Franke-Vogt, Ute – Bartl, Karin – Urban, Thomas

Bagh-e Babur, Kabul: Excavating a Mughal Garden.

in: Franke-Vogt, Ute – Weisshaar, H.-J (Hrsg.), South Asian archaeology 2003: proceedings of the Seventeenth International Conference of the European Association of South Asian Archaeologists, 7–11 July 2003, Bonn 541–557.

DOI: https://doi.org/10.34780/mvc3-3u6b

Herausgebende Institution / Publisher:
Deutsches Archäologisches Institut

U. Franke-Vogt / K. Bartl / Th. Urban

Bagh-e Babur, Kabul: Excavating a Mughal Garden

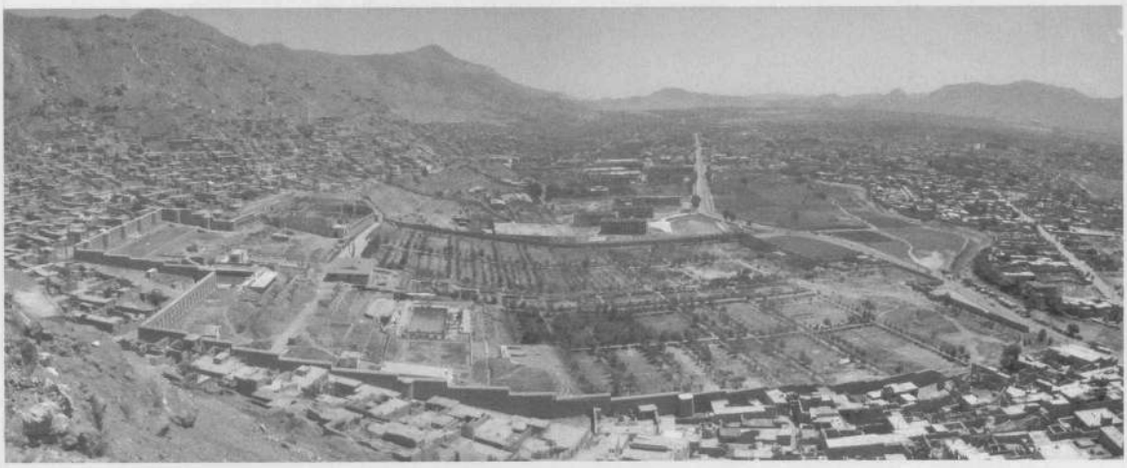

Fig. 1. General view of Bagh-e Babur (May 2003, towards south).

Introduction

Bagh-e Babur is one of the oldest existing Mughal gardens and the first tomb-garden of that period (figs. 1–2). It was founded between 1504 and 1525 by the first emperor of the Mughal dynasty, Zahir-ud Din Babur (1483–1530). Inspired by the Timurid tradition, Babur laid out a large number of pleasure gardens in Afghanistan before conquering India in 1526. The 11 ha large Bagh-e Babur is one of many gardens just in Kabul; many more were founded in India later on. Although Babur never returned to Kabul, he desired to be buried there, in an environment that he preferred to the wide Indian plains. According to his wish, his widow moved his body back to Kabul around 1544.

After the consolidation of Mughal power, Babur's successors Jahangir (ruled 1605–1627) and Shah Jahan (ruled 1627–1658) went to Kabul to pay their respect to the founder of the dynasty. Both patronaged comprehensive building programs in order to beautify the garden that housed the tomb of their ancestor. Enclosed by a perimeter wall, it stretched over 15 terraces along the slope of the Koh-e Shir Darwaza, geometrically divided by channels, with a vegetation of trees, bushes, herbs, and flowers, an open channel system, and water flowing over the terraces in cascades. Its geometric layout, the marble buildings and ornaments, and the water installations reflect the formalized Mughal garden of their time, symbolizing paradise and, at the same time, imperial power[1]. Under Amir Abdur Rahman (ruled 1880–1901) and King Nadir Shah (ruled 1929–1933), the garden was twice completely remodelled, and, finally, badly destroyed during the Civil War.

One of the main handicaps in the study of Mughal gardens is the lack of authentic descriptions deriving from that period. Therefore, it was repeatedly tried to use descriptions of Persian gardens for understanding their layout and concept. Another problem derives from the fact that many

[1] Among the extensive literature on Mughal gardens see particularly Hussain et al. (eds.) 1996; Koch 1997; Wescoat/Wolschke-Buhlman (eds.) 1996; Petruccioli (ed.) 1997; Schimmel 1976; on Bagh-e Babur Bogdanov 1923/4 and Parpagliolo (1975; 1976) for an extensive review of the history.

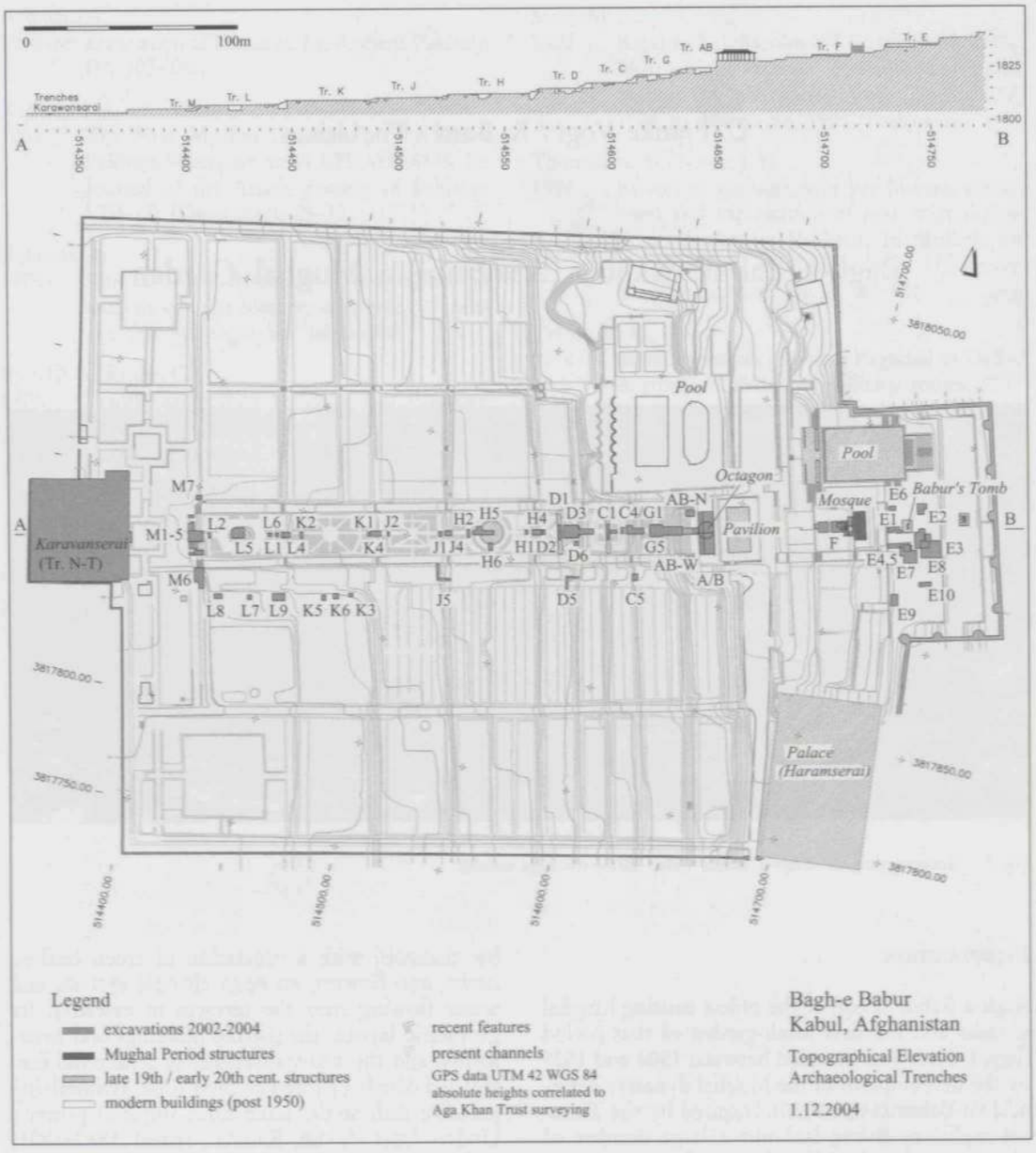

Fig. 2. Plan of Bagh-e Babur, with trenches and schematic cross section (November 2004).

Mughal gardens, especially those of the early part of the period (16th/17th century) are in a desolate condition and their original structure is not known any more. It is only through archaeological fieldwork that these parks can be reconstructed, be it theoretically, be it in reality.

First proposals for rebuilding Bagh-e Babur according to historical patterns were forwarded in the 70s by Parpagliolo (1975; 1976). After some minor measures taken in the 90s, the Aga Khan Trust for Culture (AKTC) started a large-scale project in 2001, into which archaeology is embedded. It targets at remodelling the garden according to its historical layout, in line with the requirements of the present population (AKTC report 2002).

Today, Bagh-e Babur is among the few Mughal gardens researched and excavated to a larger extent[2]. Six seasons of excavations brought to light important information, supplemented by historic documents and illustrations, on the ancient layout,

[2] Others being Dholpur (Moynihan 1988), Fatehpur Sikri (Brand/Lowry 1987), Agra (Moynihan 2000), Homayoun's tomb in Delhi (AKTC, ASI), Wah (Khan 1988; Rajput 1997), and Lahore (Brand et al. 1990) in Pakistan.

Emperor	Ruled	Garden	Country
Babur	1483–1530	Bagh-e Babur (original name unknown)	Afgh.
		Bagh-e Vafa	Afgh.
		Garden/Istalif (Bagh-e Kalan?)	Afgh.
		Belvedere/Kabul (location unknown)	Afgh.
		New Year's garden and tomb/mountainous region	Afgh.
		Ram Bagh/Agra	India
		Gardens along the Yamuna river/Agra	India
		Lotus garden/Dholpur	India
		Bagh-e Nilufer/Dholpur	India
Homayoun	1530–1555/6	Gardens in Lahore Shadara/Lahore (H.'s brother Kamran)	Pakistan
		Delhi (H.s tomb, compl. by his widow 1576)	India
Akbar	1556–1605	Fatehpur Sikri	India
		Fort Agra: Anguri Bagh/grape garden	India
		Garden and tomb/Sikandra near Agra	India
		Hari Parbat/Kashmir	India
		Homayoun's tomb garden/Dehli	India
		Naseem Bagh/Kashmir	India
Jahangir	1605–1627	Achabal/Kashmir	India
		Bagh Dahra/Agra	India
		Garden and tomb/Shahdara area-Lahore	Pakistan
		Garden in Ahmadabad/Gujarat	India
		Hiran Minar/near Lahore (hunting ground)	Pakistan
		Nishat Bagh/Kashmir	India
		Vernag/Kashmir	India
		Shalimar/Kashmir	India
		Wah/Islamabad	Pakistan
		Bagh-e Babur, beautification	Afgh.
Shah Jahan	1627–1658	Chashma Shari/Kashmir	India
		Fort/Lahore	Pakistan
		Garden design for Shahjahanabad/Dehli Red Fort: Hayat Baksh Bagh/Life-Giving Garden, Mahtab Bagh/ Moonlight Garden	India
		Garden in Nimla/near Kabul	Afgh.
		Bagh-e Babur, beautification	Afgh.
		Pari Mahal/Kashmir	India
		Shalamar Bagh/Kashmir	India
		Taj Mahal -garden and tomb/Agra	India

Fig. 3. Gardens dating to the Early Mughal Period (selective).

landscaping, water technology, and architecture that facilitate the reconstruction of the garden along its original concept and reveal its development throughout the almost 500 years of its existence. Certainly, in comparison to Mughal gardens in Pakistan and India, the Bagh-e Babur is poor in preserved structures, possibly it never even marvelled with buildings as the gardens in Lahore, Delhi, and Agra. Nevertheless, the excavations provided crucial information that not only facilitates its restoration along its historical roots, but also confirms the historical value of the information transmitted in the memoirs of the emperors. Finally, the chronological perspective reveals that the concept of the garden was changed according to the contemporary political and cultural preferences and requirements, confirming the symbolic value inherent to the garden as a monument throughout its history.

Mughal garden history and concepts: a short account

The ideas upon which the layout of Mughal gardens are based date back to earlier traditions. Timurid gardens, which are the immediate forerunners of Mughal gardens, are again linked to Persian gardens dating back to the Early Islamic period, and even before. They are defined by several characteristics deriving from older Persian traditions, such as geometry, symmetry, straight channels and rectilinear pools (*chahar bagh* princi-

ples). However, they also absorbed local customs, especially in India. The symbolism reflected in the layout and plan of the gardens relates to two main topics, namely paradise and politics (Wescoat/ Wolschke-Bulmahn 1996).

They belong to two types, those surrounding a tomb, and those developed for leisure. The typically terraced gardens were usually approached from the lowest level, providing a sense of anticipation of the upper terraces. The focus of the pleasure garden usually was a large pool or pavilion. Was it located at a lower level, it afforded a view of the garden ahead, often with its mountain backdrop behind. More often, however, the pavilion was located on the topmost terrace, and then overlooked not only the garden, but also the surrounding countryside.

There are other elements of the Mughal garden, which show links to the *chahar bagh* principle, such as channels that were mostly laid at right angles to the main watercourse. The channels were lined by straight paths, while the area in between was grassed, edged with narrow flowerbeds and shaded by straight rows of imposing trees. The garden was enclosed by massive walls, with serrated battlements and corner turrets at the inner angles, which gave protection from brigands as well as a sense of privacy and peace. Regular avenues led from the gateway, or flanking pavilions, to a central structure in front of which were rectangular water tanks. Water flowed through carved inclined planes and over chutes *(chadar)* from one terrace to the next.

These formally laid out Mughal gardens are readily accessible symbols of territorial and social domination. Throughout Central Asia it was very much a Timurid concept to build gardens outside of and a side from walled towns, but also distinct from ordinary cultivated lands or pastoral meadows. Gardens in the 15th and early 16th century Central Asian context offered rulers a flexible, bounded, royal space in which to preside over large assemblies of armed followers. From these simultaneously walled, yet open sites, Babur and his companions launched military campaigns, celebrated victories, held royal audiences, dispensed punishments, and celebrated social and cultural events. Suburban gardens were the locale from which walled cities and towns were conquered and ruled. The few gardens that were built by Babur during his brief reign (1526–30) in northern India express his newly won power (Richards 1996, 261; see fig. 3).

The archaeology

Bagh-e Babur has ever since been a living garden and was consequently subjected to constant changes. Buildings were turned down, or shaved and reused, the western terraces levelled and re-modelled, the layout and irrigation systems changed. Later activities badly destroyed previous structures, which are embedded in partly very shallow archaeological deposits. Excavating these complex and heavily disturbed contexts to an extent that enabled us to trace the development of the garden through time was, in fact, an unexpected surprise. It greatly benefited from the availability of various source materials, such as historic documents and illustrations that supplement the archaeological data. However, these sources are partly contradictory, especially the almost contemporary sketches of the tomb prepared by Masson and Atkinson (c. 1838; see figs. 4–5, and below). Reconstructing the functional contexts and the stratigraphical correlations, and to place this array of walls, stone heaps, pipes, and earthen deposits in a relative sequence was still difficult and became possible only after large-scale exposures.

Dating the archaeological levels is, in general, a problem. The layers and finds embedded in them are mixed up and include objects from quite different periods (see fig. 16 for imported wares). Fragments of the architectural decoration, such as marble slabs and lattice pieces, were re-used and randomly scattered all over the garden. Therefore, architecture, stratigraphy, and the relative sequences in each trench are the most important dating devices.

Work focused on the central axis, but minor investigations also took place in the peripheral areas (fig. 2). Starting near the pavilion (Trench A/ B) and on two of the western terraces (Trenches C, D), the excavations were then extended to the tomb (Trench E) and the mosque (Trench F) terrace, the western terraces, and, finally, the caravanserai (Trenches N-T; see fig. 2). On each of the 15 terraces, at least three trenches were opened to document the width and gradient, and to look for structures. Some areas, such as the terraces carrying the tomb, the mosque, the pavilion, and the entrance area in the west were excavated more extensively. The removal of the modern staircases and Nadir Shah's fountains in May 2004 provided an opportunity for additional investigations that led to the discovery of further structures.

In November 2004, archaeological structures came to light during construction works for the visitors' centre at the very western end of the garden (fig. 6), where allegedly a Mughal and certainly a late 19th century caravanserai once were standing. The remains comprise of two superimposed caravanserais, a North-South brick channel running underneath, and an older building with attached octagonal and rhomboid structures that probably date to the Mughal period. In conclusion of the archaeological project, these remains will be investigated in spring 2005 to clarify whether they represent the Mughal caravanserai or the entrance with the cupola, buildings that are mentioned in the memoirs of Shah Jahan.

Fig. 4. Sketch of Atkinson showing the tomb (Atkinson 1842).

Fig. 5. View of the tomb terrace, photograph taken by Burke 1879 (courtesy National Army Museum).

Bagh-e Babur through time: a summary

As a result of the excavations, the development of the garden through time is now known in much greater detail. It is presented in brief below, but for two main areas of investigation, the tomb terrace (Trench E) and the western terraces, a more detailed description is provided[3].

– *Mughal period, mainly Jahangir and Shah Jahan* Buildings: Babur tomb, headstone, prayer platform *(chabutra)*, marble framing *(jali)*, mosque, water reservoirs, basins, fountains, and channels. The perimeter wall, an entrance gate with a cupola, and a caravanserai that are mentioned in the texts have not been clearly identified so far.

In the memoirs of Babur, several information concerning gardens in and around Kabul is provided, but the authentic name of Bagh-e Babur is not known. Orders pertain to the straightening of water flows, building of reservoirs, pools and a plantation of trees, bushes, herbs, and flowers. Therefore, almost no information is available for the time between the foundation of Bagh-e Babur, which can be limited to the time between 1504 when Babur took the province of Kabul, and his departure to Hindustan in 1525, and for most of the 16th century in general. However, according to later historical sources it can be assumed that Babur's tomb was built before 1544 and that he

[3] See also the excavation reports (references under Franke-Vogt), the final publication is in preparation.

Fig. 6. Caravanserai area: stone platform with lozenge-shaped and octagonal basins (?), later fire places (forges?), Amir Abdur Rahman's brick channel (centre bottom), and modern foundations (left), towards west (November 2004).

was buried in a simple tomb under the open skies, according to his wish.

It is only through the memoirs of Babur's later successors Jahangir and Shah Jahan that we hear more of the garden in the first half of the 17th century[4]. Both emperors commemorate their ambitious building projects in their memoirs. The first to mention it explicitly is Jahangir who in 1607 undertook a pilgrimage to Babur's tomb. He ordered to build enclosure walls around all gardens of Kabul, a *chabutra* (platform) and an inscribed headstone in front of Babur's tomb, an order that was only realized by Shah Jahan. Shah Jahan visited Kabul in the 12th year of his reign and ordered a complete restoration of the garden, the building of a marble mosque on the 13th terrace, the renovation of the channels, the building of small reservoirs below each fall, of marble linings of the channels and the reservoirs, of a marble screen (see above), of water reservoirs on the 9th and 10th terraces and at the entrance, of a gateway with gilded cupola, and of a caravansarai.

Above surface, only the mosque and the tombstone, both thoroughly restored, and a couple of other tombs close-by are preserved to this time. However, the excavations brought to light structures such as a platform around the tomb that also enclosed older graves, water basins with fountains, water chutes and channels on several terraces, and buildings in the western portion that facilitate the reconstruction of the lay-out and appearance of the garden during the Mughal period and confirm the contents of the descriptions provided in the memoirs.

– *The 18th and 19th centuries: an Interface:* Very little is known about the 18th and 19th century, after the Mughals had lost power over Afghanistan and written sources are rare. The garden is mentioned in brief by a couple of travellers and depicted on sketches made by Masson (1844) and Atkinson (1842; see fig. 4)[5]. In 1842, an earthquake caused major damage to the buildings. Photographs taken by Burke in 1879 (see fig. 5) show that the water channels were intact and that the mosque was repaired after the quake, probably during the relatively stable second rule (1843–1863) of Amir Dost Mohammad that followed the turmoil of the first Anglo-Afghan war. We can assume that parts of the garden were kept functioning at times, but no buildings were added.

– *Amir Abdur Rahman (1880–1901)*, or his son Habibullah, remodelled the garden extensively. A high enclosure wall with corbelled blind niches was built around the tomb, houses constructed on the southern part of the terrace and near the mosque, the pavilion, the "haramserai" (or palace), a caravanserai, and a new perimeter wall was built. A new layout of the western terraces and a large pool on Terrace H completed his building program. These measures changed the appearance of the garden, particularly of the upper portion, substantially. The scale of building implies that the king intended to create a monument for himself.

– *King Nadir Shah (1929–1933)*, however, once more substantially altered the character of the garden. He demolished most of Amir Abdur Rahman's buildings, sparing only the "palace" and the pavilion, levelled the upper terraces, construct-

[4] Babur: Babur Namah; Leyden/Erskine 1921; Jahangir: Tuzuk-e Jahangiri; Rogers 1909-1914; Shah Jahan: Badshah Nama; Fuller et al. 1990.

[5] Atkinson 1942; de Clavijo 1928; Masson 1844; Vigne 1843. See Zajadacz-Hastenrath 1997 on Masson's sketch.

ed a large swimming pool north of the tomb, put up high terrace walls, and also re-structured the western terraces where he covered Amir Abdur Rahman's pool and built three new fountains (Trenches G, H, and L; figs. 2; 14). The park was transformed into a public park with a swimming pool and the pavilion, used as a residential building before, became a restaurant.

This face of the garden survived until today, but after Nadir Shah an additional large swimming pool, a greenhouse, and the short asphalt road were built.

Excavations at Babur's Tomb Terrace (Trench E)

Almost 100 years after Babur's death, Jahangir and Shah Jahan visited his tomb and patronized the beautification and elaboration of the garden. According to their memoirs, among the structures built by them are a *chabutra* (platform), a headstone, and a marble lattice grid around the tomb, and a mosque on the next lower terrace. Thus, they complied with Babur's wish to have a simple tomb, but "upgraded" its appearance appropriate to its significance and according to contemporary taste.

None of these buildings except the mosque and the headstone survived above grounds. During the excavations, however, a 17 m × 17 m wide stone platform built around and above older tombs came to light (fig. 7). It comprises of an outer wall that is built with large stones, assembled in dry-masonry and an interior core of soil with stones. It also encloses at least three tombs that are older than the platform. A 1.6 m (EW) × 3.4 m (NS) large burial is particularly noteworthy since, instead of being covered with stone slabs, on stonewalls it carries a 1.2 m high brick vault with mud mortar that recalls Timurid style. The tomb could not be excavated and its total depth is unknown. Although it appears to be of an early date, it is unlikely that it is Babur's tomb, because it is not centred in the platform, whereas the tomb with Jahangir's headstone sits in its very centre. Tombs that are located on top of it provide a terminus *ante quem* for the stone platform. This platform is important in the discussion of Babur's tomb enclosure.

As mentioned above, the sketches of Masson and Atkinson, although drafted at about the same time (c. 1838), depict quite different views of the tomb (see figs. 4; 8). Things are complicated by the fact that different perspectives are shown: while the focus of Masson's sketch is rather on the centre of the platform, Atkinson depicts a general view. Masson's view shows a marble enclosure, Atkinson's a stone platform with tombs, but no trace of such a building (fig. 7). Still, Masson's depiction should still include the front of the large stone platform; there are also other discrepancies between the two illustrations, for example in the landscape.

A photograph taken by Burke in 1879 shows the stone platform and a marble enclosure in ruins, with many pieces obviously also used secondarily (fig. 5). Its marble fittings are visible above the ground. However, no trace of the elaborate smaller marble enclosure featured by Masson is recognizable. During the AKTC works, however, several marble slabs and *jali* fragments were found scattered over the garden and in a reconstruction proposed by R. Nanda (2003), he has calculated that they correspond to the structure shown by Masson.

The excavations did not produce evidence for the presence of a small marble enclosure with *jali* works. Possibly, the foundations of the 4 m × 4 m large modern pavilion built by Nadir Shah (see fig. 7) have destroyed it, or the Mughal enclosure was smaller. This question can only be solved through further excavations underneath this small building.

The discrepancies between these three sources are yet unexplained and the credibility of the depictions is discussed[6]. No matter how the enclosure looked in 1838, by 1879 it was in ruins, whereas the mosque had been repaired.

At the end of the 19th century, Amir Abdur Rahman initiated a major construction project that thoroughly changed the appearance of the garden, and especially of this area. A plastered wall was attached to the southern wall of the platform and a rather high arched enclosure wall with blind niches built around it (see fig. 8). Instead of a straight approach towards the tomb, a new stairway with a 90° turn was built from the mosque. Near the headstone of the grave, a *chini khane* that was lit by oil lamps was put up. As vast numbers of lamps found in the excavations show, they were also placed in the blind niches and the stairway leading down to the lower part of the southern terrace. A photograph shows that from the staircase towards south a row of rooms with cupolas of unknown function ran towards the newly built "haramserai" or "palace". Similar rooms were constructed attached to the mosque.

The architecture of this period is distinguished by the use of small-sized rectangular baked bricks, cement mortar and lime plaster, occasionally still carrying painting. The quadrangular Mughal bricks were re-used to a large extent.

These buildings changed the character of the terrace completely: the tomb, which was the focal feature of the garden to which the visitor ascended and which, elevated on a platform, was visible even behind the mosque from the entrance, was now encapsulated, and thus segregated, by a wall. The formerly open ground where trees and bushes grew was covered with buildings that linked the staircase with the "haramserai" and formed a wall

[6] See Zajadacz-Hastenrath 1997; an AKTC paper (Nanda 2003), and comments by U. Franke-Vogt.

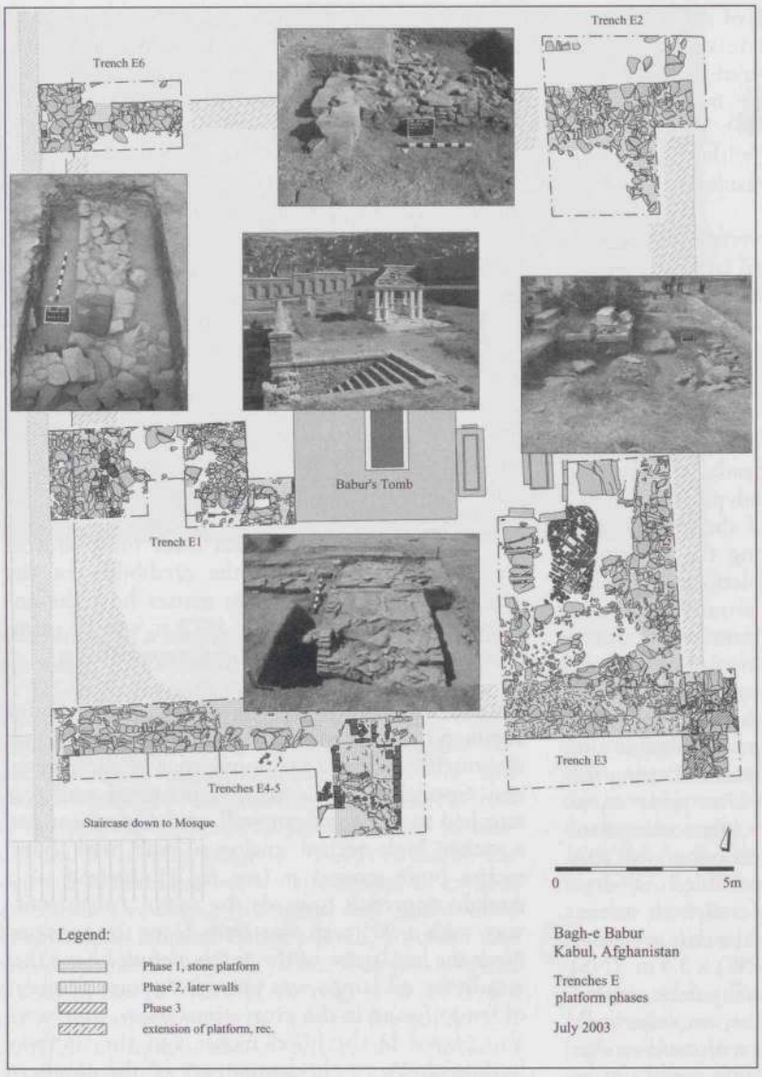

Fig. 7. Plan of Trench E, showing platform with findings (September 2003).

towards the lower terrace. It can be assumed that access to these quarters was limited.

Hardly three decades later, King Nadir Shah again completely re-designed the area. He turned down Amir Abdur Rahman's buildings, including the tomb enclosure, but kept the haramserai and the large "summer" pavilion, the only structures of his predecessor that survived until today. The level of the southern portion of the tomb terrace was raised to the top of the platform, which thus disappeared along with the debris of the houses and perimeter wall. Geometrical footpaths and flowerbeds sectioned the now even and free large ground on this terrace. These measures restored the view towards the tomb and, in order to make up for the loss of elevation, it was accentuated through the small concrete-marble pavilion that covered it until very recently (see figs. 7–8). New, high terrace walls visually raised the area. Graves located to the north of Babur's tomb were destroyed during the construction of a large swimming pool that was part of the park that then became a public pleasure garden.

Western terraces: layout and water works

The central axis was – as far as waterworks and -technology are concerned – ever since the heart of the garden and received much attention. The installations and waterworks caught the eye of the entering visitor and directed the view towards the elevated monuments in the distance. The central axis also formed a visual link between areas of the garden that were far apart and/or devoted to different functions, such as veneration, contemplation, representation, and pleasure.

Excavations along the western slopes unearthed structures pre-dating both the times of Nadir Shah

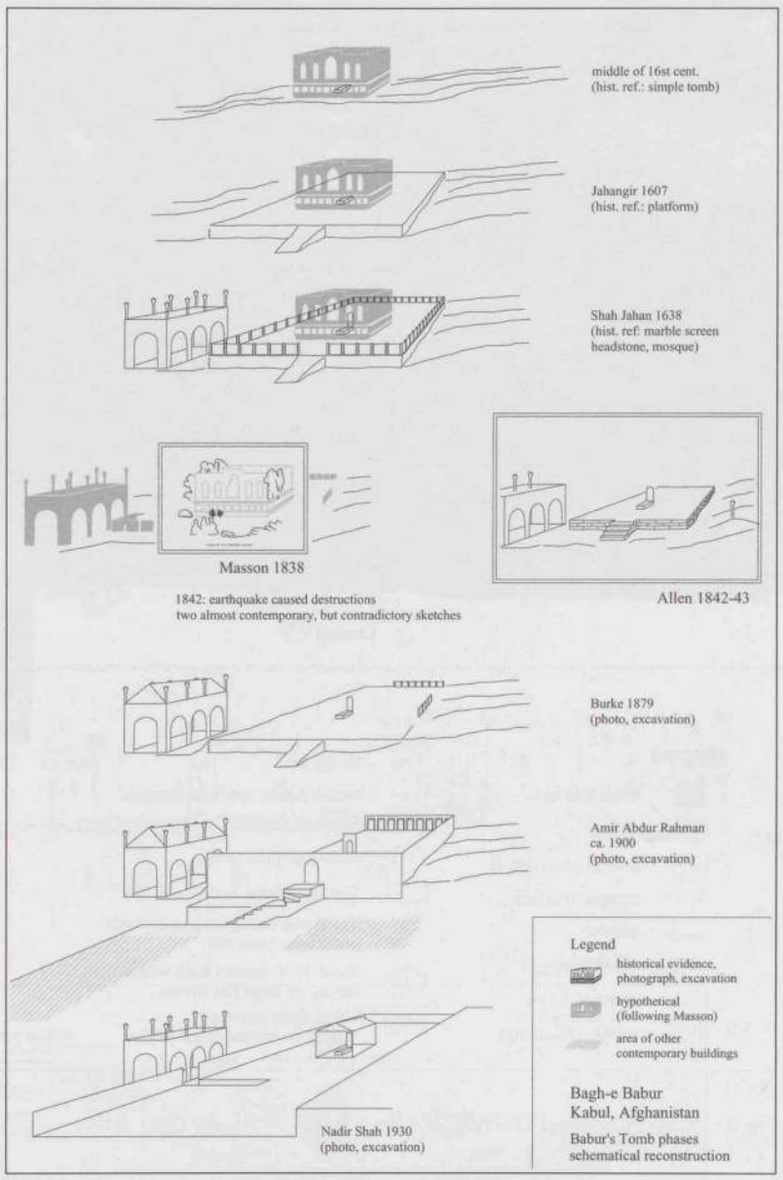

Fig. 8. Schematic reconstruction of the development of the tomb area.

and Amir Abdur Rahman. The oldest features date back to the Mughal period, and, as stratigraphy and finds suggest, mainly to the time of Shah Jahan. Some remains were buried by more than 2.5 m high, others by rather shallow deposits.

The rise of surface levels is partly due to sedimentation and aggregation, which took place massively and rapidly, as revealed by 1.4 m thick channel deposits that accumulated only after the rule of Amir Abdur Rahman. More important, yet, were earthworks such as levelling and back filling. In addition to such earthwork, the fountains and subterranean water supplies built by Amir Abdur Rahman and Nadir Shah had deep and very solid foundations, consisting of up to 1 m thick beds of gravel, cement, and concrete dug deeply into older levels, and so compact that they could not be removed mechanically.

On many terraces badly destroyed, but still recognizable traces of the rectangular basins – all wider than long – were found, as mentioned in the historic texts (figs. 9–11). They measure between 2.00/2.90 m × 2.75/3.4 m EW/NS[7] and are built with small dressed stones, cobbles, and slabs, joint by a hard mud-lime mortar. The interior and floors are covered with a very hard pinkish-white lime-plaster. The exterior edges are usually not well demarcated since the basins were sunk into the surrounding surfaces and can be identified only by means of a slightly more compact horizon that was prepared with stones and mud.

[7] Trench C: 2.9 m × 3.4 m; Trench J: 2.5 m × >2.7 m; Trench K: 2.3 m × 3.2 m; Trench L: 2.0 m × 3.4 m; Trench M: 2 m × 2.75 m.

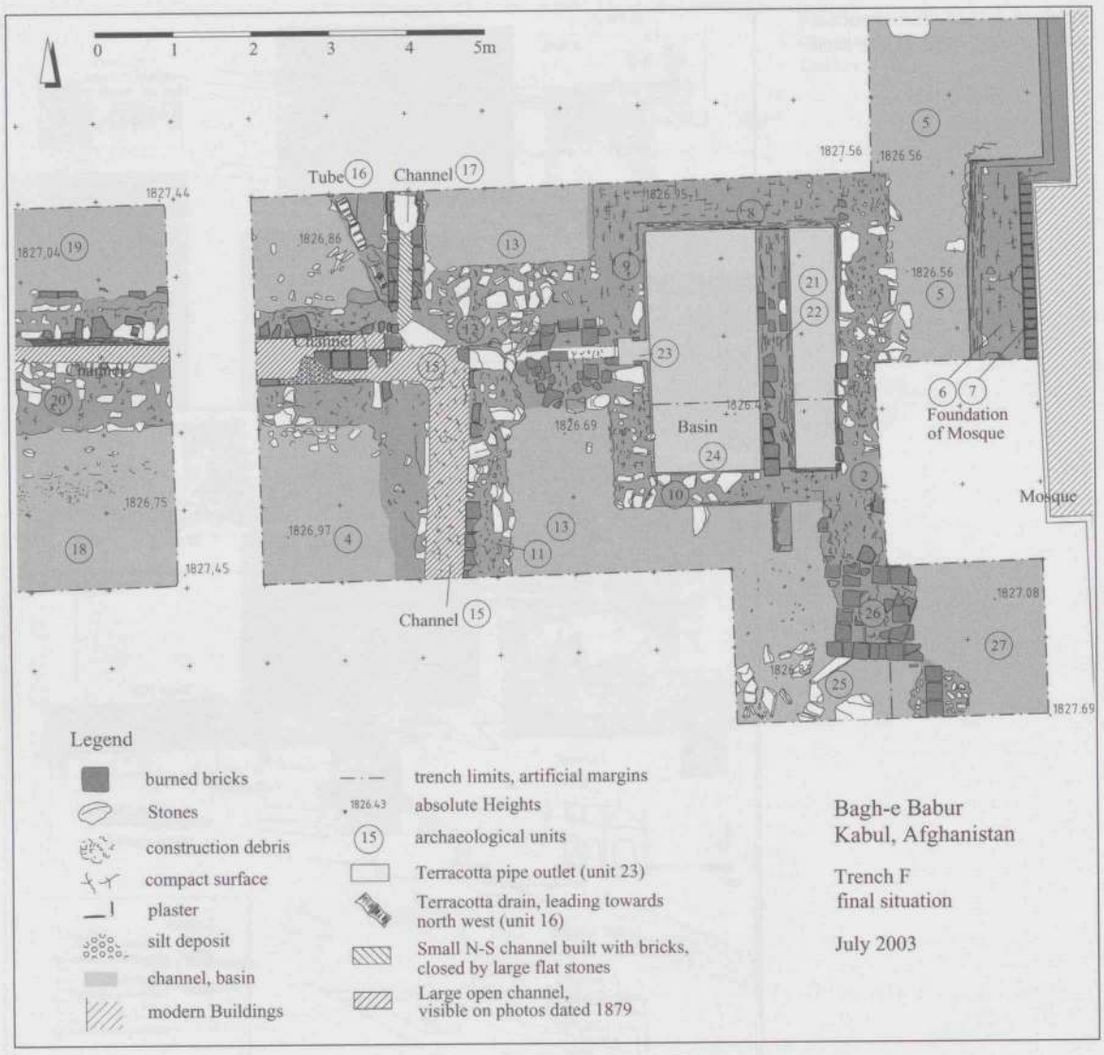

Fig. 9. Water basins and channels in Trench F, lower planum (May 2003).

Fig. 10. Trench D: view of the Mughal basin attached to terrace wall, destroyed by the subterranean channel of Amir Abdur Rahman (centre), and later channel linings (re-used marble; centre right). At the back: old terrace wall with foundation ditch for brick channel (Photo: U. Franke-Vogt).

Fig. 11. Trench H4: Mughal period metal pipe for the jetty, brick fitting beneath floor of basin.

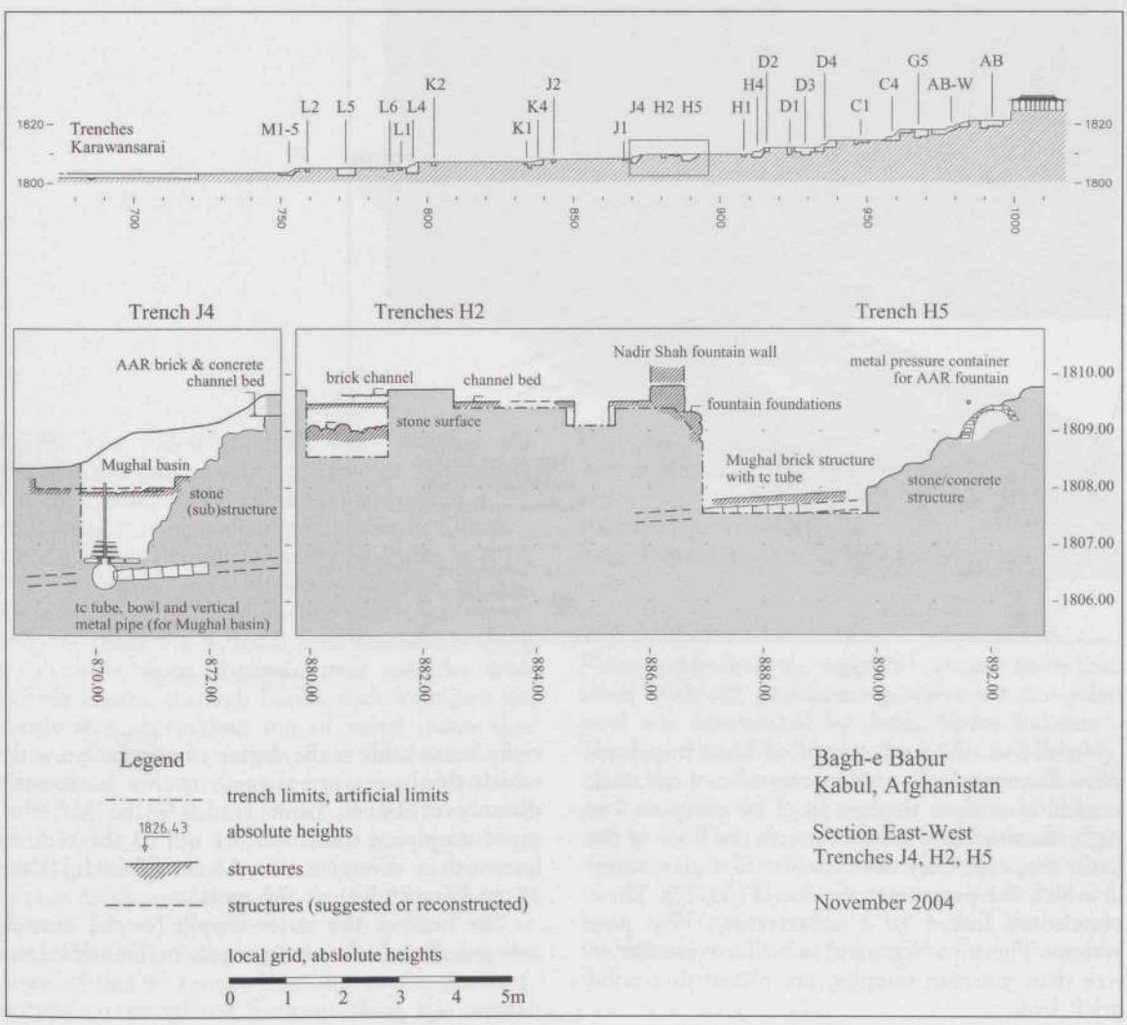

Fig. 12. Schematic section showing the clay pipe system and pressure containers.

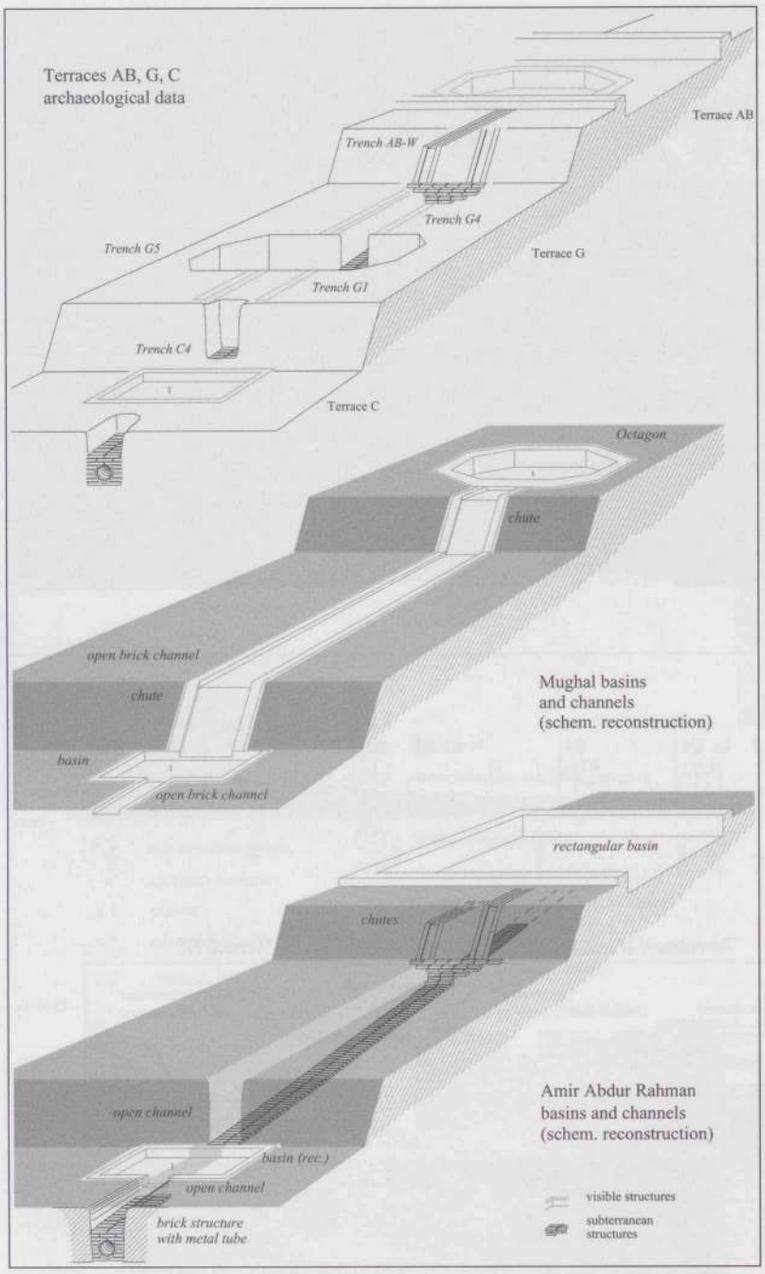

Fig. 13. Schematic reconstruction of the pools and chutes in Trench A/B–C/G.

In all five basins remains of, or hints for, jetties were discovered. They comprise of c. 4 cm thick vertical iron pipes that are fixed by an up to 1 m high, massive brick socket beneath the floor of the basin (fig. 11). They are attached to a clay vessel in which the pressure is produced (fig. 12). These vessels are linked to a subterranean clay pipe system. The pipe segments, which are smaller in size than younger samples, are placed in a solid brick bed.

The layout of the central axis and the hydraulic scheme betray substantial engineering skills. Especially remarkable is the degree of orientation with which the basins are aligned: over a horizontal distance of 160 m, from Trench C4 to M1, the pipes supplying the jetties are out of the central line with a divergence of 1.5 cm (Trench J4) to 11 cm (Trench K4) at the most[8].

The head of the water supply for the central axis was found near the mosque, in Trench F (see

[8] This system is in general similar to the ones described by Rehman (2001, 138–143), but differs in details.

Fig. 14. View from the octagonal basin over the western terraces, towards west (Sept. 2003, with Nadir Shah's fountains still in place). Amir Abdur Rahman's fountain and damage are visible in the centre of the octagonal basin.

fig. 9). The oldest channels even pre-date the mosque and thus pre-date the rule of Shah Jahan, but the basins, which show several phases of use and repair, may be contemporary with it. Channels are visible in a photograph taken by Burke in 1879, but the basins were obviously already refilled. Following the natural gradient of the slope, during Mughal times the water flowed from here along 0.7 m wide, open channels, over cascades with marble chutes, through basins with fountains towards west, sprinkling out of metal jetties that were connected to a subterranean terracotta drainage system and earthenware pressure containers.

A badly damaged open brick channel was found in Trench A/B (fig. 13); its width is exceptionally wide in this portion: with 1.5 m its size corresponds to a beautiful marble chute with a fish-scale pattern found elsewhere in the garden. These particular dimensions further underline the importance of this 9th terrace that, due to the gradient, occupies a prominent position along the central axis and immediately catches the eye of the entering visitor. The 6 m × 6 m large octagonal pool that was excavated next to the pavilion of Amir Abdur Rahman, further corroborates this importance, although it was not large enough to accommodate a *baradari*, that, if present, can only have been located further to the east (fig. 14).

The Octagon

Photographs from the early 20th century show that along with the prominent pavilion a rectangular pool was constructed by Amir Abdur Rahman[9]. The basin was filled-in by Nadir Shah, probably when the pavilion was used a restaurant. The fill partly comprised of very large stones, boulders, and soil. This situation was encountered after opening Trench A/B and removing the uppermost 30 cm in 2002. The basin measures 14 m NS and 10 m EW and is enclosed by a wall built with multiple rows of burnt bricks. The floor was made

[9] The pavilion was built on two terraces (9th and 10th) and the slope in between.

Site	Ruler	Time	Literature
Fatehpur Sikri/India (cistern)	Akbar	1556–1605	Wescoat Jr. 1995, 119
Vernag/Kashmir	Jahangir	1605–1627	Petruccioli 1995, 252
Wah/Pakistan	Akbar	1556–1605	Wescoat Jr.1995, 119
	Jahangir	1605–1627	Rajput 1996, 73
	Shah Jahan	1627–1658	
Dara Shikoh, garden, near Fatehgarh-Lahore/Pak.	Shah Jahan	1627–1658	Dar 1996, fig. 3
Taj Mahal- Mahtab Bagh/India	Shah Jahan	1627–1658	Wescoat Jr. 2000, fig. 4

Fig. 15. Octagonal structures from the Early Mughal Period.

with flat slade slabs, but was in a fragmentary state and patched several times with boulders and bricks. In the centre of the pool, a large millstone marked the place of the fountain, which was fixed by a 1.2 × 1.2 m wide and 1.4 m high sockets of brickbats and cement mortar that kept the metal pipe and iron water pressure chamber in place.

Beneath this basin, an octagonal structure measuring 6 m × 6 m came to light. The length of each sidewall is 3 m to 3.15 m, the walls are 1.4 m wide and 1 m high. They comprise of a conglomerate of small stones and a cement-like reddish mortar, a very hard, but rather unattractive material that implies an interior (marble?) tiling of the walls. No traces of it are preserved, but several marble fragments were re-used and found throughout the garden. The floor is made with burnt bricks neatly placed in radial segments. These bricks are of various sizes and shape and were probably produced especially for this purpose. The water installations and supply system are not clear since the central and eastern portions of the basin were heavily destroyed when the fountain of Amir Abdur Rahman's brick pool was put into place. However, since a subterranean clay pipe pressure system starts in Trench F above, the presence of a jetty can be proposed.

The date of the basin is not known for sure, but it can reasonably be assumed that it was built either by Jahangir or Shah Jahan. The latter particularly mentions that pools were constructed on the 9th and 10th terrace (see above). Contemporary or older octagonal structures, either basins or platforms, are known from other sites, but are less common than rectangular or square ones (fig. 15).

We are not sure whether the octagon is the oldest structure at this place, since the basin had to be preserved and excavations in the interior portions were not possible. A small sounding dug in the disturbed central part revealed only very large stones. Quite likely, if an older basin once was present, no trace of it would be preserved since the later buildings badly destroyed the older structures and archaeological levels. In any case, the finds, mainly pottery and bones, came all from the fill and the later horizons[10]. They comprised mainly of 20th century porcelain, Istalif and Kunduz wares, especially teacups and teapots.

At a time not yet determined the octagon fell out of use. It was filled up to the surfaces of the walls with very large stones, boulders, cobbles, and soil. This layer formed the horizon on which around 1900 the pavilion with its pool was constructed. The descriptions from the 19th century mention the terraces and basins, but no octagonal structure.

The lateral areas were also connected to the water supply from the central axis. Underneath the modern staircases and their substructures, older terrace walls came to light that ran from the central axis into the side areas and thus provided evidence for the changes in landscaping through time. In two trenches (F and D), remains of a brick channel running towards north and south from the central axis respectively were still preserved, in other trenches parts of a terracotta pipe system were found; in addition, also open earthen channels watering the lateral portions were discovered.

Amir Abdur Rahman introduced major changes also to this portion of the garden. The landscape of the terraces was changed, the slopes were newly graded, as visible on photographs from this time, some of the basins and fountains filled up, a new, larger fountain was built on Terrace H. The water supply of the fountain was secured through a large copper pipe (dia. c. 25 cm). From the fountain, a channel that was partly covered with schist slabs continued towards west, where the water was discharged into an elaborate basin at the foot of the terraces (Trench M) and flowed in an open brick channel into the courtyard of the newly built caravanserai, and onwards to the Kabul River (see fig. 6).

More than 1.4 m thick deposits that accumulated later on indicate that the channels were still partly functioning, but carried a lot of waste and heavy sediments (see fig. 10), often with much lime

[10] The upper levels also contained much metal scrap, even unexploded weapons. Therefore, the geophysical prospection undertaken by H. Becker from the Landesamt für Denkmalpflege, Munich, did not provide indicative results, although traces of structures along the central axis were visible. We are grateful to H. Becker for sharing his information with us.

Fig. 16. Porcelain and sherds with quartz body from the excavations (Photo: Ute Franke-Vogt). a. Quartz-based body, Trench D5–0. – b–e. Blue-and-white-porcelain, Trench E8–11, D4–0, C1–0, C2–0. – f. Sherd showing feathers of a phoenix, quartz-based body, 16/17th century, from beneath the stone platform in the caravanserai area.

particles, probably residues from a lime plaster production further up. Re-used marbles that lined post-Mughal channels were excavated in a few trenches. The blocks were apparently only used as building material to raise the sidewalls, but were not visible. The width of these channels is 1.5 m, they were repaired at least two times. Although their exact date is unknown, their stratigraphic position implies that they are attributed to the time of Amir Abdur Rahman.

King Nadir Shah again remodelled the western terraces extensively. The slopes were graded, all open channels closed, a new iron pipe system put into place, stairs and three water fountains constructed, footpaths and flowerbeds re-designed, and the caravanserai pulled down. His garden clearly reflects a strong European influence.

The excavations also provide glimpses on other aspects of life. Finds include coins, glass, stone inlay pieces, bones and pottery. The animal bones are mostly from chicken, but sheep or goat are also present, probably leftovers from picnics. In one of the water basins remains of crabs were found, possibly fish were also kept. The local pottery is characterized by a simple, mostly hand-made type, particularly flowerpots, and by more sophisticated products, in particular Istalif pottery, or glazed wares from Kunduz. Imported types are present, but rare: Chinese blue- and –white sherds, ginger pots, and Persian glazed ware date back to the 17th/18th and 19th century (fig. 16; Das 1991/2). Very common are Chinese teapots and teacups dating to the first half of the 20th century. Many of them were found in the debris of the rectangular water basin in front of the pavilion, possibly discarded from the balcony when it was used as a restaurant.

The last two building programs were accompanied by massive intrusions into the older structures. Ditches for the drainage systems were dug deep into and through Mughal structures (see figs. 10). More important, however, were the conceptual changes, particularly those ordered by Amir Abdur Rahman. The construction of the pavilion and the rectangular pool above the octagon that was already in ruins at that time completely altered the visual concept of the garden. It blocked the view towards the mosque and the tomb, and occupied the most prominent place along the central axis, dissecting it into two parts: the western terraces and the "precinct" with the tomb and mosque.

Conclusion

The research outlined above has provided substantial information on the layout of Bagh-e Babur and on the technology applied to make it function. It also has shown the importance of this garden as a symbol, and its adaptation through time. Probably first designed as a pleasure garden, it soon became a tomb garden and as such gained a particular importance, it became a place of veneration and respect, and, since it provided the link to the founder of the dynasty, was also a symbol for political power and representation, and commemoration. This symbolic meaning is also expressed in the garden created by Amir Abdur Rahman. And, once again, quite distinct from the concept of his predecessor, and thus setting him apart from the former, Nadir Shah restored it as a pleasure garden, with open views and a more Mughal-like appearance, but combined with European architectural and landscape features. It was beautified and fashioned in contemporary style to become the monument that pictures the ruler according to the image he wished to represent.

Acknowledgements

We wish to express our sincerest thanks to the Ministry of Information and Culture and the National Institute of Archaeology in Afghanistan, Kabul, particularly its former and present directors, Mr. A. W. Feroozi and N. Rassouli, to M. Anwar, Khair Mohammad, and the other staff who participated in the project and supported it in many ways.

The project is funded by the German Foreign Office and the Aga Khan Trust for Culture. Our gratitude is due to both institutions for their financial support and collaboration. We wish to particularly acknowledge the support of the German Embassy, especially C. Schlottmann, and of the AKTC Kabul office, directed formerly by K. Bos, presently by J. Leslie. We extend our thanks to the administration of the German Institute of Archaeology (DAI), the Foreign Office in Berlin, and AKTC for the support we received from them through the years.

We also gratefully acknowledge the co-operation of the Kabul Municipality, the Greenery Department and the Department of Cultural and Religious Affairs.

Our work on the site benefited through the kind cooperation of H. Latifi, R. Nanda, and Engs. Amanullah and Mahmoud. During the first season, staff from the Centre of Kushan Studies, directed by Mr. Azizi, and the Institute of Archaeology, Kabul University, headed by E. Osmany, participated in the project with great enthusiasm.

Bibliography

Aga Khan Trust for Culture
2002 Babur Gardens Rehabilitation Program in Kabul. Report for Internal Circulation. Geneva.

Atkinson, J.
1842 Sketches in Afghanistan. London 1842.

Beveridge, A. S. (engl. transl.)
1922 Babur nama (Memoirs of Babur). London.

Bogdanov, L.
1923–4 The Tomb of Emperor Babur near Kabul. In: Epigraphia Indo/Moslemica. Calcutta, 1–12.

Brand, M./Kausar, S./Wescoat Jr., J. L.
1990 Shalamar Garden Lahore. Landscape, Form & Meaning. Karachi.

Brand, M./Lowry, G. D. (eds.)
1987 Fatehpur Sikri. Bombay.

Dar, S. R.
1996 Whither the Historical Gardens of Punjab? Garden Traditions of Punjab. In: Hussain, M./Rehman, A./Wescoat Jr., J. L. (eds.), The Mughal Garden. Interpretation, Conservation and Implications. Lahore, 37–54.

Das, A. K.
1991/92 Chinese Porcelain at the Mughal Court. In: Silk Road Art and Archaeology 2, 383–409.

de Clavijo, Ruy Gonzalez
1928 Narrative of the Spanish Embassy to the Court of Timur at Samarkand in the years 1403–1406 (trans. by Guy Le Strange). London.

Franke-Vogt, U./Bartl, K./Urban, Th.
2002 Bagh-e Babur, Kabul, Afghanistan – Excavation and Training Program 2002. Preliminary Report for the German Foreign Office.
2003a Bagh-e Babur, Kabul, Afghanistan – The German Archaeological Institute Excavations 2002. Al 'Usur al-Wusta 15/1, 1–4.
2003b Bagh-e Babur, Kabul, Afghanistan – Excavation and Training Program September 2003. Preliminary Report for the German Foreign Office.

Franke-Vogt, U./Urban, Th.
2003 Bagh-e Babur, Kabul, Afghanistan: Excavation May 2003. Preliminary Report for the Aga Khan Trust for Culture, Geneva.
2004 Bagh-e Babur, Kabul, Afghanistan: Excavations May 2004. Preliminary Report for the Aga Khan Trust for Culture, Geneva.

Fuller, A. R. (trans.)/Begley, W. E./Desai, Y. A.
1990 The Shah Jahan Namah of Inayat Khan: An Abridged History of the Mughal Emperor Shah Jahan, compiled by His Royal Librarian. Dehli.

Hussain, M./Rehman, A./Wescoat Jr., J. L. (eds.)
1996 The Mughal Garden. Interpretation, Conservation and Implications. Lahore.

Khan, Bahadur
1988 Mughal Garden Wah. In: Journal of Central Asia XI/2, Dec. 1988, 147–159.

Koch, E.
1997 Mughal Palace Gardens from Babur to Shahjahan (1526–1648). In: Muqarnas 14, 143–165.

Lehrman, J.
1980 Earthly Paradise. Garden and Courtyard in Islam. London.

Leyden, J./Erskine, W. (transl.)
1921 Memoirs of Zehir-ed-din Muhammad Babur. London.

Masson, Ch.
1844 Narrative of Various Journeys in Belochistan, Afghanistan, the Panjab and Kalet during the Residence in those Countries, 4 vols. London.

Moynihan, E. B.
1988 The Lotus Garden Palace of Zahir al-Din Muhammad Babur. In: Muqarnas 5, 134–152.

Moynihan, E. B. (ed.)
2000 The Moonlight Garden. New Discoveries at the Taj Mahal. Arthur M. Sackler Gallery, Smithsonian Institution, Washington D.C. Seattle, London.

Nanda, R.
2003 Babur's Tomb Enclosure. Bagh-e Babur, Kabul, Afghanistan. Internal Report for AKTC. Kabul.

Parpagliolo, M. T. Sh.
1975 The Bagh-i Babur. In: Afghanistan 28.3, 57–93.
1976 The Bagh-i Babur. In: Afghanistan 28.4, 1–28.

Petruccioli, A.
1995 Die Gärten der Moguln in Kaschmir. In: Petruccioli, A. (ed.), Der islamische Garten. Architektur, Natur, Landschaft. Stuttgart, 249–266.

Petruccioli, A. (ed.)
1997 Gardens in the Time of the Great Muslim Empires: Theory and Design. Muqarnas Supplements vol. 7. Leiden.

Rajput, S. A.
1997 The Mughal Garden "Wah" near Hasanabdal: Source Material, Report of Excavations of 1993–94, and New Discoveries. In: Hussain, M./Rehman, A./Wescoat Jr., J. L. (eds.), The Mughal Garden. Interpretation, Conservation and Implications. Lahore, 73–87.

Rehmann, A.
2001 Earthly Paradise. The garden in the Times of the Great Muslim Empires. Lahore.

Richards, J. F.
1996 The Historiography of Mughal Gardens. In: Wescoat Jr., J. L./Wolschke-Buhlman, L. (eds.), Mughal Gardens. Sources, Places, Representations, and Prospects. Dumbarton Oaks Research Library and Collection. Washington, 259–266.

Rogers, A. (transl.)
1909–14 Memoirs of Jehangir. Tuzuk-I-Jahangiri. London.

Schimmel, A.
1976 The Celestial Garden in Islam. In: The Islamic Garden, Dumbarton Oaks, Washington D.C.

Vigne, G. T.
1843 A Personal Narrative of a Visit to Ghazni, Kabul and Afghanistan and of a Residence at the Court of Dost Mohamed. London, 2nd edition.

Wescoat Jr., J. L.
1992 Gardens versus Citadels: The Territorial Context of Early Mughal Gardens. In: Dixon Hunt, J. (ed.), Garden History: Issues, Approaches, Methods. Dumbarton Oaks Colloquium on the History of Landscape Architecture 13. Washington D.C., 331–358.
1995 Das Wasser in den islamischen Gärten: Religion, Repräsentation und Realität. In: Der islamische Garten. Architektur, Natur, Landschaft. Stuttgart, 109–126.
2000 Waterworks and Landscape Design in the Mahtab Bagh. In: Moynihan, E. (ed.), The Moonlight Garden. New Discoveries at the Taj Mahal. Arthur M. Sackler Gallery, Smithsonian Institution, Washington D.C. Seattle, 59–77.

Wescoat Jr., J. L./Wolschke-Buhlman, L. (eds.)
1996 Mughal Gardens. Sources, Places, Representations, and Prospects. Dumbarton Oaks Research Library and Collection. Washington.

Zajadacz-Hastenrath, S.
1997 A Note on Babur's Lost Funerary Enclosure at Kabul. In: Muqarnas 14, 135–142.