Paradise themes have always permeated the thoughts, lectures, and writings of Oleg Grabar, whether the reference was to Sasanian princely hunting grounds in the guise of Umayyad estates—Qasr al-Khayr or the wall paintings of Qusayr Amra—the exotic gardens in the mosaics of the Dome of the Rock, or the actual quadripartite gardens of the Alhambra. His interpretation of garden symbolism fluctuates between religious (heavenly Paradise) and secular (expressions of power). As he has demonstrated throughout, the roots of both form and signification go back to the Late Antique in the Mediterranean and Iranian worlds, and this essay will continue the discourse, exploring the implications of the elements from the “Islamic” garden that appear in the Renaissance gardens of Italy.

At a symposium focusing on the gardens of the early modern Muslim empires, organized in 1994 at MIT by Attilio Petruccioli, several papers dealt with contemporary European gardens. Speaking about the Italian garden and cultural identity, the garden historian Claudia Lazzaro noted that a particular style of garden came to be designated as *il giardino all'italiana*, an expression first used in the eighteenth century to distinguish the English garden from the “Italian formal, or in their terms, ‘regular’” garden. This formal garden was one element within a larger scheme that could be transplanted anywhere (for example, Versailles) for centuries to come. It is curious that it became known as the “Italian” garden, because it is the one element in the Renaissance garden that has no precedent in classical landscape architecture—a point already made by Eugenio Battisti in 1971. Speaking of the formal Italian garden, Battisti says: “Its geometrical arrangement of arbors, grass, and walks seems to follow the prevailing taste for symmetry in Florence. Nevertheless, this type of garden is not Italian at all.”1 Similar questions had also been raised by Elizabeth MacDougall.2 At the 1994 symposium, in her paper on Ottoman gardens, Gülru Necipoğlu observed a striking anomaly: Renaissance gardens owed more to an Islamic prototype than did most Ottoman gardens, because the Italian gardens adhered to a formal organization, probably based on Islamic models from Spain and Sicily.3

My own acquaintance with garden history began with studies on the gardens of the Timurids, who ruled in Central Asia and Iran from ca. 1370 to 1501.4 At the time of the symposium I had not yet looked closely at the Italian garden, but the meeting stimulated my interest in pursuing possible linkages between Islamic and Renaissance gardens.5 During the decade following the symposium considerable progress has been made on the question of the reception of Islamic culture in Renaissance Italy.6 New evidence has also come to light clarifying the origin and evolution of the Islamic garden in the Mediterranean, where contacts with Italy were strongest.7 I shall try to synthesize the relevant facts drawn from this information and my own investigations of the Islamic garden to determine the present state of our knowledge about the origins of *il giardino all’italiana*. The first step is to identify those elements of the Renaissance garden that could not have derived from indigenous traditions in Italy, and the second is to speculate how they arrived and why they were adopted.

The gardens that best preserve the features I will discuss are the Villa d’Este at Tivoli (1563)8 and the Villa Lante at Bagnaia (1568).9 Not discussed will be those characteristics that ornament the Renaissance garden and have no links to the Islamic world: sculpture, topiary, and grottoes. The first relevant feature, and one that has already attracted scholarly attention, is the ornamental use of running water, particularly as it flows down the stone channels carved in banisters and steps descending a slope. At Tivoli the most remarkable instance is the grand staircase, known as the “Bubbling Staircase,” with stepped banisters combining fountains and running water. Each step of the balustrade consists of an oval basin plus a stack. The
internal works of the stack involve the separation of the water flowing from the basin above into at least three ducts—one supplying the jet spurting above, one feeding the mouth of the spout pouring into the basin below, and a third exiting through a second spout into the basin. The drama is repeated on a less monumental scale in the lateral staircase ascending the slope. In a tour of the gardens we are thus always accompanied by the sound and sight of rushing water. Climbing the central Bubbling Staircase, we confront the “Dragon Fountain.” While much has been written about the reasons for the construction of this fountain, the recurrence of the watery bannister here has scarcely been noticed. We again find the motif of cascading waters, or what might be called the “water chain.” The bannisters are carved with sea creatures, forming a series of steps over which the water flows, like the Bubbling Staircase balustrades. As we ascend the circular stairway, we watch this movement of water, filling one bowl and pouring out into the next below. At the Fountain of the Emperors nearby, there is yet another watery bannister, a feature that seems to have elicited far less interest among scholars than the identification of the emperors themselves (fig. 1).

An even stranger metamorphosis of the water chain occurred at the Villa Lante. Also built on a sloping terrain but more modest in scale, the gardens terminate above in a channel of water assuming the form of a crustacean (the insignia of the patron, Cardinal Gambera), from whose mouth the water eventually pours out (fig. 2). Other examples of the water chain can be found in the gardens of Pratolino, north of Florence.

The general view among scholars is that the water chain idea came from Spain via the eyewitness account of the Venetian envoy to Charles V, Andrea Navagero. In 1526 Navagero visited the early-fourteenth-century Generalife gardens at the Alhambra of Granada and described the marvelous staircase:

At the highest part of the site in a garden, there is a lovely wide staircase...the stair is made of masonry and every few steps has a landing with a hollow to hold water. The parapets on each side of the stair have hollowed stones on the top, like channels. The valves at the top of the stairs are arranged so that water can run either in the channels or in the landing hollows or both. The volume can be increased so that the water overflows and inundates the steps and drenches anyone there...10

The letter emphasizes the making of practical jokes:11

One stairway had water channels in which the amount of water could be controlled, so that if they want to increase the amount of water, they increase it so much that it does not go in its place, it overflows, and floods all the levels, and bathes everyone it finds, making a thousand jokes of this sort.12

It is to be noted that when Timur (see below) wished to create such fantasies in his Bagh-i Naw (New Garden) in Samarqand in the early fifteenth century, he brought in fountain experts from Syria,13 where the knowledge of Greek mechanics (specifically the work of Hero of Alexandria) had been preserved. Indeed the water organ at Tivoli is considered to have been based on Hero’s treatise on hydraulics,14 but the inspiration for the water chains is most likely to have come from Navagero’s enthusiastic descriptions of Spain.
Christopher Pastore has shown how influential Navagero was on his group of friends who built gardens in the Veneto. Even though his letters were not published until 1556, their content would have circulated among his acquaintances. Perhaps these letters also stimulated travel to Spain by individuals wanting to see for themselves the wonders of this “late Roman” world. Cammy Brothers makes the point that Renaissance humanists perceived Islamic architecture in terms of their own background, seeing traces of Roman architecture in both Spain and Sicily. Pastore explains the receptivity of Islamic content by the humanists as their willingness to view it as part of the “expanded Antique.” Although Spain may have provided the immediate stimulus and model for the water chains of Renaissance gardens, we should not rule out the impact of travel to the former Islamic palaces of Sicily, which also had complex hydraulic devices.

While the introduction of water chains may not seem to implicate the Islamic garden in a major way, it relates to a more basic issue (and this is really the heart of the matter)—the plan of the garden as a whole. Water falling down a slope belongs to the greater network of channels conducted throughout the garden, whether on a slope or over flat terrain. The Islamic garden, which originated in pre-Islamic Iran and spread throughout the Islamic world, was built around the intersection of two major canals. In Persian this quadripartite plan is called a chahārbāgh, meaning “four (part) garden.” The earliest archaeological evidence of this garden type was found at the sixth-century palace and garden of Cyrus at Pasargadae in Iran. Although a cross-axial plan has never been confirmed, the ornamental marble channels and basins strongly suggest an orthogonal grid of running water (fig. 3). This grid evolved out of the indigenous irrigation system, which required bringing in water through underground channels (qanāt) from an elevated water table. Reaching the garden, the water is conducted through raised channels and released into the sunken planting beds as needed. I have seen this system still in operation in Gabes, Tunisia, and in Morocco, as well as in Kirman, Iran. What archaeologists found at Pasargadae must be seen as the transformation of a utilitarian device into an artifice.

How this design crossed the Islamic world is yet another story and is not our primary concern. We find it in Spain in the Umayyad palace at Madinat al-Zahra, in three courtyards of the Alcazar of Seville (twelfth to thirteenth century) (fig. 4), and in the Patio of the Generalife and the Court of the Lions of the Alhambra (fourteenth century). In Islamic Iran the earliest extant gardens date from the Safavid period, but texts fill other gaps, and archaeological excavations in Afghanistan have revealed quadripartite gardens of the twelfth century. The best surviving examples are the grand gardens of the Mughals at Lahore and the tomb gardens of the Mughal emperors in Delhi and Agra (the Taj Mahal) from the late sixteenth and early seventeenth centuries.

Known only from texts, Timur’s gardens around Samarqand all appear to have been quadripartite in plan. At the center was a pavilion, sometimes crowning a hill. Each garden had a walled enclosure, monumental gates, and, often, corner towers. Some gardens had attached orchards. The Spanish envoy to Timur, Clavijo, wrote extensive descriptions of Timur’s
buildings and gardens in the memoirs of his sojourn in Samarqand from 1403 to 1406. I am not aware of any research into the question of whether his work was read in sixteenth-century Italy, but Venetians did travel to Tabriz in the late fifteenth century. There they saw the gardens of the Turkman rulers, which were based on Timurid models. The prosperity of the Turkman derived from their command of the strategic overland caravan route, particularly the trade in silk. A Venetian merchant residing at Tabriz between 1511 and 1520 described the magnificent palace of the ruler Uzun Hasan (r. 1453–78), known as Hasht Bihisht (Eight Heavens). This building plan derives its name from the layout, which is a geometrical scheme with a central dome, four axial rooms or iwans (vaulted rooms open to the exterior), and four rooms in the corners, making eight rooms (not including the central one). The cosmic connotations of the plan and its moniker resonated with the paradise imagery associated with the garden in Islam. On the exterior the building was octagonal, two stories high, and raised on a platform standing in the center of a quadripartite garden. Adjoining the walled garden was a maydan (large square) or hippodrome, which the sultan could view from a gallery on the periphery. In an adjacent pool, boats were manipulated to imitate a naval battle. The park had “a thousand fountains, a thousand rills, a thousand rivulets.” The recounting of this tale back home in Italy would surely not have fallen on deaf ears. Perhaps the account was accompanied by sketches. It would not have been difficult, in any case, to convey the general sense of symmetry and grandeur witnessed in the Persian garden. The prestige of the wealthy Turkman court would have made this model worthy of attention.

The likelihood that drawings were the medium of transmission is very strong. Indeed, some of the buildings appearing in Filarete’s proposal for an ideal Renaissance city (1461–64), especially the “first temple of Plusiapolis” (book XIV, fol. 108r), look as if they came from the Timurid repertory. The ground plan of the temple seems to follow the typical Timurid-Turkman “Hasht Bihisht” design, except that its proportional system is arithmetical rather than irrational (based on square roots). The Persian architect would have used an octagon inscribed in a square to provide the dimensions of the spaces, and often the rooms themselves would be octagonal. In Filarete’s drawing the introduction of octagonal rooms without any arithmetical rationale suggests that he may have been copying Persian drawings without fully understanding how they were derived. The Timurid architects created such drawings to aid in the construction of geometrically generated architecture, although none have yet been discovered in Italy. The elevation of the temple as drawn by Filarete does not resemble a Persian pavilion, but normally the Persian architect’s scroll did not include elevations. Filarete could use the ground plan but had to resort to his imagination to draw the elevation.

Garden plans from the Islamic world have not survived but did exist, probably on paper or board, as suggested by the well-known double frontispiece to a manuscript of the Bahauddin dating to the end of the sixteenth century. This painting has often been
reproduced in order to show the quadripartite plan of Babur’s garden, with the planting beds enclosed in high walls and channels in the center of the intersecting walkways, but it is also important for suggesting ways in which the Persian chahārbāgh and the accompanying garden pavilion may have reached Italy. It shows the Mughal emperor Babur in the Bagh-i Wafa, discussing the construction with the architect, who holds a drawing of a grid of squares, presumably the plan of the garden, which would have been glued to a rigid support, such as cardboard, or drawn directly on the support itself. If architectural plans traveled, why not also garden plans?

By the end of the fifteenth century, garden design had come into its own as a field of specialization within Islamic architecture. A treatise on agriculture written in 1515 reflects the practice of Herat’s chief landscape architect, Mirak-i Sayyid Ghiyas, noted for his activity in the late fifteenth century. Mirak’s son went to India to build the tomb of Humayun in Delhi, completed in 1571: in plan its gardens reflect the quadripartite division of Timur’s gardens, with the tomb instead of a pavilion in the center (fig. 5). The classical Persian garden described in Mirak’s treatise, however, shows...
what may have been a new development of the traditional plan. In the chapter titled “On the Planting of Spalings, Flowers, and Aromatic Plants in Relation to Each Other in a Chahar-Bagh according to a Symmetrical Landscape Plan” (Dar bayân-i nihāl-i āshjār va gūl va riyāhīn bi-sīyāq-i bāghbānt dar chahārbāgh kishtan dar barābār-i yādkigar), every detail is given, including what to plant and when (fig. 6). The pavilion notably lies at one end of the garden, not in the center. It is fronted by a patio with a pool, while the main part of the garden is divided longitudinally into two halves by a broad canal, which also serves as a walkway. This is intersected at right angles by a waterway, thus forming the four quarters. The quarters are then subdivided into parterres. Gardens of this type have not survived from the Timurid period, but the classic example is the Taj Mahal, completed by the Mughal emperor Shah Jahan between 1632 and 1643 (fig. 7). Raised on a high platform, its pavilion lies at the end of a quadripartite garden. At the intersection of the two main canals in the center of the garden is a large ornamental pool, and the quadrants are further crisscrossed by channels of water and smaller pools. With a bit of imagination one might speculate that the architect at Tivoli had heard of such garden designs, perhaps from a copy of Mirak’s treatise or from the descriptions of travelers.

Even if this is stretching the point, there is no doubt about the existence of a quadripartite plan in
the gardens of the lower terrace at Tivoli, which is further divided by an orthogonal grid of walkways, as is shown in an engraving by Dupérac (fig. 8). The main difference between this four-part garden and Islamic versions is the replacement at Tivoli of the irrigation system—the canals—by plantings. The original pergolas that formed the cross are gone, but a similar arrangement can be seen in a painting by Giusto Utens of another garden, the Ambrogiana at Montelupo (fig. 9). The pergolas substitute for water channels in serving to provide the geometric framework of the garden.

The contemporary Villa Lante at Bagnaia is also entered from the flat area of the lower terrace. A large square tank occupies the center of this first terrace, at the end of which lie twin pavilions. The tank is surrounded by a series of square plots, originally enclosing quadripartite gardens with cross-axial pathways or water channels. Today this scheme is no longer visible, but a painting preserved in one of the pavilions shows the original disposition of the gardens (fig. 10).

The tank itself reflects the quadripartite division of a garden with its central island connected to the dry land by four causeways (fig. 11). Four boats carved in stone sit in the tank, one in each quarter. The artificial pond with miniature boats also recalls the description of Uzun Hasan’s gardens cited earlier.

The second level of geometrization in the Islamic garden takes place within the quadrants defined by the two main axial canals. Here the landscape architects showed great creativity. Of all the descriptions of gardens built by Timur in Samarqand, that of the Bagh-i Dilgusha (Heart’s Delight Garden) is the most detailed. It was constructed in 1396 on the east side of Samarqand and occupied a square of about 945 meters. An ornate gate reveted with mosaic faience stood in the middle of each side, and tiled dovecotes marked the corners. Of the layout, we are told by Sharaf al-Din Yazdi, the author of the history of Timur:

He [Timur] divided the open space of the garden geometrically into square walkways and hexagonal and trian-
Fig. 9. The Medici estate Ambrogiana with quadripartite gardens. Painted 1599–1602 by Giusto Utens for the Villa Artimino. (Photo: reproduced with permission of the Museo di Firenze Com’Era, su concessione del Servizio Musei Communale di Firenze)

Fig. 10. Painting of the Villa Lante, Bagnaia, in a pavilion at the villa. Original quadripartite gardens surround the pool. (Photo: L. Golombek)
gular chaman (planting beds). He ordered that poplars be planted along the edges of the walkways and that the hexagons and triangles of their borders be arranged with various fruit trees and diverse trees bearing flowers and fruit.32

The result must have been something like the geometric pattern of chamans found in the old Rajput gardens at Amber (fig. 12) and the courtyard gardens within the fort at Agra. The orthogonal irrigation network was thus transformed into a sophisticated work of art, a virtual carpet of plantings.

It is, therefore, the ancient Iranian quadripartite garden as it evolved in its later Islamic mutations that became what we call il giardino all’italiana. Why did the Renaissance garden incorporate such an element? The Islamic model was not adopted for its hydrological values but rather for its aesthetics. Irrigation of the formal Renaissance garden did not depend on a grid of canals; even though the axial channels might remain, the canals running through the parterres soon disappeared, to be replaced by box hedges. Rather, the geometric fantasies that were so much a part of Islamic art and architecture resonated in the humanist culture of Renaissance Italy. Scholars often cite the famous passage in Xenophon’s Oeconomicus (IV:20–25) that praises the Achaemenid king of Persia, Cyrus,34 for the attention he paid to agriculture and gardening. Socrates tells the story of Lysander’s visit to Cyrus’s pleasure garden in Sardis. Lysander marvels at the regularity of the garden, “that the trees should be so fine, the plantings so regular, the rows of trees so straight, the angles so finely laid…”35 whereupon Cyrus reveals that he himself laid out the garden and even planted some of it himself. Battista has pointed out that this very passage was championed by the Quattrocento moralist Matteo Palmier in Della vita civile, in 1438–39.36 Pastore cites Francesco Della Torre’s use of the Xenophon story in his praise of the Bishop Giberti, who came to Verona in 1528.37 The king’s participation in garden culture was noted as a model for those who promoted agricultural enterprise, but the full implications of this story have not been given their due. I would like to stress the praise for the “regularity” of the plantings, which, no doubt, was imagined by Renaissance humanists as a geometric configuration. Alberti’s account of this episode, as
told by Cicero in *De Senectute*, says that King Cyrus of Persia planted trees in his garden in a *quincunx*—that is, in squares with a tree in each corner and one in the center. Cyrus the Persian became an acceptable source of inspiration as yet another part of what Pastore has called the “expanded Antique.” This acceptance grew out of admiration not only for his attitude toward agriculture but also for the purported rational organization of his garden.

Never having seen this garden, however, Renaissance Italy had to look to contemporary gardens believed to be the descendants of this ancient tradition, whether in Spain or Iran. The actual examples of geometrically organized gardens seen by European travelers to the East were those of the Timurids and their successors, whose architecture epitomizes the principles of rationalism and symmetry. Already familiar with stories about Cyrus and descriptions of existing Persian gardens, the Italian landscape architect had all he needed to reconfigure nature *alla Persiana*. The mindset of Renaissance humanists was such that they latched onto the concept of a garden ordered by geometry, based on examples either seen or reported from the Islamic world. Their willingness to accept this concept grew not only from their notion that Islamic architecture somehow belonged to the classical age but also from their seeing in the Islamic organization of the landscape the very qualities they were seeking. The sources were of various periods and locations, from medieval Spain and Sicily to Timurid and Turkman Iran, and probably diverse in form, from oral and written reports to drawings. It is impossible to look at Renaissance gardens and not see behind certain elements the presence of Islamic influence. Who knows but that the mysterious name “Boboli” is not a borrowing from the poetic designations given to Islamic gardens, such as Bagh-i Bulbul (Garden of the Nightingale), or perhaps even a reference to the ancient hanging gardens of Babylon (Babel)?

This is not to say that the Islamic garden supplied the governing principles of the Renaissance garden. On the contrary, only limited aspects of Italian garden design were affected. There are also many differences between the two that cannot be discussed here. However, the builders did share a common view of the garden as a legitimate reformulation of the natu-
ral environment, an enhancement of what untamed Nature offers, a pleasure ground for enjoyment and entertainment, and a sign of the patron’s command of wealth and territory.

Royal Ontario Museum, Toronto

NOTES


4. I am indebted to James Wescoat and Abdul Rehman for inviting me to participate in a symposium on the Mughal garden held in Lahore in 1993, which was a springboard for expanding my knowledge of the Islamic garden into India. Papers of this symposium were published in Mahmood Hussain, Abdul Rehman, and James L. Wescoat, Jr., eds., The Mughal Garden: Interpretation, Conservation and Implications (Rawalpindi: Feruz Meghji, 1990).

5. At this symposium Gülru Necipoğlu noted “the influence of Islamic chahār bāghs on gardens of Renaissance Italy,” pointing out that the informality of Ottoman gardens was closer to Roman and Byzantine prototypes. See Necipoğlu, “Suburban Landscape of Istanbul,” 45.


11. Ibid., 7, where MacDougall discusses the inclusion of giochi, the hidden fountains in Renaissance gardens.


18. Ruggles came to the same conclusion in her study of the quadripartite garden (Ruggles, “Alhambra,” 154).


20. For the Safavid gardens see Donald Wilber, Persian Gardens and Garden Pavilions (Rutland, VT: C. E. Tuttle, 1962); for Afghanistan see D. Schlumberger, Lashkari Bazar, Une Residence Royale Ghaznevide, 1a. L’architecture, Mémoires de la délégation archéologique française en Afghanistan 18 (Paris: DAVA, 1978); the nine-part hasht bihisht (eight heavens) kiosk, based on the division of a square into nine sections and consisting of eight rooms plus a central space, is described by Schlumberger on 82.


32. Ibid.


34. Leo Strauss points out that the so-called king praised by Xenophon is actually Cyrus the Younger, Xenophon’s contemporary (who was never in fact king), not Cyrus the Elder, who founded the Achaemenid Empire. Cyrus the Younger, son of Darius II, commanded the Greek mercenary forces in Asia Minor to which Xenophon belonged. See Xenophon, *Oeconomicus*, trans. Leo Strauss (Ithaca: Cornell University Press, 1970), 20 n. 19.


38. Lazzaro, *Renaissance Garden*, 44.