SCIENCE, ART, AND NATURE: ANCIENT GARDENS IN ALL THEIR VARIETY

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The exhibition, Ancient Gardens from Babylon to Rome, mounted at the Boboli Gardens of the Palazzo Pitti in Florence, consists of two parts. The first is set in the Limonaia, a covered rectangular space designed by Zanobi del Rosso and built ca. 1778 as winter housing for the Boboli Gardens’ many lemon trees, which are planted in vases (fig. 1). After the great flood that hit Florence on 4 November 1966, the Limonaia was used as an emergency storeroom for many waterlogged paintings on wooden panels that were awaiting conservation. Since the building’s restoration in 2005, it has been employed for temporary exhibitions during the summer months, when the lemon trees are moved outside. The second part of the exhibition, which is outdoors, is the full-scale reconstruction of peristyle gardens from two Pompeian houses: the House of the Vettii and the House of the Painters at Work (fig. 2).

The part of the exhibition set in the Limonaia features 150 ancient artifacts drawn mostly from excavations at Pompeii and Herculaneum, from the National Museum in Naples, and from the Capitoline Museum in Rome. But there are also pieces from many other collections, including the Uffizi Gallery (Florence), the Vatican Museums (Vatican City), the British Museum (London), the Badisches Landesmuseum (Karlsruhe), and the Vorderasiatisches Museum (Berlin). The central goal of the exhibition is twofold. On one hand, it aims at illustrating the typological evolution of gardens from Babylonian to Imperial Roman times. On the other hand, as indicated by its subtitle (Science, Art, and Nature), it also seeks to illuminate the various types and functions of gardens in the ancient world. Some examples are the royal parks of Mesopotamia, which included various plants to symbolize the vast region ruled by the king; pleasure gardens; gardens that were places of study and science, which pioneered in botany and irrigation techniques; gardens that were settings for philosophical education and cultured discussion; sacred gardens associated with temples and sanctuaries; and the vegetable gardens and orchards of Roman townhouses.

This may seem like an ambitious program for a relatively small exhibition, but its intelligent selection of significant examples, combination of objects, wall texts, and computer and technological displays works well in economically sketching important aspects of gardens in antiquity for the visitor with no specialist knowledge. Those visitors with whom I spoke offered positive feedback about the installation and the curatorial choices. While the specialist may be disappointed upon discovering that the topics are not treated in much depth

*This review is dedicated to the memory of Wilhelmina Jashemski.
in the exhibition, one can always turn to the catalogue. The excellent modern models and reconstructions and the objects from the storerooms of the Superintendency of Pompeii and Herculaneum, which are not usually on display, make this exhibition a rewarding experience for all visitors. Notable pieces include the marble oscilla from the House of the Golden Lovers:1 a selection of the marble statues uncovered in the luxurious villa at Oplontis, which may have belonged to Poppea, wife of Nero; and the bronze fountain in the shape of the Lernaean Hydra from the pool of the palaestra in Herculaneum.2 Moreover, the experience is enhanced by the exceptional setting of the Boboli Gardens, a Renaissance interpretation of classical gardens. The dialectic between the exhibit proper and the contextualization offered by the Boboli Gardens, which are embellished by Roman statuary collected by the Medici family, richly enhances the visitor’s experience; there could hardly be a better setting for a show on ancient gardens.

This exhibition offers a good balance of printed information, objects, and audiovisual material. However, the long and relatively narrow space of the Limonaia is divided in half to guide the visitor through an elliptical itinerary, and this imposes space constraints that make it particularly difficult, when the exhibition is crowded, to view the objects, wall panels, and computer screens or to hear their audio narrations. However, there were few visitors when I saw the show, and the experience was completely enjoyable.

The indoor portion is divided into three sections: (1) “Mesopotamia: The Birth of Gardens,” (2) “The Greek World: The Gardens of the Gods and Philosophers,” and (3) “The Roman World: From Center to Periphery.” This last, the largest section, focuses on the suburban gardens and parks of Rome, the horti (the center), and the gardens of the Vesuvian region (the periphery). The visitor’s itinerary begins with a brief reference to Egypt, the location of the first gardens known to have been created by men. Here, the

1 Superintendency of Pompeii, inv. nos. 55403, 55404 (di Pasquale and Paolucci 2007, 284–85, nos. 3.B.30, 3.B.31). Oscilla are marble discs carved on each side or fashioned in the shape of theatrical masks. They were hung between the columns of the peristyles surrounding the gardens.

wall text is complemented by a real papyrus plant in a pond and by projected images that evoke the Egyptian world.

The section on Mesopotamia, though rather small, highlights well the essential aspects of Sumerian and Assyrian civilizations related to gardens, and the corresponding catalogue essay develops in detail the points referred to by the display. Agriculture—the “domestication” of nature—was the first step toward achieving the man-made environment of gardens. Various objects on display that depict the ritual watering of potted plants and sacred trees (e.g., a schist vase fragment from the Louvre, probably of the 22nd century B.C.E.) show the importance in Mesopotamian society of religious beliefs and vegetation and water. A special treat in this section is the reconstruction of a Sumerian plow with an attachment to dispense seeds, as well as a working model illustrating possible devices used to irrigate the Hanging Gardens of Babylon, one of the seven wonders of the ancient world. The gardens, thought to have been built by Nebuchadnezzar II (604–562 B.C.E.) at the Southern Palace, may well have been real, as the existence of royal gardens in Babylon is attested in cuneiform texts from the third and second millennia B.C.E. The irrigation model shows two water-lifting devices: the water wheel and the so-called Archimedean screw, whose invention and application is attributed to Archimedes in classical sources but appears to have been in use in Mesopotamia by the time of Sennacherib (705/704–681 B.C.E.).

The section devoted to the Greek world and the “Gardens of the Gods” is also compelling. Images of Greek sanctuaries and associated plants (known either through archaeological data or literary texts), appear on a screen accompanied by voice-over narration augmenting a selection of Greek vases with scenes connected to the world of gardens (e.g., the fourth-century B.C.E. red-figure squat lekythos from the Badisches Landesmuseum [fig. 3], which alludes to the Athenian feast of Adonis and the ritual planting of seeds in pots that were placed on the roofs of houses). This sec-

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3 Paris, Musée du Louvre, inv. no. AO 4673 (di Pasquale and Paolucci 2007, 188, no. 1.1).
4 Di Pasquale and Paolucci 2007, 199.
5 Dalley and Oleson 2003.
tion also features five fragmentary terracotta pinakes from the Sanctuary of Persphone at Locri Epizephiri in Magna Graecia. However, in a few instances, explanations necessary for the proper comprehension of artifacts and their contexts are omitted. For example, in the section on Greek gardens, a Campanian red-figure calyx krater of ca. 380 B.C.E. from the Louvre that depicts the arrival of Odysseus at Alcinoos’ court introduces a discussion of the mythical gardens of Alcinoos in Homer’s *Odyssey* (7.112–32). These gardens, planted with herbs, vegetables, vines, and many kinds of fruit trees such as fig, olive, and pomegranate, embody the ideal Greek garden and symbolize blissful abundance. The scene on this vase is actually a parody referring to the comic stage, as the setting and clothing of the figures clearly indicate, though this aspect is not explained in the accompanying label. Another instance of missing information is in the section on Roman gardens, where the famous first-century C.E. marble statue of Priapus from the garden of the House of the Vetti should be accompanied by an explanation of who Priapus is and why his statues were placed in gardens. If one does not know that, in addition to symbolically embodying fertility, this god was the custodian of gardens and their fruits against thieves, and he threatened to punish with sodomy those who repeatedly stole from gardens, the presence in Roman gardens of this male figure with a disproportionately large phallus would be puzzling to say the least.

A highlight among the reconstructions is the working model of one of the *pneumata* mentioned by Heron of Alexandria in his treatise on pneumatics of the first century C.E. He described various machines in which the principles of air, water, and steam pressure were applied. For this exhibition, one of the most famous devices described by Heron (*Pneum. 1.15, 2.4*), a singing fountain, was reconstructed. It operates by the movement of water from an upper basin to a lower one, forcing air into a pipe that is connected to a bronze bird on a branch; the air is then forced into the bird’s body and through a whistle placed in its mouth, thus reproducing a bird’s twittering. A bronze branch on which birds are perched, on loan from Pompeii, may be associated with such a singing fountain (fig. 4).

The section on the elaborate *horti* of Rome features a selection of the marble statues discovered in these gardens, which also contained luxurious residences (fig. 5). The *horti* would benefit from additional explanation here. It is not clear how their impressive statuaries fit into the general layout or how the *horti* were even used. Among the sculptures on display in this section, the marble statue of a wounded deer from the Capitoline Museum–Centrale Montemartini (Rome) deserves mention. This fragmentary group originally must have included...
cluded the goddess Artemis, as is indicated by the preserved sandaled foot. The execution of this piece, discovered in 1873 on the Esquiline, is exquisite, and the artist finely mastered the rendition of anatomical details. Because of its stylistic characteristics and quality, this statue is considered to be a Hellenistic original.

In the section on townhouses and gardens from Pompeii, it is rewarding to see that the two bronze putti of the first century C.E.—each of which holds a duck and grapes and belongs to fountains in the garden of the House of the Vettii—have been returned to public view.13 These statues, together with others found in this garden, were displayed in their original context but were stolen in 1978, causing the removal of the other original pieces and their subsequent replacement with copies. The stolen putti were recovered in 1980, unfortunately in fragments, and had to undergo long and difficult restorations. This section also displays, as an example of the frescoes depicting gardens, the beautiful Julio-Claudian paintings from the House of the Golden Bracelet in Pompeii (Insula VI.17.42).14

The emphasis given in the installation to ancient technology, as in the case of the reconstruction of the singing fountain, is complemented in this section by objects attesting to the underlying technology that enabled such gardens to be realized. Objects found in Pompeii, such as lead and ceramic water pipes, parts of force pumps, or hydraulic valves, guaranteed a house’s water supply and thus enabled the irrigation of gardens and their beautification with fountains and ponds. Unfortunately, a detailed model of the House of D. Octavius Quartio in Pompeii (Insula II.2.2. [also known as the House of Loreius Tiburtinus]) was out of order when I visited. It would have demonstrated the functioning of the complex water features of the garden, including the long, shallow pool, or euripus. However, videos on the exhibition’s Web site provide animated three-dimensional modeling of these features.15 The area also features some agricultural tools and typical planting pots, the ollae pertusae, found in Pompeii and described by Cato (Agr. 52.133) and Pliny the Elder (HN 12.16, 17.64).

The second part of the exhibition, consisting of full-scale outdoor reconstructions of two first-century C.E. Pompeian peristyle gardens, is a wonderful finale. It enables visitors to comprehend the original setting for some of the objects that are displayed indoors in the Limonaia and to experience the atmosphere of an ancient garden. Detailed attention was paid to re-creating the entire setting, from the flooring of the surrounding portico to the plants and the lead pipes, which, in the reconstruction of the House of the Vettii, bring water to the various working fountains. The garden of the House of the Vettii is decorated with a notable number of marbles placed in the intercolumniation of the peristyle; from an original 12, nine fountains with water jets directed into eight marble basins were discovered in situ during the excavation. Visitors can walk in the portico around this garden to appreciate the various views offered by the symmetrical flower beds.

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15 http://brunelleschi.imss.fi.it/giardinoantico/indice.html.
and pieces of statuary. Unlike the House of the Vettii, which was investigated in the late 1800s, the House of the Painters at Work, selected for the second reconstruction (see fig. 2), allows the presentation of a garden that was excavated recently with modern archaeological techniques. Thus, it was possible to identify the original plants through the analysis of pollen and other vegetal remains. These plants include *Lychnis coronaria* and *Cerastium* (the flowers of which were used to make ritual garlands), rose and juniper bushes, and vines. Most of the plants in this garden were not exclusively ornamental but had various practical uses in daily life, from cooking to pharmacology.

There are two particularly praiseworthy initiatives that accompany this exhibition. First, guided tactile visits organized in cooperation with the Florentine section of Unione Italiana Ciechi allow the visually impaired to experience the beauty of ancient gardens through scent, sound, and touch. Second is a beautifully designed Web site that includes a virtual tour of the show and contains photographs of the artifacts, videos of Pompeian houses, and three-dimensional computer-generated models. It is such a useful resource for teaching and research that I hope it remains available online. Of great interest to the scholar is that, in conjunction with this show, the Istituto e Museo di Storia della Scienza in Florence has made important works available for online consultation or download through a virtual library on this Web site. It includes digital reproductions of historic books in its collection, such as the 1589 edition and translation of the work of Heron of Alexandria by Giovanni Battista Aleotti and the 1534 Italian translation of Pliny’s *Natural History*.

The volume accompanying this exhibition contains contributions by various authors illuminating the topics presented in the show and also a proper catalogue with individual entries and bibliographic references for objects on display. This publication has beautiful color illustrations, and it is elegantly produced. As in the case of the exhibition, where the Roman period is emphasized, more space is reserved in the catalogue for essays on Roman themes than on the other epochs. Since the exhibition constitutes a comprehensive synthesis of recent studies devoted to Roman gardens and particular aspects of gardens, such as their architecture, sculptural decoration, and flora, it is no surprise that various contributors to this volume are authors active in the study of an-

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16 Supra n. 15.
cient gardens, and that some have contributed to previous garden exhibitions. While earlier shows have focused on individual types of gardens (e.g., one on the results of the excavations in the Vigna Barberini by the French School at Rome, one on the exhibition on the Horti La-miani held in 1996 at Palazzo dei Conservatori, Rome), the installation in the Limonaia of the Boboli Gardens offers a more comprehensive treatment of gardens in antiquity.

The seminal studies on this topic remain Grimal’s Les Jardins Romains, first published in 1944, and Jashemski’s The Gardens of Pompeii, Herculaneum and the Villas Destroyed by Vesuvius. Grimal’s insightful treatment of Roman gardens in their various aspects and manifestations is still the starting point for learning about gardens in antiquity, but our scientific knowledge of Roman gardens and their plants is indebted to Jashemski’s investigation in the Vesuvian area incorporating stratigraphic methodology, pollen analysis, and the study of root casts. In recent years, archaeology has been able to gather information on gardens outside the exceptionally preserved context of the Vesuvian area. In addition to identifying decorative patterns and species, these investigations have revealed the effort, and consequently the labor and capital investment, put into creating decorative gardens in antiquity, such as the Roman gardens of the garden pool complex and engineering interventions can be found in the exhibition with regard to the results of very recent archaeological investigations in part of the Gardens of Sallust. The exhibition catalogue features an overview of these results by Piranomonte, the director of the investigation, and the show displays four of the Dressel 2/4 amphoras that were found buried one on top of the other to form two columns 7 m high to serve drainage purposes. These “columns” were located next to two shafts or wells that led to a horizontal tunnel at an elevation lower than the amphoras; however, the exact use and operation of this installation, aside from its drainage function, are not explained in the essay. Important questions remain unanswered. Were the bottoms of the amphoras cut in order to form a pipeline collecting rainwater, or were the vessels left whole? What was the function of the lower tunnel, evidently accessed through the shafts, which had cut steps and niches for oil lamps?

The essay by Liberati, though rather short, makes a useful contribution. It gives a glimpse of the terrace and roof gardens, courtyards, and even vases on balconies that were present in urban contexts by analyzing different cases discussed in Roman legal sources. This approach—from the point of view of Roman law and the attention it gives to gardens in the context of the insula, however small these may be—seems to be a new contribution to the picture of ancient gardens because both literary and archaeological studies tend to focus on larger, more monumental examples. A model of an insula at Ostia from the Museum of Roman Civilization in the Esposizione Universale Roma (EUR), which was realized in the 1930s by Italo Gismondi, is included in the exhibition without properly explaining that it evoked the presence of green areas and plants

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in the context of multistory dwellings. Here, a presentation of the so-called Garden Houses in Ostia is warranted, but no mention of these complexes is made in the exhibition.

Di Pasquale’s essay, which puts the technological devices presented in the show (e.g., Heron’s fountain) into their original context, is another welcome contribution. This essay discusses the research carried out at the Museion in Alexandria that reveals the association between ancient experiments on the principles of pneumatics and investigations in the fields of medicine and biology. Di Pasquale also unveils the connection between advancements in scientific knowledge and their dissemination outside the world of the Museion that enabled the use of sophisticated devices in gardens or garden installations to become an expression of elite self-representation throughout the Roman world. A general bibliography at the end of the volume prevents the useless repetitions caused by an individual bibliography at the end of each essay.

The exhibition successfully presents various characteristics of ancient gardens, moving from the practical aspects of vegetable gardens to the ideological dimensions of royal and imperial parks. Just as Pliny (HN 19.49–51) connected the Hanging Gardens of Babylon, Homer’s garden of Alcinoos, and the gardens of the Roman aristocracy, this show presents ancient gardens in the Mesopotamian and classical worlds in a way that allows the visitor to follow their emergence and development, as well as their ideological and technical aspects. Minor shortcomings and omissions do not subtract from the general merit of the exhibition installed in the Boboli Gardens, which, along with its catalogue, presents a useful and inspiring overview of significant aspects of garden studies that have developed in recent years.

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28 Two relevant items are glaringly omitted from the catalogue’s bibliography: Hartswick (2004), the first monograph that reconstructs the Gardens of Sallust as a whole, and Farrar (1998), a book on Roman gardens that the exhibition seems to follow in the structure of its itinerary and the order of topics it covers.