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THE ROYAL GARDENS OF THE SAFAVID PERIOD:
TYPES AND MODELS

Since the seventeenth century, authors describing the palaces of the Safavid period have looked to ancient Iran for their models. As the Perso-Armenian Petrus Bedik describes the palace of Cyrus at Persepolis as "theatro quadraginta columnarum," he seems to identify it with the Chihil Sutun pavilion in Safavid Isfahan. This association is confirmed by Pietro della Valle and becomes a constant feature in the descriptions of other European travelers. In the nineteenth century Texier asserts that "in the present costumes of the Persian court almost all the uses of the court of Darius are found... The Chihil Sutun palace, the favorite residence of Shah Abbas, represents to my eyes the great hypostyle hall of Persepolis."

More recent archaeological research has followed along the same path. Strohmacher sees a quadripartite chahārbāgh layout in the archaeological remains of the pairi daeza in Pasargadae. The four-part plan is assumed on the grounds that the archaeological evidence of stone channels in the area of Pasargadae defines the plan of a recutilinear orchard, with pavilions that open through loggias on four sides. The walled orchard, water channels, and open pavilions can be considered the essential features of the archetypical royal garden. The recurrence in the descriptions of later bāghs of such elements as water channels, basins, fruit and shade trees, pavilions, baths, and towers certainly leads us to conclude that there was some continuity in the idea of a garden through the centuries.

Within this framework it is necessary to define the features of the royal garden type in each period in order to retrace its evolution. The archaeological remains and the descriptions of the royal gardens in the accounts of European travelers leave considerable room for interpretation. As for visual sources, scholarly attention has mainly been confined to illustrations published in the accounts of European travelers that became more frequent in the Safavid period, when the interest of the West in Persia was intensified by war with the Ottomans. These illustrations do not always convey a faithful notion of the architectonic style of the Persians, because the original drawings were often sketches of poor quality and interpreted by the engraver according to European taste and imagination. Except for Cornelis de Bruin, who was a painter, and Chardin and Bembo, who used drawings by Grelot, none of the travelers in the Safavid period had professional training in drawing, and in the process of reproduction and interpretation precious information contained in their sketches was often lost.

It is therefore of prime importance today to expand the study of Safavid gardens to include original drawings, such as those of Engelbert Kaempfer.

Engelbert Kaempfer (1651–1716), who was attached as a doctor and secretary to the embassy of the Swedish King Charles XI to the Persian court of Shah Suleyman, surveyed and sketched a number of royal gardens during his travels in Persia in 1684–88. His interest in natural history can be seen in his descriptions of the gardens, enriched with notes on Persian flora. After his return to Europe he decided to publish his memoirs, but he used only some of his drawings to compose the famous Planographia sedis regiae in his book. His manuscripts, conserved in the British Library, contain not only information not included in the book, but also original drawings, many of which are related to royal gardens in Isfahan and other Persian cities. These drawings can be considered the very first surveys of Safavid gardens. Compared to the reproduced engravings, the original drawings are detailed, showing how the palaces looked, as well as the areas effectively measured and seen by Kaempfer. It is therefore possible to understand what the engraver added to complete the image of the royal complex. The surveys are a source of information on single gardens that have since disappeared, making possible a more reliable typological analysis of gardens in this period. The study of Kaempfer’s drawings can also cast light on questions such as the aggregation of royal gardens in the dowlatkhana and its relations to the city; how the garden type is affected by urban morphology or topography; the features of the types designated as chahārbāgh and khiyābān-i chahārbāgh; and the building types related to gardens.

The drawing of the dowlatkhaana of Isfahan (fig. 1)
shows clearly that the parts measured by Kaempfer are from the surrounding streets. Eugenio Galdieri, who was a member of the IsMeO team that restored the few extant buildings of this magnificent complex, had already come to the conclusion that the perspective Plantographia sedis regiae had to have been based on a plan. The survey of the davlatkhāna, supported by more detailed drawings of single gardens, was basically the plan to which the engraver referred when composing the perspective. It shows the pattern of the streets of the royal complex of palaces and services starting from the western side of the Maydan-i Shah or Naqš-ı Jahan to a segment of the Khīyābān-i Chaharbagh; the measurements are given in passi. On the side of the maydan the main gate buildings, the 5Ali Qapu and the Haram, are marked with the letters B and C; other entrances are marked along the streets with the names Porta Via Regia Verita, Porta Magnifica, Porta Haram, and Porta Novab. Other parts of the palace and gardens are marked davlarḵa, Regis cucinae, Baghi Khargah, Baghi Hashit Bihisht, Baghi-musamen, Baghi-Takht, and Caravana-saray Agha Salman; the madi, irrigation channels supplied by the river Zayande, are also marked.

If we overlay the survey of the davlatkhāna, together with the outlined plan of the gardens along the Chahar-bagh promenade (fig. 2), onto the plan of the Dar-ul Saltane of Isfahan (fig. 3), we can distinguish the persistent elements of the royal complex. They are the Maydan-i Shah with its surrounding buildings, the streets leading westwards from the maydan, the courtyards of the davlarḵa, the Baghi Chihil Sutun, and most of the gardens along the Chaharbagh. The water channels coincide with those indicated by Kaempfer, but we find almost no sign of the Baghi Guldaste or of the diagonal structures labeled by Kaempfer as “via clausa”. These areas seem to have undergone major changes, as already shown in the plan by Pascal Coste. The twisted wall in the Baghi Chihil Sutun, parallel to the diagonal structures, seems to be the only element testifying to the existence of the via clausa. The general layout of the royal complex as shown in Kaempfer’s drawing is characterized by a free design concept, similar to what is generally applied to the architecture of single buildings. The exterior walls of the davlatkhāna follow no specific geometric form except in the correspondence of the Maydan-i Shah and the Chaharbagh promenade.

The maydan and the promenade play a significant role as generators of order in the urban layout, the relevance of which can also be observed in their architectural features. The davlatkhāna is organized as a continuous fabric of courtyards and gardens for various functions: the davlarḵa for public audiences; the haram and davlarḵa-hā for private life, and the davlarḵa-mardān for all the various kinds of services necessary to the court. The maydan acts as the vestibule to this complex; the Chaharbagh promenade organizes the residential and leisure functions in a linear pattern. These two spaces also play a structural role in the urban fabric, generating two distinct grids along which single gardens and courts are arranged. The intersection of the grids coincides with the diagonal element, the via clausa, and results in the octagonal layout of the Baghi Guldaste.

In addition to the effect on the plan of the city, it should be remarked that the maydan and the Khīyābān are the only spaces with an urban façade. An interesting perspective of the Maydan-i Shah (fig. 4) shows the architectural features of this space where the double order of porticoes containing the bahārū with baḷīḵa-hā is interrupted by outstanding buildings, announcing through specific solutions the entrance to various areas: the 5Ali Qapu, the five-floor dargah (gate palace), with its tālār overlooking the maydan is the main entrance palace of the royal complex; the women’s entrance with a tripartite façade; to the right lies the entrance to the bazaar, above which is the davlarḵa (a loggia in which music was played), and to the left the portal of the Masjid-i Shah. It should be remarked that the façades of the maydan reflect a taste for architectural rhythm rather than a rigid symmetrical order, an attitude that can also be found in the royal complex of Persepolis. It is thus in the maydan that the urban façade of the royal complex is expressed.

Maydans were in fact essential in the design of royal complexes; they were used as the vestibule to royal palaces and gardens. One of the earliest views of a maydan connected to royal gardens is the Maydan-i Sahib al-Amr in Tābriz depicted by Nasuh Matraķi as the vestibule to the palace of Uzun Hassan (1466–78), lying to its south. In addition to the information in the literary sources about maydans and their use for polo (chaugān), a series of drawings by Kaempfer provides further evidence for the popularity of this traditional sport as well as for the consistent presence of a maydan in front of royal gardens. The plan of Qazvin (fig. 5) shows an elongated space in front of the 5Ali Qapu, the entrance to the royal gardens, labeled the Alikhānī vestibuli, which is also shown in a more detailed drawing (fig. 6). There was a maydan for the game of chaugān in front of the garden that belonged to Imam Quli Khan, governor of Shiraz (fig. 7). In the plan of Kashan (fig. 8) the letters bb mark
the horti regi, and the poles for the game of chavogan are shown in the view at the beginning of the elongated space in front of the royal gardens. In all these cases there was a gate building, the ʿimārāt-i sandar, that not only gave access to the palace area, but overlooked the maydan through a great loggia offering a viewing place for the king as well as a proper setting in which to be seen. The gate building represented the urban façade of the royal complex.

The Chaharbagh promenade represented not only the connection between the dawlatkhāna and the suburban gardens across the river Zayande, but also the backbone generating the linear pattern of gardens, each with an entrance building symmetrically positioned on the sides of the promenade creating a unique urban façade. This magnificent view could best be appreciated from the pavilion called the Jahan Nama located at its northern end, as well as from the upper loggias of the entrance buildings to the gardens. In the Bagh-i Mosa- men, situated at the beginning of the Chaharbagh on its western side, the entrance pavilion constituted the only building of the garden, emphasizing the fact that the Chaharbagh was certainly the dominant element in the design of this section of the city. The underlying grid of these gardens can still be read in the urban fabric of the city today, although the gardens themselves have almost completely disappeared.

The significance of this space cannot be understood, however, if we consider it only as a street that creates a perpendicular grid of plots. Its straight layout and considerable width are common features today, but if we compare the elongated perspective created by the Chaharbagh with the view of any other connection in the old city, we can understand the force of its design as a great open urban space conceived as an elongated garden. This view was in fact singled out for praise by all the travelers to Isfahan. Cornelis de Bruin produced three partial perspectives of the promenade, but Kaempfer’s plan remains the only graphic document that shows the whole length of this space as it was conceived in the Safavid period. It was a marvelous urban space designed with architectural and decorative elements that organized the new extension of the city.

We can therefore conclude that the relation between the royal gardens and the city is expressed through two main public spaces, the maydan and the Khayaban-i Chaharbagh, each of which organizes and structures part of the gardens. These are also the only spaces where the royal gardens and palaces show their urban façade and express their architectural and symbolic features.

The garden’s layout and the position of its pavilions are strongly affected by its aggregation in a fabric consisting of contiguous courts and gardens. Although these were laid out on a grid, the various elements nonetheless appear as in a picturesque irregularity. The freedom in the general layout of the dawlatkhāna is reflected in the geometrical structure of single gardens. These are not necessarily based on a rigorous symmetrical layout, although a partial symmetry in the relation between single components is maintained.

In the Bagh-i Khalvat (fig. 9) the principal walk is not in the center of the garden; it is on an axis with the eastern iwan of the pavilion interrupting its western wall. An elaborate basin is symmetrically positioned in front of its southern iwan, defining an angle of the garden with the tower from which the king could reach the women’s quarters. The position of the pavilions along the walls is determined by the contiguous fabric. The pavilions thus become the means of passing from garden to garden: the four-iwan pavilion at the end of the principal walk is located between the Bagh-i Khalvat and the Anguristan; another building, constituting the backbone of the secondary axis, opened through a tādar onto the Bagh-i Khalvat and through an iwan onto the Baghi Chihil Sutun. At the intersection of the two walks was an elevated rotunda with a water channel all around and an octagonal hawwāl in the middle.

The Bagh-i Guldaste (fig. 10) had a particularly complex geometry. It was composed of an octagonal area to the west and a rectangular appendix centered on the Uchi Martabeh palace to the east. The central geometry of the garden originated from the sixteen-sided pavilion called the Guldaste. An avenue lined with plane trees led off from every other of its eight sides, marking the rays of an octagon. A ring walk intersected the avenues in a middle point where four basins highlighted the two principal axes running north-south and east-west. The latter presented the most important view of the garden which featured a water channel and a cascade as well as the gate to the Bagh-i Bulbul, Uchi Martabeh palace, and a hammam. The isotropy of the radial scheme was thus transformed in a precise hierarchy of the axes, underlined by architectural and decorative elements. What seemed at first sight to be a central plan assumes through the subtle articulation of the axis the longitudinal configuration typical of Persian gardens.

The unusual octagonal form is also the most congruent compositional device that resolves the meeting of the two different grids, resulting from the angle between the Chaharbagh promenade and the Maydan-i Shah. We
can therefore conclude that the adaptation of the design of the garden to various urban situations introduced further complexity and variety into its layout.

Another factor that strongly affected the layout of the garden was the morphology of the land. In suburban sites where steep hillsides were often chosen for the foundation of a garden, the main axis was enforced by the topographic conditions of the terrain. While adding a secondary axis was possible in the urban fabric of the dawlatkhāna, it had to be eliminated on a steep slope. A case in point is the Bagh-i Takht in Shiraz, whose main features we know through a view drawn by Hofsted van Essen (fig. 11). The principal ʿimarāt is located in a prominent position, opening on one side onto the interior court of the khāvat and on the other facing through a tālār onto the terraces below that once existed between it and the lower orchard containing a great basin (daryāe). Other gardens called Bagh-i Takht had a similar layout in a similar topographic situation.

Since there are known cases of gardens being named after their original models, it may be that the Bagh-i Takht constituted a garden type. Sharaf al-Din Yazdi reports, for example, that Timur built four gardens in the vicinity of Samarqand modeled after those in Shiraz and named all four after the originals—Bagh-i Jahan Nama, Bagh-i Eram, Bagh-i Dilgusha, and Bagh-i Takht-i Qarache. The last was modeled after the Bagh-i Takht founded by Atabak Qarache in Shiraz. It included, as the original did, a palace on the summit of the hill.

The type of garden called a bāgh-i takht was, then, characterized by accentuated terraces stepping down from a palace enclosing a courtyard and situated on the highest terrace (takht) to a vast, rather flat orchard below containing a great basin (daryā). The size of the terraces increased as they descended, following the form and slope of the hill.

This analysis of royal gardens, all referred to as bāgh, suggests another conclusion. The layouts of the Bagh-i Khaalvat, Bagh-i Guldaste, and Bagh-i Takht show a range of variations reflecting adaptation to various urban and topographical situations that leave no place for stereotyped definitions. While it is true that the distinctive features of these bāghs are that they consist of enclosed orchards laid out on a geometric plan, with the position of the buildings generating different axes decorated with basins and channels, we do not find a rigid symmetrical order; the position of the buildings varies from the middle to the periphery or to the top of the garden.

The numerous drawings of Kaempfer of the Bagh-i Hizār Jarib in Isfahan also designated as Chaharbagh-i Hizār Jarib cast further light on how a chahārbaḵāgh was laid out. This type of garden has often been considered to have a four-part plan. The detailed survey by Kaempfer (fig. 12) of this garden shows that the Chaharbagh-i Hizār Jarib was based on a main axis rather than a quadrirpartite plan. It can therefore be assumed that the reference to four in the name was symbolic and did not necessarily refer to four separate plots.

Kaempfer describes this garden among the “horti suburbani” located at the end of the Chaharbagh promenade on a steep site. Its function was therefore different from the gardens in the dawlatkhāna. It constituted a great complex and consisted of two parts, the new and the old Hizār Jarib. It contained a bālākhāna (fig. 13) at the beginning and a similar one at the end, an ʿimarāt with a tālār (fig. 14) at the center, interrupting the wall between the old and new gardens, a haram, and finally a maydan for chauqān and qaṭbān andāz. The garden was irrigated by jiyā and mādī fed by the river Zayande and composed of beds planted with aromatic herbs, fruit trees, and flowers. However, according to Kaempfer the most beautiful attraction of the garden was its principal water channel, the shāh jiyā, decorated with a series of basins and cascades and lined with plane trees; these constituted the vista from the tālār and bālākhāna. This axis was surveyed in detail by Kaempfer, and his drawings, lined up in the correct sequence, give a complete image of the shāh jiyā. The principal channel built in stone longitudinally transversed the whole garden: along its course was an octagonal lake with two small pavilions on its shore; water then passed through a series of basins and cascades, reaching the ʿimarāt, where it flowed into a channel surrounding the building and the basin in the tālār; after a series of small basins it reached another octagonal lake, also flanked by pavilions; and finally it ended in a square basin in front of the principal entrance from the Chaharbagh promenade. The water channel was also decorated by a number of waterjets that animated the vista.

The main walk as it appears in the detailed surveys by Kaempfer is extremely articulated, and constitutes the principal decoration of the garden. Pietro della Valle correctly emphasized the aesthetic character of the principal walk (khiyābān) in the royal gardens. The khiyābān with its shāh jiyā bordered with chiniān represented the essential element of the design of the garden. Its significance can be understood by the fact that this element alone resulted in an elongated garden type called the khiyābān-i chahārbaḵāgh, which was used as a public promenade linking the urban dawlatkhāna to the suburban roy-
al gardens. The one in Isfahan was a place of pleasure for the population, and its beauty, according to Kaempter, was owing to the water channels and dense rows of plane trees under which one could walk under a taqi-ubu,

as well as to the entrance buildings for the gardens along its sides. It constituted the epitome of public elegance.

Khvárbán-i chahárbağhs are attested in many Persian cities. Whether they were similarly designed or were just avenues lined with trees has still to be thoroughly investigated. We know that in Kashan the Khváran-i Chahárbağh linked the royal quarters on the northeast of the city to the Bagh-i Fin. The connection between the royal quarters and a suburban royal garden is often documented as being a street lined with trees. Kaempter confirms that the Chahárbağh promenade or Raste-yi Mussala in Shiraz had a design similar to the one in Isfahan. There, too, gardens were aligned on the sides of the promenade, one of which is depicted in another Kaempter drawing (fig. 15). In front of a great basin called Daryache Kurbunga was the ʿimárat-i sardar. From there a walk led to a tálár facing the longitudinal axis of the garden that was parallel to the Raste. This constituted the principal view of the garden and was decorated by a channel with twenty-four water jets and two cascades; another, secondary axis connected the main walk to a great basin in front of the private quarters.

We can assume, then, that in this period the khvárbán-i chahárbağh was an elongated garden type or promenade connecting the royal quarters and a suburban royal garden in the city to their suburban gardens. Its principal design ingredients were a straight layout, wide enough to contain water channels and basins, lined with plane or cypress trees, and decorated with the entrance buildings of the various gardens along its sides.

A final subject that can be discussed using Kaempfer’s drawings is the various types of buildings found in the garden. In the royal complex of Isfahan we can find quite a number of ʿimárats used in the Persian court and often given the same names elsewhere, confirming their reference to the same type. There are a number of Ali Qapu, Chihil Sutun, Hashi Bihisht, and Jahan Nama buildings, and Della Valle observes that all the palaces of the king were built in the same way.

Before examining the various types of ʿimárats, it is necessary first to define two architectural units, the tálár and the iwán, in which their principal features can be summarized. The tálár consists of a great full-height porch open on three sides with a flat protruding roof supported by wooden columns. In a text entitled “Knowing the Building and Its Design,” it is written that the "tálár of an ʿimárat is supported by columns and a tálár without a torreh [cornice] is disturbed by sunlight." This definition is made more explicit by a plan in outline where Kaempfer shows the tálár in front of the ʿInarati-i Hizar Jarib (fig. 14) as a great hypostyle hall open on three sides. The same architectural features can be seen in the tálár of the Aʿye Khane, where a full-height light wooden structure forms a charming contrast with the masonry architecture of the building in the back. The drawing of the Talar-i Tavile shows this same architectural unit as a porch protected from the sun by awnings that prolong the space of the iwan where the king sat. Tálàrs were much in vogue at the Safavid court and were probably reintroduced in this period. In fact the detailed descriptions by Claviro of the audiences given by Timur refer to cross plans of palaces, iwans, and pavilions made of tents and awnings, but there is no mention of a tálár, and none of Matrački’s miniatures depict one.

The groves of columns, although essentially conceived as the Achaemenid Apadana, have a different visual impact owing to the lightness of the whole structure. The wooden columns in the Hasht Bihisht, Chihil Sutun, and Aʿye Khane had octagonal shafts covered with glass and muqarnas capitals. Lions with their heads turned into different directions served as bases for the central rows of columns in the porch, a device that vividly recalls the oldest traditions of Persia. George Perrot, in suggesting the timber architecture in Ecbatana as the model for the Achaemenid hypostyle halls, finds analogies between the description of Polybius and the tálár of the Chihil Sutun. Whether there was particular attention paid to ancient Persian architecture in this period due to the shift of the capital or induced by a more European approach to antiquities, or whether the model for such distinctive elements as the Safavid tálár lies elsewhere, should be investigated.

The identification of the tálár as the most prominent feature of the audience hall of the king with the whole is explained by Della Valle: “The great men in Persia and the King give audience, converse, and sit in their divánkhâne, as they call their audience halls, which are generally elevated places in gardens and courtyards, all open in front, as in our loggias and porticoes." Iwán in Persian literature can refer both to the palace and to its loggia as the most prominent formal part of it. Its architectural meaning is, however, that of a double-height hall, enclosed on three sides by supporting walls and open on the fourth; this space is generally vaulted, but there are also many where the ceiling is supported by two or more columns. In the text, “Knowing the Build-
ing and Its Design,” mentioned above, the terms tanabi and yurd are used as synonyms for jwán. It is noted that the great iwans are covered with vaults articulated with muqarnas, fil-grish (squinches) and ṭaqche-ha (small vaults or niches). However, in all Kaempfer’s drawings, whenever an iwan is labeled as such, it is drawn with a vault.

The iwan had been the main feature in almost all Persian building types since the time of the Parthians. Due to their spatial features, the iwan and tālār were the predominant elements in the composition of garden pavilions; these semi-open spaces are virtually a continuation of the main axis of the garden.

The four-īwan plan as shown in the ʿimārat in the western wall of the Bagh-i Khalkhat (fig. 9) can be considered the basic plan for a garden pavilion. It consists of four iwans set on the four arms of a cross, the vaults of which are supported by the vertical and horizontal structures of two orders of corner rooms. The square space in the middle of these vaults is covered with a cupola or a square, raised lantern with a pyramidal roof. The Uchi Martabe (lit. three stories) building was also based on such a plan (fig. 10), in the elevation drawn by Kaempfer (fig. 16), however, there is an interesting variation consisting in the juxtaposition of three orders of iwans.

One of the fundamental ingredients in the layout of Persian gardens is the ʿimārat-i sardar or bālākhāna, the entrance buildings described by travelers as “the palace above the gate.” These were often based on a four-īwan plan, where the direction of the entrance was left open, as in the vestibule of the Bagh-i Hizar Jārīb in Isfahan (fig. 13). A tripartite façade was therefore a common feature. Pietro della Valle observes that the bālākhāna were all built and decorated according to the same model. Kaempfer’s drawing depicting the “vestibule Bagh-i Bulbul” (fig. 17) shows variations in the plan of the entrance buildings. The entrance to the Bagh-i Bulbul from the Chaharbagh promenade is there as two orders of iwans laid on a receding plan. Among the bālākhāna that symmetrically decorated the Khābian-i Chaharbagh, a similar building was photographed by Holtzer between 1888 and 1890.

The ʿAli Qapu constituted a more complex type of ʿimārat-i sardar, as it was erected as the main entrance to the royal quarters. The most famous ʿAli Qapu is the one in Isfahan; it consists of a cubic building of five stories, the main nucleus of which is based on a cross plan, preceded by a great portal surrounded by a tālār facing the Maydan-i Shah. The IsMeO restoration group has identified the tālār as a later addition. A view by Hofsted van Essen can help date this addition, as it shows a phase of the construction before the columns were added; this may have been an innovation introduced by Shah ʿAbbās I. The ʿAli Qapu of Qazvin from the early Safavid period (fig 6) has no tālār. It overlooks the maydan through a great iwan that corresponds to the three orders of loggias, creating a stepped façade that buttresses the force of the vault. The drawing (fig. 18) that represents the vestibule of the royal garden in Kashan is particularly interesting, as it shows the elevations of the garden side, with a double-height iwan sustained by wooden columns, and the exterior one where two vaulted iwans are featured.

The combination of iwan and tālār is the dominant theme of composition in a series of buildings, including the Chihil Sutun, Aʿyne Khane, and ʿImarat-i Hizar Jārīb. The plan of the last in a schematic drawing by Kaempfer (fig. 14) shows the basic concept of its design. It is formed of a four-īwan cross plan labeled as an ʿimārat preceded by a tālār.

The Chihil Sutun building in Isfahan is one of the few extant buildings of the Safavid dawlatkhāna, and shows the extent of complexity and variety of spaces in the scheme. Two porches supported on wooden columns have been added to a first nucleus laid on a cross plan on its northern and southern sides. The eastern side is articulated with two side rooms and a shāhneshin facing a tālār.

A curious way of composing a tālār and an iwan can be seen in the design of the pavilion along the northern wall of the Bagh-i Khalkhat (fig. 19). The tālār occupies the entire façade toward the Bagh-i Khalkhat and is supported by eight columns of giant order on its three open sides and six columns of secondary order above the rear wall. Here a mid-level terrace separates the tālār from an iwan that faces the Bagh-i Chihil Sutun.

The basic cross plan evolved into a type where the corner rooms were cut in the angles creating an octagonal central space that was more convenient for covering with a cupola. This is the scheme used in the Jahan Nama buildings in Shiraz and Farahabad and in the sophisticated pavilion in the royal quarter in Isfahan, the Hasht Bihisht. The Hasht Bihisht of Isfahan still exists to testify to the beauty and inventiveness of this type, which was very popular for gardens. In it the central nucleus is based on a four-īwan plan where the corner rooms designed as octagons provide the possibility of creating different sizes of porches depending on the way these are connected to gushvār, or side rooms.

The Hasht Bihisht of Uzun Hassan (1466–78) in Tabriz as described by the Venetian Josafat Barbaro and
depicted in the miniature by Matrakçı had a similar scheme, suggesting that a type called the hashi bihişt was already codified. The Ėmarat-i Gülüste depicted in plan and elevation in the drawings of Kaempfer (fig. 20) is a variation on the octagonal pavilion, with sixteen sides, where the central hall faces out through eight iwans alternating with secondary spaces. The central octagonal nucleus is elevated above the roof of the iwans, creating a belvedere covered by a wooden structure. The theme of the composition of a light structure above the masonry base somewhat similar to the addition of a tālār in front of a building, is also present in the pavilion at the center of the Myrahkor Bashi garden (fig. 21) along the Chaharbagh promenade in Isfahan. The pavilion was laid on a semi-octagonal masonry base, where the central square room supported an upper wooden parvāre. Smaller octagonal pavilions open on all sides and covered with a flat roof, like the one flanking the lake in the Hizar Jarib garden in Isfahan (fig. 22) were conceived for the use of a few persons. At times similar structures were placed in the middle of a large basin. Another type of pavilion depicted by Kaempfer as a khargāh25 “ita dicti a ejus dommuncula intentoris fornam structi,” shows an interesting way of using light and heavy structures. In his drawing (fig. 23) an octagonal base composed of great arches on all sides sustained the wooden structures on which a great tent was fixed.

The study of Kaempfer’s drawings of pavilion types from the Safavid period allows us to conclude that, although the garden buildings were mainly composed of semi-open spaces, there were numerous variations in size, form, and materials. A more thorough analysis of Kaempfer’s drawings of royal gardens and palaces should be made, but at this point some hypotheses can be formulated. The role played by the maydau and the Khīyān-i Chaharbagh in relation to the dawlatkhāna and the suburban gardens respectively seems sufficiently elucidated by the documents. These spaces, through their dimensions, form, and architectural devices on the facade, assumed a structural role in the urban fabric and constituted a stage for the representation of refined elegance and grandeur of the court.

As for the principles of composition, we have substantially to modify the prevailing stereotyped image of a symmetrical layout with rigid axialities. In fact an attentive analysis of the drawings allows us to discover a disposition toward rhythm, partial symmetry, hierarchy, and differentiation of axes as well as the occurrence of irregularities that reveal a certain taste for the picturesque that underlies Persian architecture. This disposition explains the adaptation of the design to pre-existing conditions of the site, related to the urban fabric or topographic situations as well as modifications and additions over time, resulting in an idea of type far from the abstract model. So far as can be judged from the documents analyzed here it may be assumed that certain recurrent names for gardens and pavilions actually constitute specific types. This would be the case for bāgh-i takht, chahārbagh, khīyān-i chahārbagh, chihī sütun, hashi bihişt, and ‘ali qāpu. This hypothesis nevertheless needs to be verified and supported by further evidence.

A new approach in researching these and other problems would be to look for evidence in the visual sources so far overlooked by scholars, particularly the original drawings in the travelers’ accounts already well known in their published editions, but still to be discovered as authentic sources in their manuscripts.

Rome, Italy

NOTES

1. Petrus Bedik, Cohl Sutun: seu explicatione ursusque celebritim ac pretiosissimi, theatris quadraginta columnarum in Persia Orientalis (Vienna, 1678)
4. Whether the word chahārbagh designates a type of garden with a quadrivartiate layout is a controversial question. In an article in Environmental Design, 1986, no 1, I interpreted the indications concerning the layout of a chahār bagh given in the treatise Irshād al-ṣarāf as not corresponding to a four-part plan.
6. To find reliable drawings drawn to scale we must refer to travelers in the nineteenth century such as K. Porter, the French architect Tézier and Coste, or to the images of the painters Eugène Flandin and Jules Laurens
7. Some of these unedited documents were recently published in Mahvash Alemi, “Il giardino persiano: tipi e modelli,” in Il Giardino islamico, ed Attilio Petruccioli (Milan: Electa, 1994).
8. Karl Meier-Lemgo, Engelbert Kaempfer: Leben, Reisen, Forschungen nach den bisher unveröffentlichten Handschriften Kaempfers in
ROYAL GARDENS OF THE SAFAVID PERIOD


10 For what concerned the Persian state he was particularly helped in his research by Father du Mans, prior of the Capuchin convent at Isfahan, who also served the Persian court as interpreter for thirty years and knew the language and costumes of Persians as no other European of his time. Among the manuscripts conserved as the collection of Kaempfer in the British Museum is also a manuscript MS Sloane 1826 that contains Raphael du Mans, “Descripition persis comunicata duo Engelberto Kampffero Ispahanam 1684, cum grammatica lingua turcica” as well as the “Relazione del Clarissimo Vincenzo Alessandro Ambasciatore al Re di Persia per la Ser ma Republica di Venetia.”

11 The story of how these manuscripts were acquired by Sir Hans Sloane is retracted in British Museum Quarterly 18, 1 (March 1853).

12 MS Sloane 5232, f. 38; measurements are written along the lines of the plan; these are listed from the points marked with letters on the top of the plan; in f. 38v; MS Sloane 5232, there is another list of the same measurements defining the points.


14 According to Mirza Hassan Khan Shaikh Jaber Ansari in Tarikh-i Isfahan va Ray (Tehran, 1293 a.h.), p. 335, the western part of this maydan was built on the site of the Bagh-i Nasqh-i Jahan, and the ʿAli Qapu was the result of an addition to a previous Timurid building that belonged to the same garden.

15 In the Preface to his book, Amoenitatum Exoticorum, Kaempfer defines this measure as follows: “per passus non intelligan geometricos illos, qui duplici gressu veniunt, sed simplices neces sive communes, quibus incidunt vir statuere medicios, vel mediocri paulo longiores, complectentes ad minimum pedes geometricos duos.”

16 In sketching the davolatkhané he seems not to be aware of the fact that the Khiyaban-i Chaharbagh is not parallel to the Maydan-i Shah. He marks the Khiyaban as oriented south-southwest. Nevertheless in a perspective of the maydan, and also in the Planographia sedis regis, the Khiyaban is shown in a correct way. This was a common mistake also seen in the plan by Coste.

17 The plan of Isfahan compiled by Sultan Seyyed Riza Khan to the scale of 1/4000 was published in 1302 a.h.

18 Pascal Coste, Monuments modernes de la Perse (Paris, 1867).

19 Comparing this organization of spaces with the restored plans of Sassanian palaces based on an axial sequence of spaces reveals a greater freedom in the general layout.

20 A typical example is the Masjidi-Jami’ where the interior courtyard expresses order through its symmetrical axes, but the exterior walls do not follow a specific geometrical form and the entrance portal is the only outstanding architectural feature with an outward-looking elevation.

21 Bigitt Hoffmann, “Boyut-i safatnati,” Encyclopaedia Iranica 4: 421. In the Safavid period it referred to the part of the royal complex that contained the workshops (kahrkhana) that provided all kinds of services to the court.

22 Meydan is a Persian word which today refers to a public place, but originally denoted a large area for horseback riding and polo games; it was also a measure of distance equal to a third of a mile.

23 MS Sloane 5232, f. 36: some of the gardens and the Khiyaban-i Chaharbagh are marked in pencil; the orientation of the latter seems to be correct, suggesting that the sketch was drawn from above the porticoes on the eastern side of the maydan.

24 Skandadar Bayk Tukman (Skandadar Munshi), Tarikh-i M karış-i Abbasie (Tehrani?, 1304/1885, mentions among the works carried out by Shah ʿAbbās a mosque to the south of the Maydan-i Naqsh-i Jahan, a mosque in front of the dargāh-i davolatkhané; a madrasa; a dār-ʿal shāh, hamamān dā; a qoyarsaya; a bāzārīgh around the maydan with bālākhānās; caravanserais; a five-story dargāh-i davolatkhané, and gilded khvastkhānā na named Sarvistan, Nigaristan, and Guldaste; and a five-story ʿimārāt, hawr khāna-ha, and a khvastkhāna named Chaharbagh almost one farāh long, with baghkhāt and basatin on the two sides of the khvaban, and splendid ʿimārats in each bagh. In the middle of the khvaban was a bridge of forty spans over the river Zayandeh.

25 The distances between these elements are shown in a schematic plan on the top left. The number of the modular arcades between the gates are also written above each portion of the portico in the perspective. Minor objects, characters, and animals reflect the use of the space for various games.

26 Nasehsu-Silahi Matrakci, Beyan-i mevazz-i iieber-i Ṣaheyci-i Sultan Sulayman Han (Ankara, 1765), fols. 27r and 28a of this. T5964 depicts Tabriz where, to the left of the river, the royal garden with the Hashi Bihish pavilion in its center can be distinguished on one side of the Maydan-i ʿAlī al-Amr.

27 In Ashraf there was a maydan acting as the vestibule for the royal complex and in Farahabad the maydan similar to that in Isfahan was surrounded by porticoes with shops, a mosque, caravanserais, and madrasas, as well as the entrance to the royal gardens. For reconstructions of these maydans, see Mahwash Alemi, “I giardini reali di Ashraf e Farahabad,” in Giardini islamici, ed. Attilio Petruccioli (Milan: Electa, 1994).

28 The names of most of these gardens are known from texts, but the drawing in MS Sloane 5232, f. 425 allows us to locate each garden because the names are marked on it. We can better study the development of this part of the urban fabric with the aid of the valuable information given by Jaber in Tarikh-i Isfahan va Ray, where the author refers to the consequent transfers of properties.

29 See the picture of this pavilion in Frederick Sarre, Denkmäler persischer Baukunst (Berlin, 1910), pl. 70. It was destroyed by Bani-ʿye Ozma, the sister of Zil-ol Soltan, as reported by Jaber in Tarikh-i Isfahan va Ray, p. 353.

30 MS Sloane 5232, f. 39

31 MS Sloane 2910, fol. 102, according to Jaber, Tarikh-i Isfahan va Ray, p. 355, this garden, which had an area of sixty thousand zarv, was transferred to Mirza Ismail Esan al-Dawla and a German factory built there.

32 Two drawings of Kaempfer show the view toward the north and south of the promenade in MS Sloane 5232, f. 39

33 Cornelis de Bruin, Voyage de Convoi le Brun par la Moscovie en Perse et aux Indes Orientales (Amsterdam, 1718).
plein d'eau lequel a 40 pas de face, autant que la rue a de largeur, de maniere qu'on ne pourroit passer aux cotes netoit que les deux pavillons qui sont vis a vis du bassin se retinrent trente pas en dehors pour laisser le passage. Cette belle rue est terminée par un bazar assez long qui aboutit au maydan, qui est la place publique.

53 Pietro della Valle, Bibliotheca Apostolica Vaticana, Cod Ottob Lat 3382, fol 284.

54 Raphael du Mans, Descriptio persis (cited above n 10), "Il font encor des grands tabibs, qui sont les labbas de plaidoir de menuiserie par petits compartiments fort bien tavlillés, le tout soutenu par de grandes colonnes ou piliers de bois à pans, faits avec le rabot d'une egale grosseur; il n'y a point de difference de la base du trone et de l'entablement, sinon qu'a ce dernier ils attachent diverses pieces de lattes en forme de inou- lures et corniches, qui debarquent faire un siéxe ordre de colonnes dans le milieu de ce terrain est d'ordonner un bassin d'eau, haute, fait de marbre blanc."

55 Indien Office Library, Bibl Sloane 4095, fol 7, "Das dannans i ismarat va tahv-i an."

56 See the illustration in Pascal Coste, Monuments modernes de la Perse (Paris, 1867).

57 MS Sloane 2923, fol 97.


60 Pietro della Valle, Bibliotheca Apostolica Vaticana, Cod Ottob Lat 3384, fol 6.

61 Lit, upper house, apparently the origin of the word balcony; synonyms are ghoft euliya, upper room or barvarab; pavelsh, summer house, or gallery on the top of a house. A wider meaning for bâlîkshâh is any open space above the ground floor as can be found in houses near the Caspian Sea. Pietro della Valle gives such a description in Cod. Ottob Lat 3382, fol 275v: "a small room, on better, loggia, as it is open on all sides above the ground as much higher as a man, to which one ascends by stairs, and is covered with a roof. Here they call it bata chane and [it] is used for giving audiences in summer and also as a cool place for sleeping."

62 Pietro della Valle, Cod Ottob Lat 3382, fol 262: "In the garden at Tajabad, there was a small casino above the gate built with the same architecture and features that I have described for the gate of the royal house in Isfahan, only smaller and of less beauty and expense. On this occasion I say once and for all that I found all the houses of the king that I have seen to be according to the same model and decorated in the same manner."

63 Ernst Holzer, Persien vor 113 Jahren, ed Mohammad Assenni (Tehran, 1976).

64 Pope believed that the prototype for such buildings was to be found in ancient times, as a similar structure was depicted on a salver of the Sassanian period; Arthur Upham Pope, "A Sassanian Garden Palace," Art Bulletin 15 (1933): 75–85.


66 MS Sloane 5234, fol 9.

67 See the plan of Baghi Jannahmeh in Shiraz in Arvanpou, Pajuhesh dar shenahkhi-e bagh-ha-yi iran, p 225.
68. MS Sloane 2910, fol 104v

70. The term *gul haste* is also used to designate many-sided minarets.
71. MS Sloane 2910, fol 106v
72. The term *khangah* designated tent pavilions.
Fig. 1 Royal quarters in Isfahan surveyed by Kaempfer MS BL Sloane 5222, fol. 38r. (Photo: By permission of the British Library, London)
Fig. 2. Outlined plan of the royal gardens along the Chaharbagh promenade MS BL Sloane 5292, fol 42r (Photo: By permission of the British Library, London)
Fig 3 The survey of the royal quarters and the plan of gardens along the Chaharbagh promenade overlayed on the plan of Isfahan compiled by Seyyid Riza Khan (Photo: courtesy National Library, Teheran)
Fig 4 View of the Maydan-i Shah surrounded with a double order of porticoes, interrupted by the 6Ali Qapu and the entrances to the Haram, bazaar, and Shah mosque. MS BL. Sloane 5232, fol 36r (Photo: By permission of the British Library, London)

Fig 5 Plan of Qazvin with the maydan in front of the 6Ali Qapu. MS BL Sloane 2923, fols 75v-76r (Photo: By permission of the British Library, London)
Fig 6. The ʿAli Qapu, entrance to the royal quarters in Qazvin. MS BL Sloane 2923, fol. 70r. (Photo: By permission of the British Library, London)

Fig 7. Plan of the garden of Imam Quli Khan in Shiraz, preceded by a maydan. The chahargah poles can be seen in the view showing the entrance to the garden. MS BL Sloane 2912, fol. 35r. (Photo: By permission of the British Library, London)
Fig. 8. Kashan. Plan showing the royal gardens preceded by a maydan in the view MS BL Sloane 2923, fol. 80v (Photo: by permission of the British Library, London)

Fig. 9. Bagh-i Khalvat. Plan with a four-iwan pavilion along its western wall and a pavilion preceded by a tāleš along its northern wall. MS BL Sloane 2919, fol. 91r (Photo: by permission of the British Library, London)
Fig. 10 Bagh-i Guldaste, centered on the sixteen-sided palace, Guldaste, and the Uchi Mattabe palace, based on a four-iwan plan MS BL Sloane 2910, fol. 92r. (Photo: by permission of the British Library, London)

Fig. 11 View of Bagh-i Takht in Shiraz, drawing by Hofsted van Essen. From “Miscellaneous Drawings by G. H. van Essen and Dr Edward Browne,” MS BL Sloane 5234, fol 7r. (Photo: by permission of the British Library, London)
Fig. 12 Bagh-i Hizaj Jarib in Isfahan surveyed by Kaempfer. From "Original Drawings of Dr. Engelbert Kaempfer Drawn by Himself .," MS BL Sloane 5232, fol. 45w. (Photo: by permission of the British Library, London)
Fig. 13. Bagh-i Hizār Jarib The entrance pavilion with a segment of the main walk MS BL Sloane 5292, fol. 45 (left). (Photo: by permission of the British Library, London)
Fig. 14 Bagh-i Hizar Jariib. Outlined plan of the ʿimārat, preceded by a tūlār. MS BL Sloane 5232, fol 40v (Photo: by permission of the British Library, London)
Fig 15. Plan of a segment of Raste-ı Mussala in Shiraz with a great basin called Daryace Qurbungah. MS BL Sloane 2912, fol 34v (Photo: by permission of the British Library, London)
Fig 16. Elevation by Kaempfer of the Uchi Marabe palace featuring three orders of iwans. MS BL Sloane 2910, fol. 95r (Photo: by permission of the British Library, London)

Fig 17. Drawing by Kaempfer of the vestibule of Bagh-i Bulbul along the Chaharbagh promenade. MS BL Sloane 2910, fol. 103v. (Photo: by permission of the British Library, London)
Fig 18. Keshan. Interior and exterior elevation of the vestibule of the royal garden MS BL Sloane 2923, fol. 88r (Photo: by permission of the British Library, London)

Fig. 19. Bagh-i Khalvat. Elevation of the pavilion along the northern wall MS BL Sloane 2910, fol. 91r. (Photo: by permission of the British Library, London)
Fig. 20 View of Guldeste palace surmounted by a belvedere MS BL Sloane 2910, fol 96r (Photo: by permission of the British Library, London)
Fig 21. View of the pavilion in Myrakhor Bashi garden MS BL Sloane 2910, fol. 89r (Photo: by permission of the British Library, London)

Fig 22. Bagh-i Hizar Jarib, Octagonal pavilion flanking the great basin MS BL Sloane 2910, fol. 104v (Photo: by permission of the British Library, London)

Fig 23. Khangah, an octagonal masonry structure, covered with a tent MS BL Sloane 2910, fol. 106v. (Photo: by permission of the British Library, London)