertook a major urban development. He did not build a new city at Kabul; he repaired, maintained, and somewhat enlarged the existing citadel and authorized the construction of a congregational mosque and repairs to public buildings, baths, a caravanserai, and dams. It was left to the later Mughals with their greater resources to revert to the Timurid practice of creating splendid new urban centers.

It was not simply a shortage of funds that directed Babur's creative energies toward gardens, however, but his character and interests as well. He was drawn to the natural world; his observations and descriptions of plant life and animals are far more detailed and

original than his comments on architecture. Much of his life was spent in the open on military campaigns living intimately with nature. Few of his Afghan gardens had any buildings. Like a nomadic encampment, when shelter was needed a colorful awning or tent could quickly be raised.

Most of Babur's Afghan gardens were dramatically located on hillsides with a sweeping view of a valley.<sup>12</sup> His genius for site selection was matched by his spatial sense; his gardens were steeply terraced with a strong central axis. Although Kabul's mountains provided endless possibilities for gardens, he was restricted to a palace for the severe winter months.

If he was disappointed by the flat terrain near Agra, the climate of Hindustan compensated for the lack of adequate garden sites by permitting him to live permanently in his gardens. A soldier first—and always—



2. Waterchute from Timurid pavilion to rock-cut pool.

he used the private apartments in his Indian gardens as a retreat; space was assigned to his officers and companions in the surrounding encampment. Babur's women relatives did not accompany him on campaigns, so there were no extensive women's quarters in his gardens. In Hindustan he provided the women of his family with separate palaces; they came to the gardens only to visit.<sup>13</sup>

In Hindustan, architectural solutions were required for this expanded use of gardens and for the new climatic and physical conditions. The solution was an aesthetic response characteristic of Babur—he formalized the arrangement of elements in traditional Timurid gardens. The principle of organization he introduced in the Lotus Garden Palace was a sequence of separate buildings and open intervening spaces

forming a unified composition on a single stone platform. Unity was achieved by the balance of space and mass and a narrow watercourse which also directed movement. This differs not only from previous Timurid architectural arrangements, but from the prevailing design of North Indian palaces where multiple stories of intercommunicating small rooms were enclosed in a large, defensive structure.

Although Babur and the second Mughal ruler, his son Humayun, initiated many projects, only a few damaged mosques and rebuilt garden sites were thought to survive; there was little reason to question Fergusson's judgment that there "are no examples of the style as practised by Babur and Humayun."<sup>14</sup> This lack of early examples of Mughal architecture led to the assumption, made repeatedly and generally accepted, that the innovative palace plan and distinctive Mughal combination of Hindu and Islamic themes of Fatehpur-Sikri were developments of Akbar's reign. In fact, these innovations were introduced by Babur and can be seen at the Lotus Garden.

Hindu techniques and themes were integrated into Indo-Islamic architecture long before the Mughals, however; the architectural organization of Fatehpur-Sikri differs significantly from pre-Mughal imperial Delhi styles and the established Indo-Islamic provincial styles. Questions concerning the architecture of Fatehpur-Sikri have often concentrated on accurate identification and probable use of remaining buildings rather than on the origins of the style.

Enough of the Lotus Garden survives to argue that it inspired Akbar when he built Fatehpur-Sikri some forty years later and thirty miles to the north on the same sandstone ridge.<sup>15</sup> Agra, Sikri, and the Lotus Garden form a triangle frequently traveled by Babur. Sikri became identified with Babur when he laid out his Garden of Victory in 1527 just below the spot chosen by Akbar in 1571 for his City of Victory. At Fatehpur-Sikri, Babur's concept was more fully developed in Akbar's larger, more formal palace. It is not surprising that Akbar would adopt Babur's design, nor that with characteristic genius he would make of it something grand; like all of Babur's descendants, Akbar emulated and admired his grandfather.

The *Babur-Nama* records that after initial indecision Babur kept Dholpur as a royal domain rather than awarding it as a pargana to a follower. Midway between Gwalior and Agra on a direct route to Delhi, Dholpur was strategically located on the Chambal River with easy access to the Jumna and the Ganges.



3. Excavation shows where paving has been removed from court.

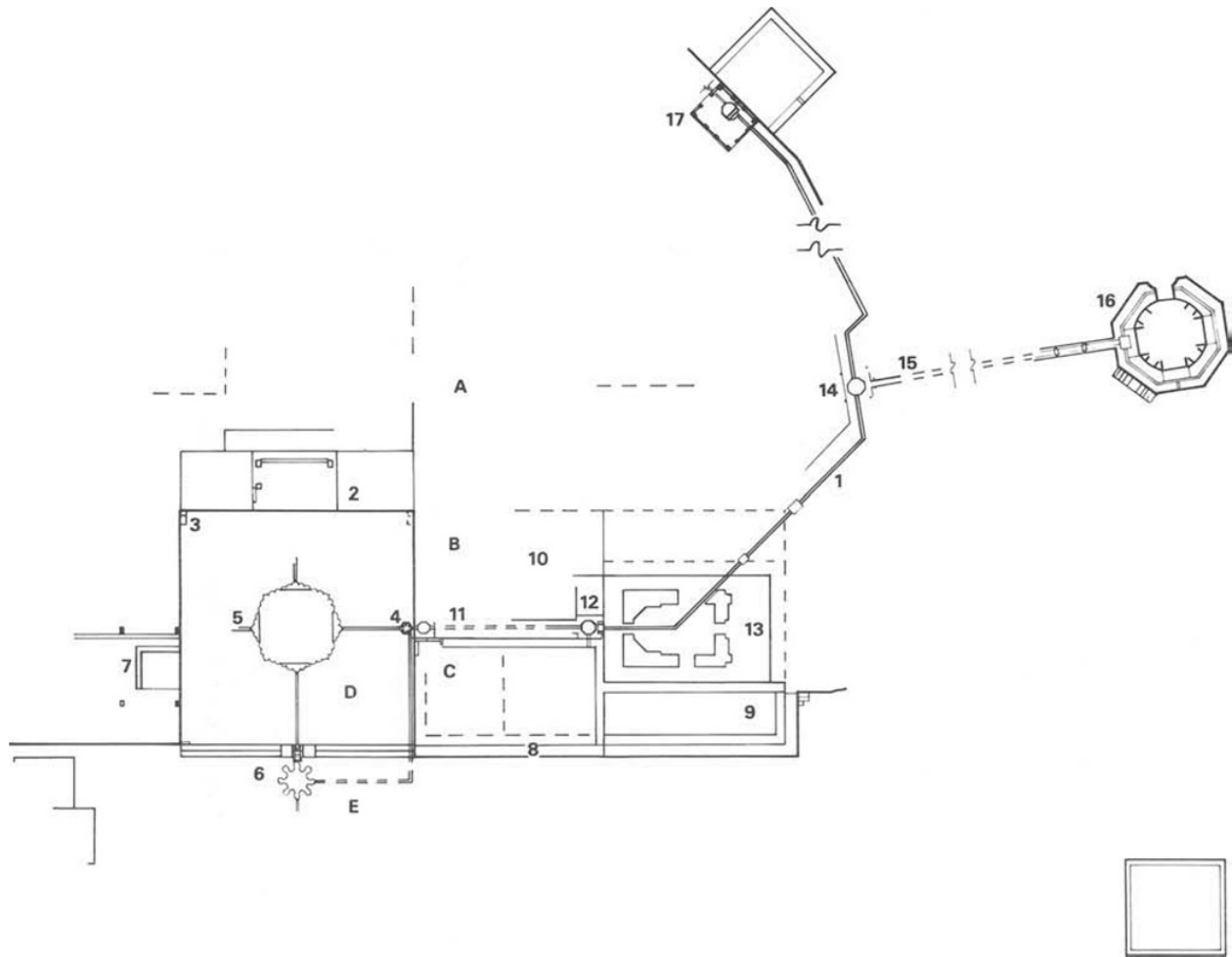
He built the Lotus Garden nearby to serve as his encampment in the area.

The site first attracted Babur's attention in August of 1527 when he stopped at Sikandra Lodi's small but luxurious resthouse, part of a bund, near a series of low hills rising from the west bank of the Chambal River south of Dholpur. The exposed face of the hill nearest the Lodi bund was of the solid red sandstone so desirable for building. While examining it, Babur conceived of having a rock-cut house hewn out of it. He was, of course, familiar with Bamiyan and other rock-cut sites; years before he had begun excavating a residence in the north cliff at the old city of Qandahar.<sup>16</sup>

The land where the Lotus Garden is located is now privately owned, and a densely settled village has grown up on the palace site, hindering completion of a fully detailed schematic plan.<sup>17</sup> Before erecting a hut, villagers customarily build up a thick mud base on the

rock platform of the palace; while the configuration of the village may change from year to year, these mud bases are protected for future huts. Some Mughal structures have been incorporated into joint family compounds, others have been quarried to serve village needs (figs. 1-3). Fortunately, there are several unaltered rock-cut and constructed architectural features and enough vestiges of damaged or demolished structures to re-create a ground plan sufficient to establish Babur's ideas of a palace layout (fig. 4). Although Babur conceived the design and took an active interest in construction—visiting several times, dismissing workmen, calling in others and directing their work—he had a team of experts who followed through on his ideas under his master builder, Ustad Shah Muhammad, who had accompanied him from Kabul.

The outcrop which inspired Babur is a fine-grained, cross-bedded red sandstone with a fracture parallel to



4. Partial ground plan and elevation of palace at the conclusion of field work in 1986. Legend: A. Main platform. B. Terrace 1. C. Terrace 2. D. Central terrace. E. Charbagh (if completed). 1. Water channel. 2. Babur's apartments. 3. Rock-cut steps. 4. Lotus-bud pool. 5. Lotus-blossom pool. 6. Double water chute and fading-flower pool. 7. Rock-cut pavilion. 8. Walkway on platform edge. 9. Garden. 10. Paved court. 11. Watercourse dividing area into two terraces. 12. Waterchute and rock-cut octagonal pool which also feeds garden. 13. Timurid pavilion. 14. Distribution pool. 15. Aqueduct built on platform. 16. Aqueduct and well. 17. Hammam. Solid lines indicate rock-cut features. Shaded areas are existing construction from 1527 to 1529. Dotted lines represent stone-and-mortar remains of demolished buildings. Modern village and vegetation are not indicated.

the bedding (fig. 5). This may have made a rock-cut residence structurally impossible and led him to shape the rock, reducing it to a large, level platform and three broad terraces descending to a garden. A narrow water channel, averaging only 18 cm. wide and 5 to 8 cm. deep, cut into the rock surface united the palace buildings constructed on the platform and linked a series of rock-cut octagonal pools and water chutes between the terraces (fig. 6).<sup>18</sup>

Perhaps erosion of the alluvial sandstone along the bedding planes and difficulties encountered in carving it were responsible for the organic way the Lotus Garden seems to have been created; additions were made to the plan as parts were completed.

The central terrace dominates the plan with the climax of the design—the progression of lotus pools which gave the garden its name. Carved into the rock, they develop a single floral theme, the “Life of the



5. West wall of central terrace showing fracture in sandstone.

Lotus.” The size and treatment of each pool reinforce this theme. In the first, tight lotus buds and crisp foliation decorate a small hexagon carved as if it were opening to reveal another dimension (figs. 7-8). Centered on the main terrace, the octagonal second pool is a wide, full lotus blossom (figs. 9-10). The third, fed by a double waterchute, is a diminished octagon with the lotus portrayed as a fading flower (figs. 11-13).

The second pool is a particularly fine example of an octagon with the geometric form becoming foliate; steps at four points within the pool form a square, but the rounded petals of the pool’s edge create the illusion of a circle. The foliated sides meet at barely perceptible angles, forming eight-pointed petal forms (fig. 14)—the antecedent of the cusped arch of Shah Jahan’s architecture.<sup>19</sup> In the third pool the undulating, separating petals were carved in a reverse petal, or positive-

negative pattern; however; the substance and void were reversed, with water—the void—as the flower. This lotus-petal motif reappears throughout Mughal architecture carved as column bases, ornamenting parapets, edging pools, and as water devices; it is one of the most common Mughal decorative forms.

The foliation of the three pools, carved with such precision, softens the stone: The intricate geometry is impressive, the execution beautiful, the concept wonderful. In the use of water, the Mughals never again equaled the inventiveness of this sequence of rock-cut pools.

In December 1528 Babur rode from Agra to preside at a celebration on the completion of the water system at the Lotus Garden after sixteen months of construction. Confusion surrounds the passage in his autobiography describing the visit: “The stone-well,



6. Rock-cut watercourse.

the 26 rock spouts and rock-pillars and the water-courses cut on the solid slope were all ready.”<sup>20</sup> This is usually considered a reference to fountains. However, in my view, it is Babur’s description of the aqueduct at the Lotus Garden. On-site investigation supports this view and in addition proves that no series of fountains could even have existed there. Though animals were used to raise water from the well, once fed into the aqueduct the system was maintained by gravity and did not provide sufficient water pressure for fountains.

The only arable lands in the seared landscape surrounding the Lotus Garden are sediment beds produced by ancient dams. A fertile crescent abuts the rock formation where the palace was located. From a well centered in this area the aqueduct ran 82.7 meters to a distribution pool on the rock (fig. 15). A section of the aqueduct was built up where the natural rock slopes

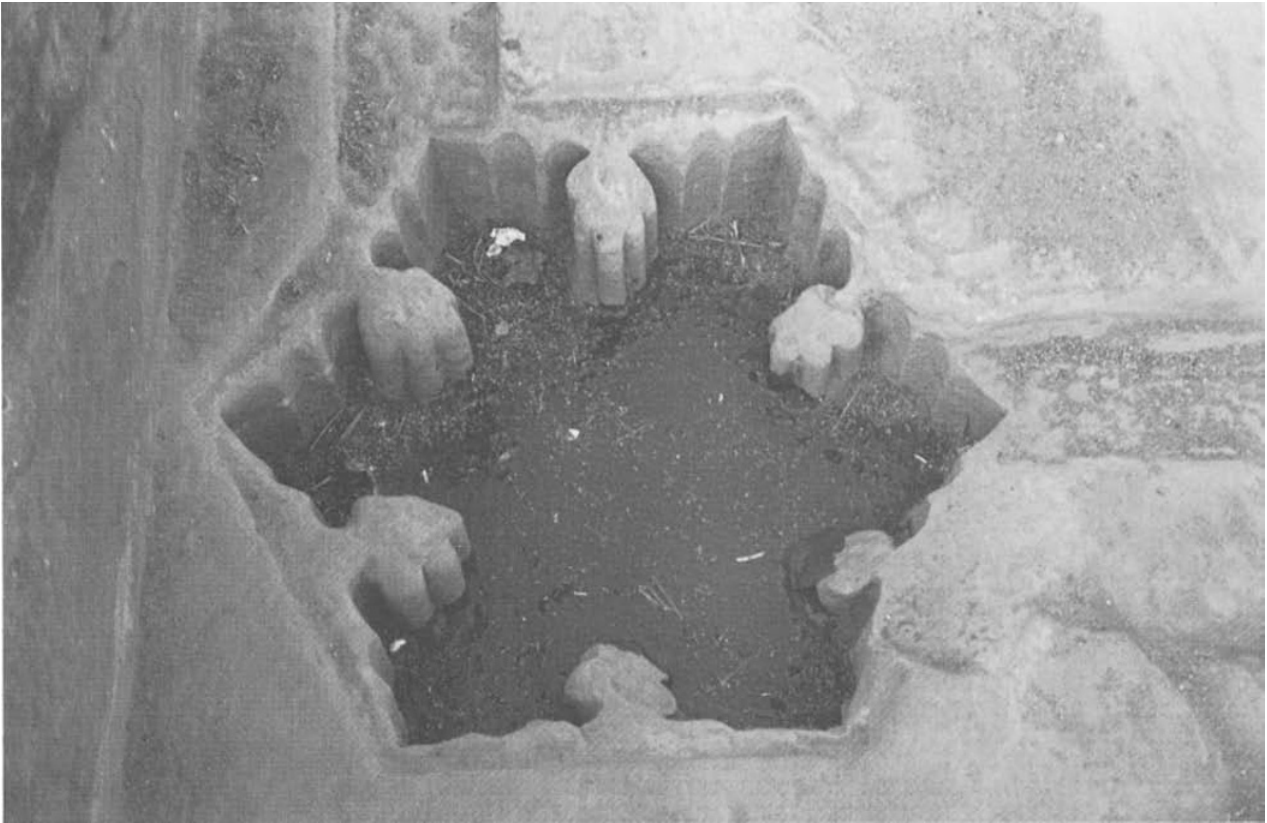
down from the pool. The remaining 78 meters between the rock and the well were divided into 26 piers. The water channel on the aqueduct is 15 cm. wide and 7 cm. deep (fig. 16), and the elevation declines only 64 cm. between the well and the distribution pool. There is no elevated tank or reservoir and no evidence that one ever existed.

The “rock spouts” were actually 26 paired spouts. Above the center of each pier the water channel widened to form a shallow basin tapering to spouts at each end (figs. 17-19). Averaging 200 cm. in height, the aqueduct was constructed in alternating wide and narrow courses of ashlar sandstone with a rubble masonry core (fig. 20); the span of these true arches is 93 cm. at the base of their frames (fig. 21). Though utilitarian in purpose, the aqueduct was designed to be a decorative feature of the Lotus Garden.

From the *Babur-Nama* we know that water was a major element in Babur’s gardens. Imbued with the mystical Muslim attachment to water, he used it with respect and exceptional skill. In his treatment of water, he imposed an order on nature—straightening a stream, building a stone edging at a spring. His rill-like water courses were always straight. That is how he dealt with the *form* of water; his attitude toward the *movement* of water, though not stated, is implicit in his text. Babur built cascades, not fountains; as in nature, in his gardens he preferred falling water. At the Lotus Garden he combined form and movement for a stunning resolution. In the aqueduct he moved water in a straight line across a flat plane but also had his cascades.

Instead of coping, the round well is finished with a wide octagonal ledge which, like a *chhajja*, is supported by carved Hindu brackets (fig. 22). Simply but finely worked, they are the most distinctive feature of the well. Access to the ledge is by a pair of steps like those found in the interior of large Hindu tanks.

Historians constantly point out Babur’s comments on the stonework at Gwalior and Chanderi and the influence these forts had on later Mughal architecture. When a tank and water channel in a bath at the Lotus Garden are compared with a hammam in the fort at Gwalior, they are strikingly similar (fig. 23). In October 1528 Babur spent a few days at the Lotus Garden before riding on to visit Gwalior. After an agreeable tour of the area he returned to the Lotus Garden for four or five more days. Unlike the Gwalior hammam, the well-preserved bath at the Lotus Garden is not a suite within a larger building, but a severely



7. Lotus-bud pool.

plain one-room building of Indian slab construction (fig. 24). The roof, supported by twelve pillars, consists of sixteen keyed triangular slabs with a square center slab (fig. 25; see also 23c).

The Lotus Garden is the earliest expression of Timurid garden ideals combined with Indian architectural elements. From his writing we know that Babur followed conciliatory policies and was open to new ideas, so it was in character for him to incorporate Indian themes in his architecture. The very name “Lotus Garden” is more Indian than Central Asian.

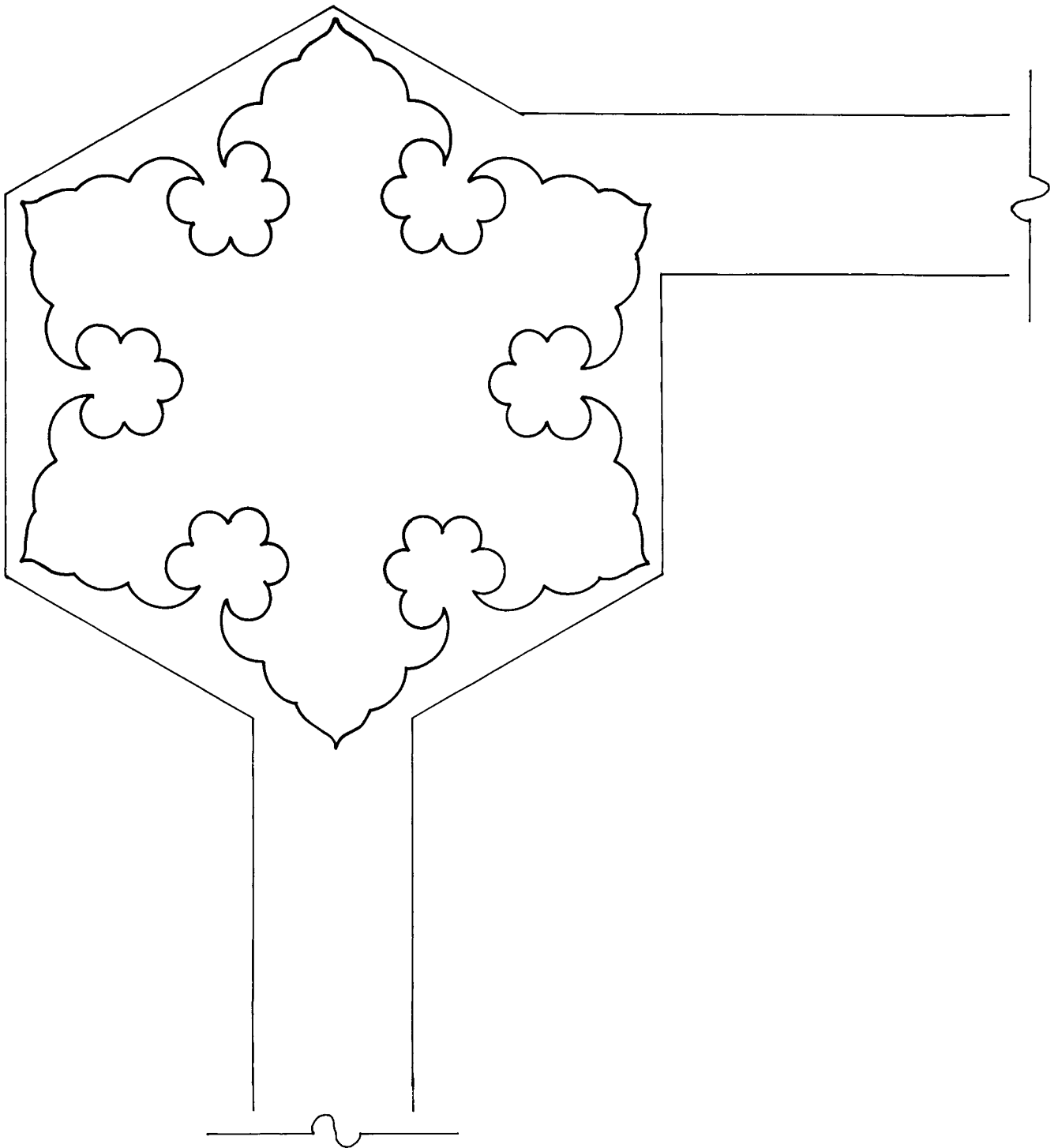
The scale of the Lotus Garden was intimate, and although much of its construction was Hindu, its character was Muslim. It must have had the visual and psychological effect of an oasis. Fringed by thick vegetation, the barren red rock was transformed by the life-giving water so pleasing to all the senses as it flowed through the palace watercourse. Water provided textural effects by changing the color of the sandstone—it

turns a rusty purple when wet. The Lotus Garden was a retreat, a place for contemplation, not for public ceremonies. Water dominated as it unified; threading through the enclosed and open spaces it wove palace and garden together in one composition. Within the pavilions, carpets repeated the color of the charbagh and holes cut in the rock held slender poles supporting light, colorful awnings stretched to shade the pools.

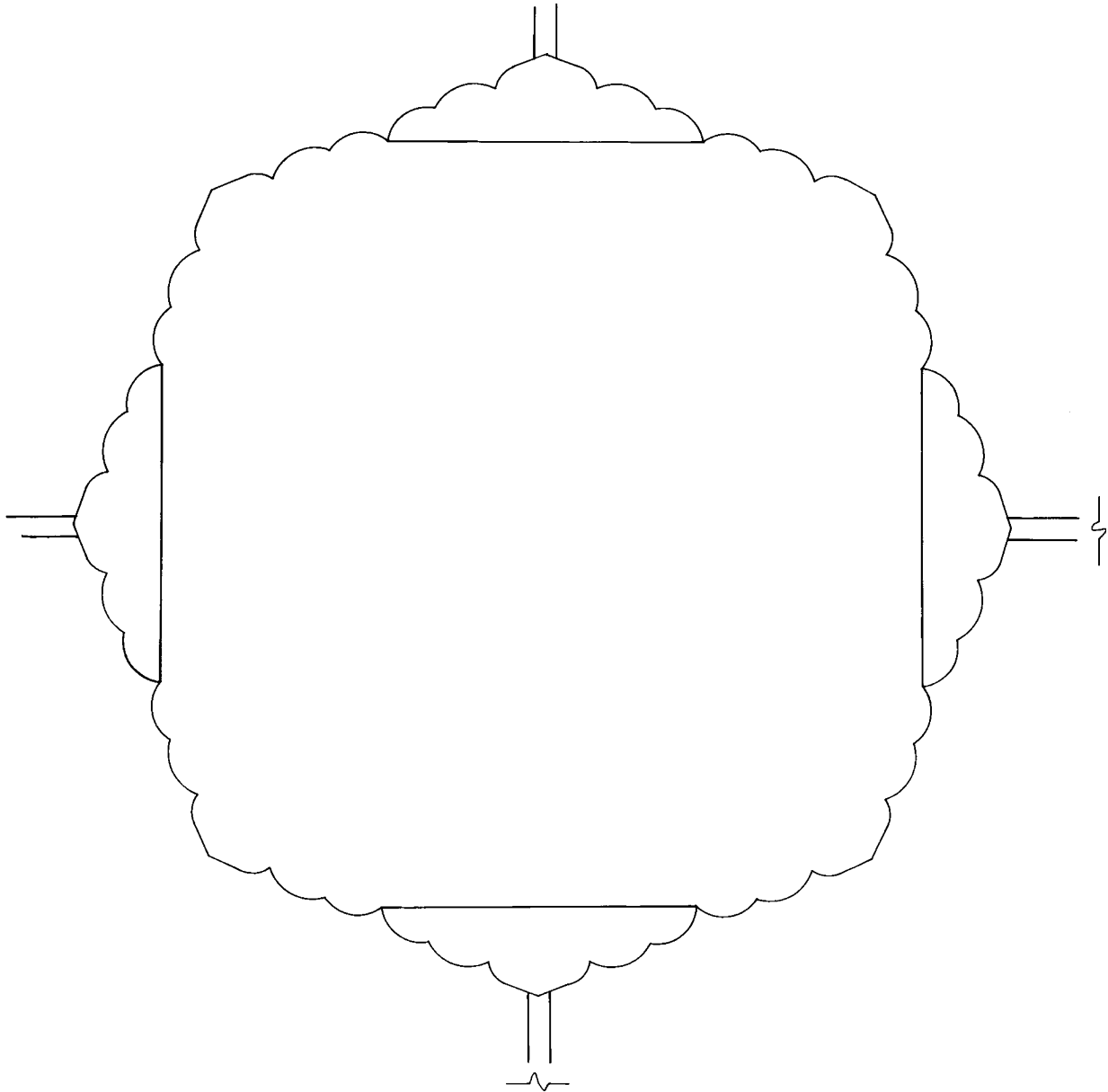
The contour of Babur’s “beaked hill” favored developing the site oriented toward the north. Situated on the highest level, Babur’s private suite, closed to the sun’s heat and open to the cool north, had a view over the lotus pools and a charbagh to the surrounding encampment and beyond to the open land.

It is intriguing to wonder if Babur had ancient symbols of kingship in mind when he designed the central terrace; the *Babur-Nama* holds no clue to this question. However, the Paradise symbolism of the lotus-blossom pool is unmistakable; like the four rivers of life, the nar-





8. Plan. Lotus-bud pool.



9. Plan. Lotus-blossom pool.

row watercourse quartering the terrace seems to spring from a sacred fountain. Elevated on the highest level of the platform directly overlooking the terrace, Babur's private apartments placed him in a physically and symbolically dominant position.

Could Akbar's Anup Talao also have this symbolism? Sunk in a court between the Diwan-i Am and

what is thought to be his private suite at Fatehpur-Sikri, the tank is quartered by four narrow walks leading to a platform in the center.<sup>21</sup> Attracted by symbolism in general, Mughals who followed Babur were absorbed in symbolism relating to their own dynastic tradition. Perhaps this was a factor in their acceptance of his concept of a palace. Modified by a change in



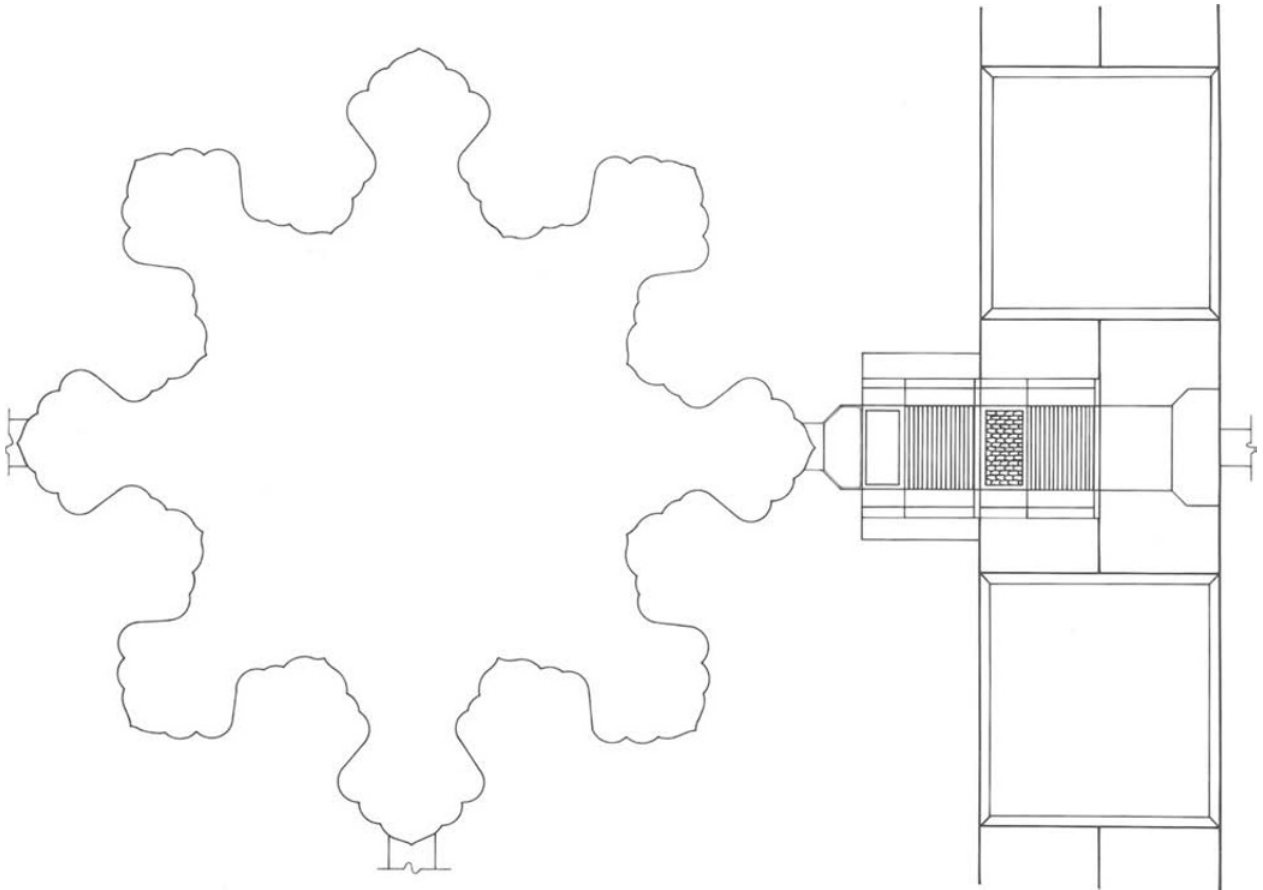
10. Lotus-blossom pool. View to north.

materials, Babur's organization of a palace as a sequence of separate buildings with intervening spaces remained the Mughal model. With the exception of pavilions for some queens, this luxurious use of space was denied the women, probably because the number who lived at court was so large. Organized around a court, the usual Mughal zenana was multistoried with small rooms.

When Shah Jahan built his palace in the Red Fort at Shah Jahanabad one hundred years after Babur's death, the arrangement introduced in the Lotus Garden persisted. Shah Jahan's royal apartments were a series of lavishly decorated marble pavilions interspaced on a marble terrace united by a water-course, his "Stream of Paradise."

As a rule, nomadic life does not produce a permanent architecture, and the gardens designed by Babur derived from the nomadic encampment. However, his boldness in shaping the land and his successful treatment of sequences of space as positive volumes created a garden architecture that endured. Closely related to their Timurid antecedents, Mughal gardens nonetheless achieved a distinct individuality. Over a period of roughly 130 years, the great Mughals built hundreds of gardens in northern India and Kashmir where they lived as they traveled about the realm. True to their Central Asian roots, they were the world's most elegant nomads.

*Washington, D.C.*



11. Plan. Fading lotus-flower pool. View to south.



12. Detail. Fading lotus-flower pool.



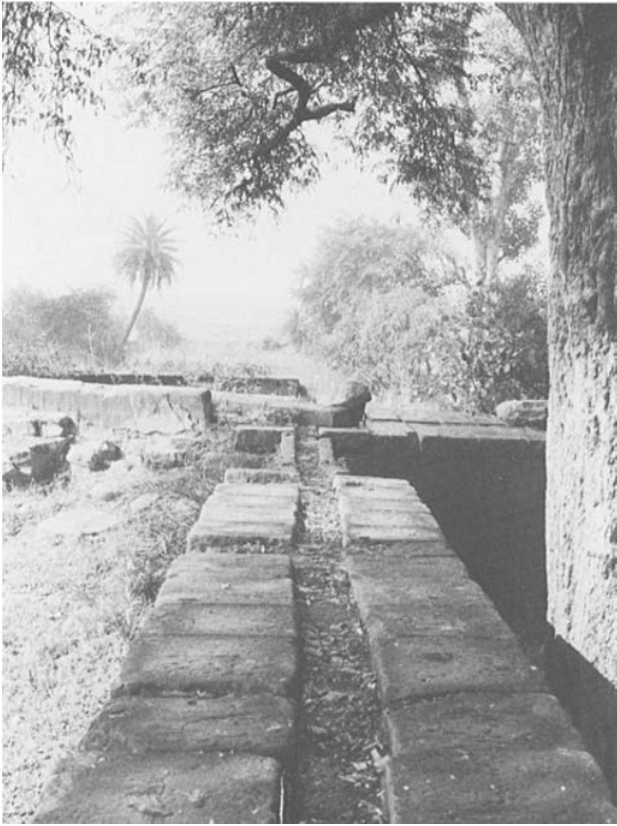
13. Waterchutes and part of lotus-flower pool.



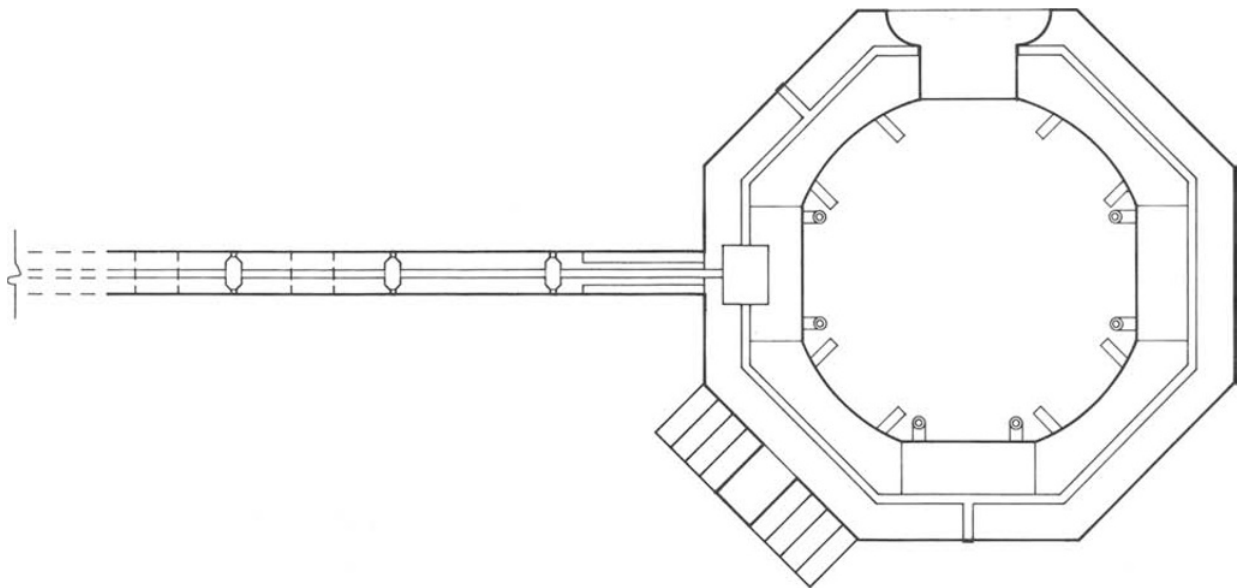
14. Detail. Lotus-blossom pool.



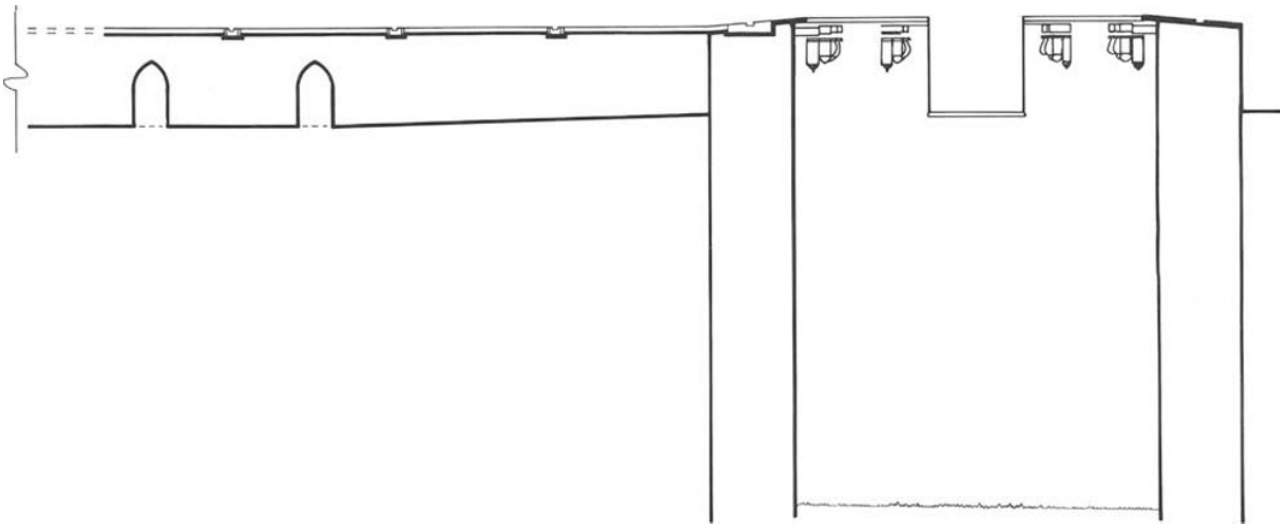
15. Distribution pool showing remains of rock-cut aqueduct. View to west toward remaining aqueduct and well.



16. Top of aqueduct showing watercourse. View toward well.



17. Plan of well and aqueduct.



18. Elevation aqueduct. Section well.



19. Detail. Basin in watercourse on aqueduct.



20. Aqueduct.

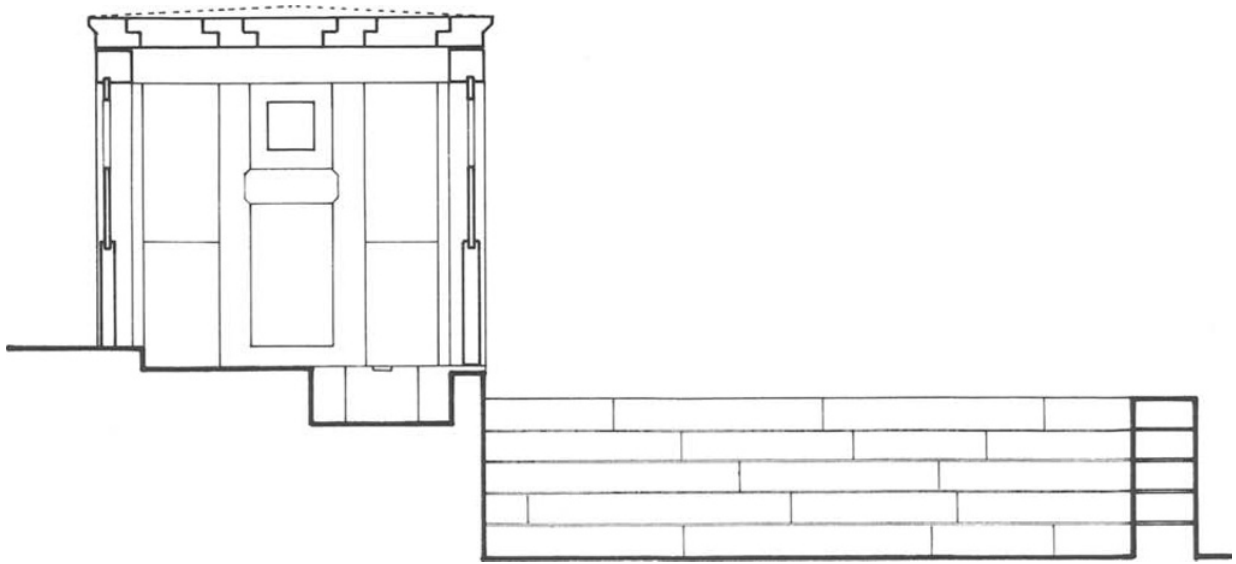


21. Detail. Arch of aqueduct.

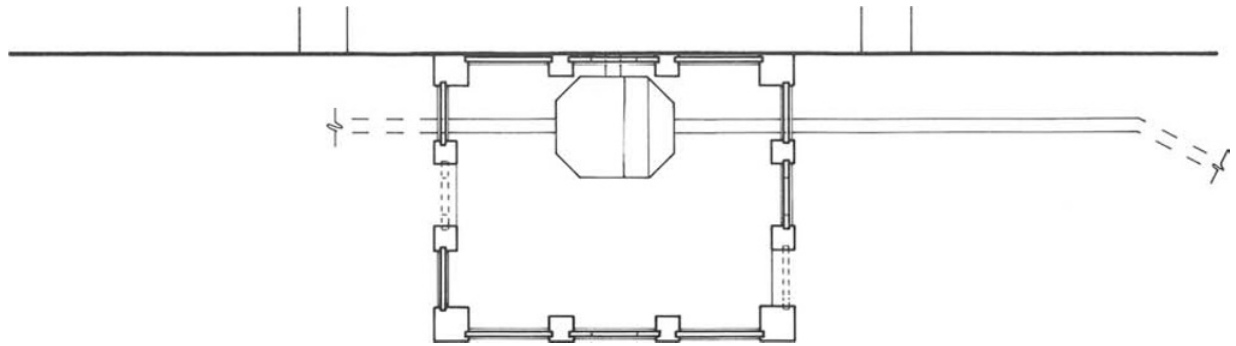


22. Interior of well showing bracket.

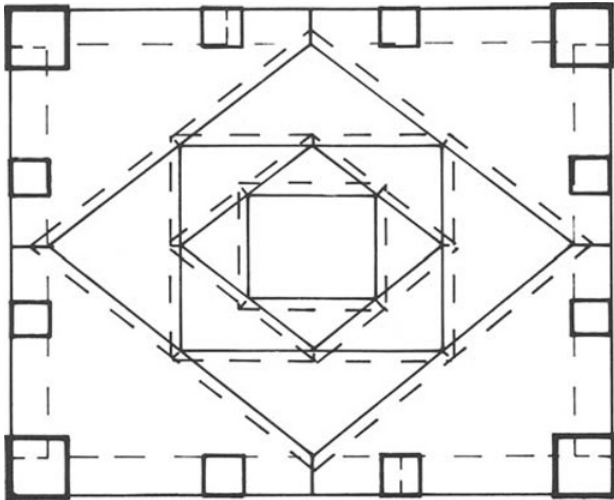




23a. Hammam. Elevation.



23b. Hammam. Plan.



23c. Hammam. Roof.



24. Detail. Construction of hammam. Shows densely settled nature of site.



25. Interior of hammam.

## NOTES

1. Annette S. Beveridge, *The Babur-Nama in English* (London, 1922), p. 606.
2. Gul-Badan, *The Humayun-Nama*, trans. Annette S. Beveridge (London, 1902).
3. I am grateful to the American Institute of Indian Studies for a travel grant to undertake this project.
4. This article is based on a paper delivered at the conference, "Old Problems—New Perspectives in the Archaeology of South

Asia," University of Wisconsin, Madison, November 8, 1986. The measured drawings were made by Mihir Bhatt, with my modifications. Mughal-era features not located on the main platform, and therefore not critical to the argument presented in this paper, will be described in a forthcoming monograph documenting the site.

5. Professor Renata Holod has been very generous with her time, comments, and advice. I am very grateful for her interest and encouragement.
6. Elizabeth B. Moynihan, *Paradise as a Garden in Persia and Mughal India* (New York, 1970), refers to the origins of this garden tradition and its movement from Persia to Central Asia and India.
7. Ruy Gonzales de Clavijo, *Embassy to Tamerlane 1403-1406*, trans. Guy Le Strange (London, 1928).
8. Donald Wilber, *Persian Gardens and Garden Pavilions* (Tokyo and Rutland, Vt., 1964), p. 76.
9. Beveridge, *Babur-Nama*, p. 304.
10. Terry Allen, *A Catalogue of the Toponyms and Monuments of Timurid Herat* (Cambridge, Mass., 1981).
11. Idem, *Timurid Herat* (Beihefte zum Tübinger Atlas des Vorderen Orients, Reihe B, Geisteswissenschaften 56) (Wiesbaden: Reichert, 1983).
12. Moynihan, *Paradise as a Garden*, p. 80, for a description of Babur's garden at Istalif.
13. Babur's women relatives created political problems for him when he was absent from his capital (Beveridge, *Babur-Nama*, pp. 313-19, for an example).
14. James Fergusson, *History of Indian and Eastern Architecture* (London, 1910), vol. 2, p. 285.
15. The Dholpur ridge runs 60 miles to the northwest, varying in width from two to fourteen miles. The stone hardens with exposure and does not deteriorate by lamination. I am grateful to Dr. Charles Richman for his explanation of the bedding characteristics of sedimentary rocks.
16. Beveridge, *Babur-Nama*, p. 333.
17. Between 1978, when I first located the Lotus Garden, and 1983, when I returned for the first time, the village had doubled in size.
18. Pictorial evidence suggests such narrow water courses ran through octagonal pools decorating pavilions in Herat; see Laurence Binyon, J. V. S. Wilkinson, and Basil Gray, *Persian Miniature Painting* (New York, 1971), pls. LXV-A and LXV-B.
19. The pool has the same foliation as Shah Jahan's arch; four cusps descend from each side of the pointed petal form.
20. Beveridge, *Babur-Nama*, p. 634. When using Babur's autobiography as an archaeological guide or to confirm physical evidence, it is necessary to cross check the various translations. Seemingly minor differences can raise major questions; inexact translation can lead to misinterpretation of Babur's meaning. I am very grateful to Dr. Walter Feldman for checking the references to the Lotus Garden in the *Babur-Nama* with the Chagatai Turkish version translated by Mrs. Beveridge.
21. Klaus Herdeg, *Formal Structure in Indian Architecture* (Ithaca, N.Y., 1967), pp. 33-42.