STUDIES ON THE ROMAN GARDEN

Theoretical, Methodological, and Empirical Approaches

A Thesis

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by

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ABSTRACT

The following volume comprises a collection of three essays (in the form of chapters) on the theme of the Roman garden as a source of various types of archaeological information. Each chapter takes a different approach (theoretical, methodological, and empirical) when considering a particular aspect of the garden.

The first chapter approaches the garden from a theoretical perspective, asking if it is possible to approach the question of the Roman garden in the same way scholars approach texts. Using John Moreland's definition of what texts are and what texts do, gardens are compared to texts using three different sets of criteria: that they are created things, that they can encode memory and other information, and that they have power or agency.

The second chapter is based in methodological approaches, focusing on palynological analysis and its relationship to garden archaeology. The chapter discusses new developments in palynology as they apply to reconstructing taxonomic profiles for garden sites, especially focusing on the relatively novel use of plaster-sourced pollen in reconstructing the gardens of the Roman Mediterranean.

The third chapter takes an empirical and interpretive approach to the garden's ability to encode political programs in its flora, and explores the ways in which the Garden Room at the Villa of Livia *ad Gallinas Albas* displays Augustan political messages. The chapter further explores how Roman garden paintings are able to inform an understanding of the appearance of physical gardens, and how these gardens and their encoded programs might be perceived through the physical experience of them.

BIOGRAPHICAL SKETCH

Nils Paul Niemeier earned his Bachelor of Arts degree, *magna cum laude*, at the University of Richmond in 2013. There, he was an Oldham and Brockenbrough Scholar of Greek, Latin, and Classical Civilization. During his studies at Richmond, he excavated at Haçımusalar Höyük (ancient Choma) in Antalya Province, Turkey. At Cornell, he became involved in the Horti Stabiani Project at the Villas Arianna and San Marco in Castellammare di Stabia, Naples in the summer of 2014. There, he developed the project's database and currently continues in that work.

Nils Niemeier has created maps for Dr. Elizabeth Baughan's 2013 book, *Couched in Death:* Klinai *and Identity in Anatolia and Beyond* (University of Wisconsin Press). With Baughan, he also created a virtual exhibit for the University of Richmond's 7th Century BC mummy, Ti-Ameny-Net.

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Finally, I would like to thank my family, friends, and colleagues (who are often indistinguishable!), whose friendship, love, and support are cherished.

--NPN

Ithaca, May 30, 2015

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PREFACE

The Roman garden has received increasing attention in the last few decades, beginning in earnest with Jashemski's pioneering studies in the 1970s and 1980s, and, most recently receiving treatment in studies by Carroll, Landgren, von Stackelberg, and Gleason, among others.[1] It comes as a surprise, then, that in many ways, the archaeology of the Roman garden is still somewhat fragmentary, with Roman gardens often little known and little acknowledged. The gardens, as we have them, are very partial—we have found their beds and their substructures, but we have not necessarily been able to say what was really growing in them, being forced to rely mainly on textual and artistic evidence for our discussions of Roman horticulture. Furthermore, traditional Roman archaeological methods have often neglected the presence of gardens, which is unfortunate given their high frequency in the Roman world (Pompeii alone had 17.7% of its surface area devoted to gardens, not counting rooftop gardens—the same area covered by streets and fora in the city).[2] That something so ubiquitous should receive little concerted attention, except from a few, seems strange. Given what we do know about Roman garden culture, they performed multiple functions; in addition to being everywhere in the Roman city, they served as sources of food, medicine, and as aesthetic fixtures. Larger gardens and parks served as

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[1] Wilhelmina F. Jashemski, *The Gardens of Pompeii, Herculaneum, and the Villas Destroyed by Vesuvius* (New York: Caratzas Brothers, 1979); Wilhelmina F. Jashemski, "The Campanian Peristyle Garden," in *Ancient Roman Gardens*, ed. Elisabeth B. MacDougall and Wilhelmina F. Jashemski, Dumbarton Oaks Colloquium on the History of Landscape Architecture 7 (Washington, D.C.: Dumbarton Oaks, 1981), 31–48; Maureen Carroll, *Earthly Paradises: Ancient Gardens in History and Archaeology* (Los Angeles: J. Paul Getty Museum, 2003); Lena Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants" (Ph.D., Lund University, 2004); Katharine T. von Stackelberg, *The Roman Garden: Space, Sense, and Society*, Routledge Monographs in Classical Studies (London ; New York: Routledge, 2009); Kathryn L. Gleason, ed., *The Cultural History of Gardens in Antiquity* (London: Bloomsbury, 2013); Kathryn L. Gleason, "The Landscape Palaces of Herod the Great," *Near Eastern Archaeology* 77, no. 2 (June 1, 2014): 76–97.

[2] Jashemski, "The Campanian Peristyle Garden," 32; Wilhelmina F. Jashemski, "The Gardens of Pompeii, Herculaneum, and the Villas Destroyed by Vesuvius," *Journal of Garden History* 12, no. 2 (1992): 104. Pompeii had yielded 500 gardens by 1992.

recreational spaces for the general public and as markers of euergetism on the part of Roman aristocrats. Despite their importance to the Roman world, Roman gardens (and perhaps ancient gardens in general) do not receive the attention they deserve.

In the three chapters that follow I shed light on certain aspects of Roman horticulture and garden culture that can better inform our understanding of the importance of the garden to Roman life. Each chapter, which originally constituted an individual paper, takes a different tack when approaching the garden: the first is theoretical in its scope, the second methodological, and the third empirical. The first chapter deals with a way of interpreting the garden as one would a text, using John Moreland's definition of what a text is and what it does to explore the garden's underlying qualities as well as its own power and agency in Roman daily life. The second chapter examines the usefulness of palynological analysis to the archaeology of Roman horticulture. It provides an overview of palynological methods while highlighting those that are most promising in their application for reconstructing Roman gardens as they actually were. The third chapter builds on themes discussed in the first two, exploring the garden's ability to act as a tool for Roman aristocrats to communicate political messages through planting programs in painted media and physical gardens. Here, too, the usefulness of garden paintings in interpreting real gardens is discussed, as is the manner in which physical interaction with the garden space aids in its interpretation.

Through these studies of the garden, I hope to bring a renewed optimism regarding the possibility for the identification of plant species in Roman gardens, thereby greatly furthering our ability to consider gardens as objects of archaeological study in Roman contexts. With this new focus, I hope to enhance the work done by Jashemski, Gleason, Bergmann, and von Stackelberg through deeper study of the botanical aspects of the Roman garden.

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CHAPTER 1

THE ROMAN GARDEN AS TEXT[3]

Introduction

When addressing the issue of conflict between archaeology and history, John Moreland emphasizes the importance of treating texts as objects with agency. As he rightly points out, the text itself has power in its own time—it is not written for historians or archaeologists, but has a purpose for its contemporary users and creators. The same can be said of Roman gardens, both as real spaces and as imagined ones (as depicted in art and literature). They, too, have functions outside of being merely aesthetic or merely utilitarian. They also have political aspects, as tools for asserting wealth, power, and social standing. The symbolism of plants and artworks together can also convey social or political messages to their viewers. Furthermore, they have intellectual functions, using plants in addition to statuary to evoke literary, mythological, and philosophical associations in their viewers.

These functions of gardens are often ascribed specifically to elite gardens or elite garden paintings (e.g., the garden room at the Villa of Livia *ad Gallinas Albas*). For example, the statuary program at the Villa dei Papiri at Herculaneum is often cited as being an example of garden statuary as "memory theater" (as discussed by Bettina Bergmann), using the busts of historical personages present in the garden to stimulate conversation among guests by bringing the feats and thoughts of those depicted to mind. Similarly, the villas of the Neapolitan coast

[3] Originally written for Dr. Uthara Suvrathan, Spring 2015.

demonstrate their power through pleasure gardens, designed specifically to amaze and delight high-profile guests through their choice of plant species, water features, and statuary.

It is, however, my contention that these functions do not just belong to elite gardens, but were present in all gardens and accessible to all Romans, and that the average person would not have been ignorant of the power and messages represented in their horticulture, and would have been able to exploit them for his own purposes. The garden straddles the line between archaeological object and historical text in that, in addition to having the power ascribed to it by Moreland, it is also a repository for symbolic meaning. These meanings can be present in gardens at all levels of social complexity, from plebeian to elite gardens. Drawing from archaeological data, as well as from ancient accounts of gardens, I wish to show how Roman gardens are not merely constructed spaces in the sense that they are built and planted, but that they are constructed with meaning, and that these meanings were in the conscious minds of Romans when they designed and planted them. While this study may only scratch the surface of the mental complexity present in Roman gardens, it is my hope that the methods used here and lessons derived from them can be applied to gardens from other periods so that their programs and symbolic associations may be better understood as well.

The State of the Discussion: Roman Garden as "Text?"

Much work has been done recently regarding the development of Roman domestic gardens, with studies ranging from Jashemski's foundational comprehensive studies of Roman gardens to those focusing on certain aspects of the garden, such as its societal significance (von Stackelberg 2009 and Carroll 2003), the symbolic meanings given garden plants (Landgren

2004), and the literary representation of gardens (Pagán 2006).[4] Most recently, Kathryn Gleason has also edited a volume on the cultural history of gardens in the ancient world, highlighting their design, use, and reception.[5] That said, there has been seemingly little attention given to the physical garden as a "text," but it should be noted that aspects of the "garden as text" question appear in numerous works discussing ancient Roman gardens and agriculture. Pagán's discussion of the "Garden of Empire" in her 2006 book *Rome and the Literature of Gardens* perhaps comes closest to this, but here she investigates the literary garden (specifically that described in Columella's *De Re Rustica*) as a reflection of the physical garden, rather than investigating actual gardens as texts or repositories of meaning.

Further work has been done to understand the narratives present in garden paintings, with both Reeder and Caneva studying the great garden fresco at the Villa of Livia *ad Gallinas Albas*, and Caneva's study of the botanical images depicted on the panels of the Ara Pacis, for example.[6] In studying garden paintings, as in Pagán's study of the literary garden, the physical, real garden is not the subject of study, but rather the imagined or artistic garden. The symbolic meanings projected onto ancient gardens, however, may be decipherable from such study. To these we might also add Landgren's 2004 study, "*Lauro, Myrto, et Buxo*," in which she investigates symbolic meanings in garden plants as they appear in both the textual and archaeological record. While she does not necessarily treat the garden as text, nonetheless, her investigations of plant choice and garden design can inform such a study.

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[4] Stackelberg, *The Roman Garden*; Carroll, *Earthly Paradises*; Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants"; Victoria Emma Pagán, *Rome and the Literature of Gardens* (London: Duckworth, 2006).

[5] Gleason, *The Cultural History of Gardens in Antiquity*.

[6] Jane Clark Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden* (Providence, RI: Brown University Press, 2001); Giulia Caneva and Lorenza Bohuny, "Botanic Analysis of Livia's Villa Painted Flora (Prima Porta, Roma)," *Journal of Cultural Heritage* 4 (2003): 149–55; Giulia Caneva, *Il Codice Botanico Di Augusto: Roma - Ara Pacis, Parlare Al Popolo Attraverso Le Immagini Della Natura* (Rome: Gangemi Editore, 2010).

To apply the understanding of "text" to Roman horticulture, we need to turn to authors outside the realm of garden history for further clarification. Important to this is, as we have already mentioned, John Moreland's work on the intersection of archaeology and text, wherein he articulates the existence of texts as "technologies of power."[7] Also of importance is Susan Alcock's discussion of landscapes as repositories of memory in her *Archaeologies of the Greek Past* (2002). Alcock's articulation of the landscape as a product of human manipulation, both physically and metaphysically, especially as a repository for memory, is important to our understanding of how information may be engendered in the garden.[8] Furthermore, Bettina Bergmann's investigations of the Roman house as "memory theater" can also shed light on the ways in which garden owners and architects encoded information about themselves into both luxury and utilitarian gardens, and how they used design to evoke certain allusions between the visible garden and mythological or sociopolitical symbolism.[9] The applications of these authors' work to the question of garden as "text" will be expanded upon below.

The Garden as Text and Repository of Meaning and Memory

The meaning of the word "text" is one that is difficult to pin down. Thinking most generally, the term suggests written works—"sacred texts," "textbooks," and the like. But the term itself is more nuanced, being derived from the Latin *texere*, meaning "to weave."[10] Thus, if

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[7] John Moreland, *Archaeology and Text* (London: Duckworth, 2001), 87–94.
[8] Susan E. Alcock, *Archaeologies of the Greek Past: Landscape, Monuments, and Memories* (Cambridge: Cambridge University Press, 2002).
[9] Bettina Bergmann, "The Roman House as Memory Theater: The House of the Tragic Poet in Pompeii," *The Art Bulletin* 76, no. 2 (June 1, 1994): 225–56; Bettina Bergmann, "Art and Nature in the Villa at Oplontis," in *Pompeian Brothels, Pompeii's Ancient History, Mirrors and Mysteries, Art and Nature at Oplontis, and the Herculaneum "Basilica," Journal of Roman Archaeology*, vol. Supplement 47 (Portsmouth, RI: Journal of Roman Archaeology, 2002), 87–120.
[10] Ian Hodder, *Reading the Past: Current Approaches to Interpretation in Archaeology*, 3rd ed (Cambridge ; New York: Cambridge University Press, 2003), 203–205.

we are to conceptualize "texts," we need to acknowledge that a text represents the "weaving" together of information (information being a broad, catch-all term here) to create the text in its final form. It is a constructed thing, made for specific purposes by specific people.[11] In the case of written works, a text is the culmination of the bringing together of the author's own thoughts, as well as information from other written materials and the physical act of writing and producing the work itself.[12] The text is *e pluribus unum*—disparate elements give rise to the finished work.

Furthermore, if we follow Moreland's discussion of what texts are and what they do, we need to remember that texts have their own form of agency. Moreland urges archaeologists and historians to be mindful of the purpose of texts, and the reasons for their creation. The written text, in Moreland's discussion, is a "technology of power" utilized to exert power over a population or to subvert that exertion of power.[13] As a technology of power, the written text codifies and reinforces thoughts and conventions—for example, codified law gives law legitimacy and permanence.[14] Once encoded, information is given power and status. Likewise, as a subversive tool, opposition to exerted power can be encoded and given its own agency and authority in texts. In both of these situations, texts have agency and power of their own over the thoughts and actions of the people who read or are governed by them. We can read this same sort of power and agency into non-written "texts."[15]

If we think of texts in this way—as products woven from disparate parts that have a kind of power or agency (and indeed, can be interpreted or “read” in different ways to either subjugate

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[11] Moreland, *Archaeology and Text*, 26.
[12] Here, one can separate texts from material culture with regard to this characteristic given that the intentionality behind the creation of the text is more easily ascertained, as the author’s words usually state his or her intent.
[13] Moreland, *Archaeology and Text*, 87–94.
[14] Moreland, *Archaeology and Text*, 26.
[15] Hodder, in *Reading the Past*, 204, remarks that while “reading text” is not a perfect metaphor for the reading of material culture, the metaphor is still appropriate given that text *is* material culture, and can be read. I think that the metaphor may still be even more fitting in gardens, where contextual information may be quite dense.

or subvert)—we can approach gardens similarly. Gardens are produced by people: they are the products of intentional activities on the part of landscape architects, laborers, and horticulturists. The grading of subsoils, engineering of drainage systems, importation of topsoil, and arrangement and planting of trees, shrubs, flowers, and groundcover all place the garden well within the realms of built environments, artificial reflections of nature made by the hand of man. Gardens do not appear accidentally, sprung fully-formed from the landowner's head, but are created through these building processes, arising from deliberate choices on the part of landowners or their subordinates. They are the product of an "unfolding of sequences."[16] Because they are the complex products of numerous inputs—design, intent, labor, soil, water, and plants—gardens mirror texts in their createdness.[17] They also mirror Moreland's texts in that they can be interpreted as technologies of "power" used at the elite level, at least, to highlight socioeconomic distinctions between members of society's upper classes, as well as to indicate their separation from society's lower classes. We see this especially in the large peristyle gardens associated with the elite pleasure villas of the Campanian coast at Stabiae, Oplontis, and Herculaneum, where the magnitude and arrangement of garden plantings were designed to show off the owners' wealth, cosmopolitanism, and taste in design, as well as their ability to control a "tamed" landscape both within the confines of and in the area surrounding the villa.[18] And while no *in situ* gardens are extant today—that is to say, very few macrobotanical remains from Roman gardens exist—paintings of gardens from villas give us the impression that Roman gardens may have been highly manicured and yet, at the same time, made to appear wild or unkempt, or

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[16] Kathryn L. Gleason and Mark P. Leone, "Apprehending the Garden: Non-Destructive Approaches to Detecting Gardens," in *Sourcebook for Garden Archaeology: Methods, Techniques, Interpretations, and Field Examples*, ed. Amina-Aïcha Malek (Bern: Peter Lang, 2013), 120.

[17] This is also true for other types of material culture, of which texts are but a part, though I feel that texts are more complex in their ability to encode information.

[18] Carroll, *Earthly Paradises*, 35–37. This is made apparent in Pliny the Younger's discussion of viewing landscape in his letters concerning the design and grounds of his Laurentine and Tusculan villas.

conversely, were designed to appear highly ordered.[19] Either way, these gardens would have required high levels of maintenance, either to preserve the conceit of ordered chaos or to keep the garden in its organized appearance, and the degree of maintenance would have without a doubt been indicative of the time and expense the owner was willing to put into the garden's design and upkeep.[20] Furthermore, garden design could be used to control the experiences of visitors to the garden through optical effects, hedging, and selective use of statuary, allowing the owner of the garden to exert his power over them with regard to what they could and could not see, or where they could and could not go within the garden space.[21] The garden is an arm, therefore, of its owner, and dictates its viewers' interactions with the space of the garden and the villa.[22] Thus, the garden, like the written text, becomes a technology of power, exerting power over those who experience it for the owner, and having an agency of its own to influence those viewers' impressions of the garden and its owner through the experiences it mediates and controls.

Power is not the only thing that a garden encodes like a text—it also encodes memory and experience. As we have seen, gardens and texts are constructed, or to put it a better way, they are "authored," and just as reading a text gives rise to memories and allusions, so does "reading" a garden. This is also true of landscape, though landscapes' authoring is in some ways more nuanced, given the complexity inherent in what landscape "is" and that landscape is both

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[19] Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants," 193–197.
[20] Carroll, *Earthly Paradises*, 80–95; Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants," 73–118.
[21] Mark P. Leone, *Archaeology of Liberty in an American Capital : Excavations in Annapolis* (Berkeley: University of California Press, 2005), 81–83, 99–110. Leone's discussion of William Paca's garden at Annapolis and the design of "landscapes of power" in Annapolis proper is highly applicable here.
[22] See Stackelberg, *The Roman Garden*, 67: "The issue of who can access a space, when it can be accessed, and under what conditions was a structuring force in Roman society....This correspondence of spatial and societal integrity was maintained in domestic architecture, particularly at the elite levels of society where choosing a residence that downplayed your wealth and social status was grounds for censure (Cic. *Cael*. 3)."

created physically and metaphysically by people, either through direct physical impact upon the land (e.g., farming, erecting structures, mining) or through the association of memory with physical markers in the landscape.[23] This latter approach to "authoring" the landscape, as Alcock argues, creates a "physical setting for remembrance," where memory and thought associations are "localized in objects and places, not least in the material framework of the past in the present."[24] Thus, memory and history become part of the totality of the landscape. Certain places become loci of memory and experience, and these memories and experiences may be accessed by those who interact with them. Furthermore, the memory or narrative received or evoked through interaction with these loci can be one of many real and legitimate "memories" or histories associated with a locus.[25] These memories, then, are like the information encoded in a written text (which, we might argue, is also a "physical setting for remembrance"), and considering that, according to Ingold, the landscape itself is constructed from numerous actors, things, and actions, the landscape itself is very much like a text, being both created actively and given meaning while also imparting meaning to those who interact with it. Gardens, it can be argued, are miniaturized versions of the landscape, and like the landscape, they can be similarly imbued with meanings and memories that are evoked through experience of the garden space.[26]

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[23] Alcock, *Archaeologies of the Greek Past: Landscape, Monuments, and Memories*, 30–31: "Landscape, of necessity, presupposes a fairly sweeping scale of analysis (what is not part of a landscape?). Nor can it be assumed that a landscape is any more "fixed" in meaning than a monument….Landscapes may…appear sprawling and intractable things, but they are just as essential to my analysis as localized monuments. Human landscapes provide the broad physical frame-work that shaped communal experience; disturbance or dispossession would strike at memories invested in the places to which people became attached, in the places where they dwelled, worked, and worshipped." For our purposes, it may be easiest to think of the landscape along the lines proposed by Tim Ingold in "The Temporality of the Landscape," World Archaeology 25, no. 2 (October 1, 1993): 152–74, where he defines the landscape as incorporating both space, movement, and action (the "taskscape"). The landscape here encompasses the totality of human experience, as well as the experiences of non-human actors and the "natural" and "created" worlds.

[24] Alcock, *Archaeologies of the Greek Past: Landscape, Monuments, and Memories*, 24–25. Here, Alcock is working mainly from Halbwachs' discussions of physical settings of memory.

[25] Alcock, *Archaeologies of the Greek Past: Landscape, Monuments, and Memories*, 24.

[26] Like the landscape, the garden is also a totality derived from human and non-human actors, their actions, and the space in which these things occur.

These meanings and memories may be intended by the garden's designers or owner (as we have seen in the discussion of the garden as a technology of power and hegemony), or, they may be read into the garden by the viewer based on prior knowledge or experience. The garden becomes a "landscape of allusions."[27]

Furthermore, the garden may act as a physical form of the "memory house" mnemonic device, the use of which was encouraged by Roman orators as a way to memorize long or complex speeches.[28] The mental memory house is based in a real space—Cicero and Quintilian suggest that the orator using the device ought to situate himself in a spacious room that he can populate with his thoughts.[29] The orator may associate certain thoughts or points with different things in the room, and he makes a mental path through them so that he builds associations between things and thoughts in the room so that they are "linked one to the other like dancers hand in hand."[30] By memorizing the space and the sequence of images or locations within the space, and following that sequence mentally, the orator is able to recall his speech in such a way that he is not wholly dependent on rote memorization of text. In a way, this can be expected to happen naturally—seeing things evokes thoughts and memory (as in the landscape), but the "memory house" can be a bit more finessed, and the physical space can be manipulated in order to evoke certain thoughts and connections.[31] Thus, a particular mental "memory house" can be made into a physical space through the use of particular programs of things—in our case, into a garden.

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[27] Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants," 194.
[28] Alcock, *Archaeologies of the Greek Past: Landscape, Monuments, and Memories*, 21–22; Bergmann, "The Roman House as Memory Theater," 1.
[29] Bergmann, "The Roman House as Memory Theater," 1.
[30] Quintilian, *Institutio Oratoria* 11.2.21, quoted in Alcock, *Archaeologies of the Greek Past: Landscape, Monuments, and Memories*, 22.
[31] Bergmann, "The Roman House as Memory Theater," 1–2.

The sorts of things that can evoke these associations or interactions in a garden are wide-ranging. Particular plant species, either those actually planted in the garden, or those depicted in wall paintings, can evoke mythological or political narratives—for example, the laurel bears associations with the god Apollo, as well as with the Emperor Augustus, who, knowing the plant's particular Apolline connection, used its image as part of his own imperial program in the Principate.[32] Viewing a laurel, then, depending on the context created in the garden, may either evoke memories of myths about Apollo, or might cause one to think about the connections between the villa garden's owner and designers and the imperial state (or, if the owner happens to be the emperor, the sort of narrative he is making about himself). Fruit trees, especially exotic species, may evoke the Orientalizing tendencies of the garden's owner, or evoke the garden's cosmopolitan nature and, if the trees are in bloom or are currently bearing fruit, fecundity. Even "mundane" plants, including groundcovers and quotidian vegetables, may bear such allusions in the program of the garden, or may make allusion to their usage (e.g., plants with medicinal properties in a garden with an Apolline theme would heighten associations between the garden and Apollo's role as a healer).

Likewise, painted scenes or statuary in the garden space can act to evoke other such associations or mold the rest of the garden program to fit a particular narrative.[33] Mythological scenery or statuary can work to transport the garden into sacred time or create the illusion of being in the presence of deities and demigods, and nature scenery or images of other plants and even animals can artificially extend the garden, perhaps turning it from a mere garden into a sylvan *locus amoenus*.[34] Statues of famous personages also turn the garden into a cavalcade of

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[32] Stackelberg, *The Roman Garden*, 90. See a more thorough discussion of this in Chapter 3.
[33] See Bergmann's discussion of the Odyssey scenes on the walls of the House of the Tragic Poet: Bergmann, "The Roman House as Memory Theater."
[34] Bergmann, "The Roman House as Memory Theater," 232–254.

philosophical or intellectual associations.[35] All of these allusions can be negotiated and delayed or brought into view more quickly by the use of paths, with the viewer taken through the space in a certain way to build the narrative.[36] The viewer, by following the path set for him in the garden, is held in the designer's power, and is made to see the garden and its program in the way the designer intended. This, again, fulfills a role very much like that of a text, and while we know that multiple narratives can be found in a text, especially a written one, there is often one overarching narrative the author desires the audience to experience. So too, a garden may be used in this way to evoke the associations and allusions desired by its designers.

So far, we have discussed how, in theory, gardens act as texts, first noting that gardens, and texts are created things that have particular purposes, and contain within them all the information concerning their creation. Following this, we saw that, like texts, gardens are able to serve as technologies of power, exerting the influence of their owners and designers over those who view and experience them. We finally noted that gardens also are able to encode memory and experience like texts, and that through the manipulation of space and imagery, are able to serve as "memory houses," evoking allusions desired by their designers for those who view them in a manner similar to the way in which written texts evoke particular images and allusions in readers. We shall now turn to see how this works in practice in both real and imagined gardens (that is, those discussed in Roman literature), and then to argue finally that the use of the garden as text is not limited to elite garden spaces, but may also be included in gardens at all social levels as well.

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[35] An explanation often given for the busts found at the Villa dei Papiri.

[36] Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants," 130–132. An important source for understanding the importance of guided movement is found in Pliny the Younger's letter concerning his Laurentine villa, in which he lays out a particular pathway through his house and garden, showing his friend Gallus those parts of the villa with views he finds particularly compelling while ignoring other aspects of the compound (*Ep.* 2.17).

The Idealized Garden as Text: the Garden Room of the Villa of Livia *ad Gallinas Albas*[37]

To explore how the garden may serve as a text, I shall now turn to the case of an "idealized," painted garden—the Garden Room of the Villa of Livia *ad Gallinas Albas*, just outside of Rome on the Via Flaminia near the banks of the Tiber.[38] The villa, called the "villa of the Caesars" by Pliny, is identified as having belonged to Livia, the wife of Augustus, by Suetonius in his life of Galba, and is also the original site of the famed Prima Porta Augustus statue, which now resides at the Vatican.[39] The Garden Room, painted sometime after 31 BC (likely around 20 BC), was part of an underground complex at the villa, and while its specific use is not known (most rooms in Roman villas, it seems, were multipurpose), the room, variously called a "grotto hall" or "*recessus aestivus*" (a "summer retreat") may have functioned as a dining room.[40] The four walls of the room are painted to depict a garden scene, full of realistically painted trees, shrubs, and flowers, with some in bloom or bearing fruit, others not.

If we think of the garden depicted here as a "text," the plants shown in the wall paintings function like individual "words" that comprise the text and give it meaning through their various planted combinations. Each of these plants can be identified as actual species, of which Caneva and Bohuny have most recently identified twenty-four.[41] Standing out among the species depicted are spruce, pine, oak, and laurel trees, with laurel being most prominent among them, as it is repeatedly depicted in various positions throughout the painting—it seems, especially, to

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[37] Chapter 3 deals with the Garden Room's program in more detail.
[38] Stackelberg, *The Roman Garden*, 30: "Garden paintings are, first and foremost, an idealized representation and not a veristic record of the garden in which they were found."
[39] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 13–14; Jane Clark Reeder, "The Statue of Augustus from Prima Porta, the Underground Complex, and the Omen of the Gallina Alba," *The American Journal of Philology* 118, no. 1 (April 1, 1997): 89–118.
[40] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 20–23, 27–29, 35, see notes. The dating of the wall paintings in the Garden Room has been determined based on studies of the wall masonry and painting type, with scholars placing the paintings in either the Second or Third Pompeiian Styles, between 35-10 BC. Roger Ling and Harald Mielsch both agreed that the paintings were probably made ca. 20 BC, which was also the upper-limit determined by Bernard Andreae.
[41] Caneva and Bohuny, "Botanic Analysis of Livia's Villa Painted Flora (Prima Porta, Roma)."

form a "belt" in the background, against which all other species are represented.[42] Additionally, the painting also depicts exotic Eastern trees, namely quinces and pomegranates, along with the native flora. Interspersed among these plants are various species of birds, also painted in stunningly realistic detail. The viewer is cut off from various parts of the painting by layers of simulated fencing, mimicking the wicker fences that would have bordered the edges of real garden space, and in viewing the garden space, finds his or her views dictated by the choices of the painter. Going around the "ceiling" of the painting is what appears to be a border of stones or stalactites, suggesting that the room simultaneously simulates a garden grotto, though one where views can be had from all sides.[43] The room encapsulates two principle *topoi* of the pastoral in one space, and at first blush, the room appears to be attempting to create a *locus amoenus*, that is, an idyllic, pastoral space. More focused analysis, however, can indicate that there is more going on here than merely reproducing a pastoral scene.

Deeper readings of the wall paintings of the Garden Room suggest that the entire scene is loaded with symbolism that operates on multiple levels. On one hand, the entire painting can be read as a set of allusions to mythological figures, with represented species being either species sacred to various gods (e.g., the pomegranate is sacred to Juno, while the holm oak is Jupiter's tree), or species that were once nymphs or people, who were then transformed into plants (e.g., the cypress or the ubiquitous laurel).[44] Almost every tree present in the painting has some kind of mythological connotation, with many of the Olympians represented by their trees.[45] Likewise,

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[42] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 82–83: "But it is the laurel that is most prominent. It is interwoven throughout the garden and grove, repeated several times on each of the four walls with a variety of sizes and placements in each panel....Nevertheless, while the laurel is omnipresent, the grove is not merely a *lauretum*, since other species are represented as well."

[43] See Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 77–78. Grotto paintings seem to be a staple of Second Style paintings, appearing in paintings in numerous houses, including the villa of P. Fannius Synistor at Boscoreale, the Villa of Livia on the Palatine, and the Esquiline Odyssey frieze.

[44] For the story of the cypress, see Ovid *Met.* 10; for the laurel, *Met.* 1. Both trees are sacred to Apollo.

[45] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 83.

some of the birds represented in the painting also have mythological attributes.[46] The simulated grotto, too, has mythical connotations. Specifically, the grotto can be read as an analog for the cave of the Lupercal, where Romulus and Remus were said to have been nursed by the she-wolf, and might also be read in the light of grottoes where various gods were born—it is indicative of a safe and sacred space.[47] Thus, the garden painting could be a representation of a sort of "garden of the gods," or a place where the viewer might encounter the sacred, in either grotto or grove.[48]

A second reading of the paintings might be more personal with regard to Augustus and the imperial family. Following his victory over the combined forces of Marc Antony and Cleopatra at Actium, Augustus allied himself with the imagery of the god Apollo, and took the laurel tree as his personal standard, planting two laurel trees outside the doors of his house, as well as planting a grove of laurel trees at the Villa *ad Gallinas Albas*.[49] Thus, it is not surprising to see the laurel appear so prominently in the paintings of the Garden Room. Its inclusion appears to be an Augustan nod to either his patron deity or an insertion of a representation of himself in to the painting. It should be noted that the laurel trees depicted in the painting run in a band in the background of the painting, creating a sort of barrier between the outside world and

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[46]See Mabel McAfee Gabriel, *Livia's Garden Room at Prima Porta* (New York: New York University Press, 1955) for species identifications. Likewise see Ernest Martin, *The Birds of the Latin Poets* (Stanford: Stanford University Press, 1914) for information mythological associations and symbolism in birds.

[47] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 78–80.

[48] Barbara Kellum, "The Construction of Landscape in Augustan Rome: The Garden Room at the Villa Ad Gallinas," *The Art Bulletin* 76, no. 2 (1994): 211–24; Bettina Bergmann, "Exploring the Grove: Pastoral Space on Roman Walls," *Studies in the History of Art* 36 (January 1, 1992): 30; Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 80: "Thus in the Augustan painting and relief, in the painting of the Villa of Livia *ad Gallinas Albas* and in the Grimani reliefs, the natural Dionysiac landscape of the garden topoi, whether or not actually inhabited by the god or his acolyte Pan, is suffused with a "dionysiasme d'atmosphère", as J. Bayet called the religious phenomenon and subtly remade in the Apollonian vision of a new Golden Age under Apollo after Actium. "*Iam regnat Apollo*" Virgil proclaimed in the Fourth Eclogue (v.10)."

[49] Allan Klynne, "The Laurel Grove of the Caesars: Looking in and Looking out," in *Roman Villas Around the Urbs. Interaction with Landscape and Environment. Proceeding of a Conference Held at the Swedish Institute in Rome, September 17-18, 2004*, ed. B. Santillo Frizzel and A. Klynne (Rome: The Swedish Institute in Rome, 2005), 1–9.

the garden space. Given the focus on peace in Augustus' rule,[50] a protective band of laurels could be indicative of several things, among them being an indication of special favor and protection for Augustus and the Empire granted by Apollo. It may also represent Augustus himself, creating a bulwark between Rome, now at peace, and those enemies who would destroy that peace. Thus, using Apolline imagery, the painting may be designed to convey a narrative about Augustus and either his expectations of Apollo or his intent to present himself as Rome's protector, preserving the peace of the garden (a stand-in for the empire?) and the garden grotto, which, as we have noted before, serves as a "safe place." The garden-as-empire motif is further reinforced by the presence of exotic species, specifically the quinces and pomegranates which come from the east, locations recently pacified in the fight against Antony. Their inclusion in the garden painting would imply a harmonization of the entire Mediterranean under Augustus' reign, with East and West brought together under Augustus' hegemony and protection. The garden painting here takes on a political meaning. If the room was used as a *triclinium* for dining purposes, guests of the emperor and his wife, viewing the paintings, would have potentially been subject to these messages, perceiving (and reinforcing in themselves) Augustus' self-narrative as pacifier and protector of the Empire, as well as the mythological allusions also present.[51] Furthermore, they would have viewed the Garden Room as a pastoral scene in and of itself, taking delight in the realism of the plant and bird species in addition to the aforementioned themes.

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[50] He proudly noted in his *Res Gestae* that the gates of Janus Quirinus—which were kept open in wartime—were closed three times during his reign.

[51] Stackelberg, *The Roman Garden*, 62–63: "The imaginative potential of garden space to articulate personal narratives is an extension of the same process of cultural construction that links landscape to narratives of memory and national identity."

What we see here is that the Garden Room, as an idealized garden, fulfills many of the previously mentioned roles of texts—the room itself, like a text, is composed of multiple materials, namely stucco, masonry, and paint, but is also composed of bucolic forms, and all the information pertaining to those forms (plant names, bird species, cultural associations, etc.).[52] It is a synthesis of abstract information and the concrete. The different plants in this idealized garden also display particular information regarding religious, mythological, and political associations—these associations may be directed by the designer of the garden painting, or may be supplied by the viewers of the painting themselves. The painted garden here, too, serves as a tool of power, reinforcing political narratives about Augustus and his identity, and influencing the viewing of the painted landscape of the garden and grotto to elicit particular mental associations on the part of viewers.[53] The painted, idealized garden, then, shows us how gardens can be like, and perform the functions of, texts. But to what extent is the function of gardens as texts supported in real, physical gardens, and not just in idealized painted gardens?

The Physical Garden as Text: The Gardens of Campania, Rome, and Beyond

As we noted earlier, one manner in which physical gardens are like texts is that they constitute created, engineered spaces. They are designed by landscape architects, formed by landscapers, gardeners, and laborers, and are populated with plants by horticulturists and, potentially, with statuary by designers. Additionally, they have finely constructed substructures, drainage systems, and planting arrangements, and as with texts, each aesthetic choice and

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[52] Stackelberg, *The Roman Garden*, 66.
[53] See Stackelberg, *The Roman Garden*, 70: "Roman space was especially concerned with directing the body in all degrees of social hierarchy, and this direction did not stop at the garden threshold."

contour is often the result of a purposeful action or decision.[54] Roman gardens are no exception, though unfortunately, given the ravages of time, the physical record we have of them is partial, as few survive given that gardens are more or less organic creations. Luckily, some of the most complete specimens still extant can be found in the Vesuvian region of Campania on the Bay of Naples, with hundreds of gardens found in houses and villas in the region.[55] From the remains of these gardens, we can often uncover their substructures in order to understand and reconstruct drainage systems and grading, and, thanks to the eruption from AD 79, can even reconstruct planting arrangements due to the presence of root cavities preserved by the eruption.[56] For example, the strolling peristyle garden at the Villa Arianna in Castellammare di Stabia provides an unparalleled view of a garden with hundreds of extant root cavities, allowing the relative size and arrangement of garden plants to be assessed.[57] But, despite these other bodies of evidence, the actual species planted in these gardens are often unknown due to the paucity of surviving organic material given the region's basic soil chemistry.[58] For this aspect of Roman gardens, we

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[54] Kathryn L. Gleason, "Detecting and Documenting Archaeological Features of a Garden through Excavation," in *Sourcebook for Garden Archaeology: Methods, Techniques, Interpretations, and Field Examples*, ed. Amina-Aïcha Malek (Bern: Peter Lang, 2013), 217–55.

[55] Jashemski, "The Campanian Peristyle Garden."

[56] Jashemski, "The Campanian Peristyle Garden," 31–32; Wilhelmina F. Jashemski and Stefano De Caro, "Physical Evidence of the Garden: The Gardens of Pompeii and Other Vesuvian Sites," in *Sourcebook for Garden Archaeology: Methods, Techniques, Interpretations, and Field Examples*, ed. Amina-Aïcha Malek (Bern: Peter Lang, 2013), 453–73. The work of Jashemski and others in Campania has led to a much greater and wider understanding of Roman garden construction.

[57] While the book for the Villa Arianna is still in press, Kathryn Gleason has published about the root cavities at the Villa Arianna elsewhere; see Kathryn L. Gleason, "The Landscape Palaces of Herod the Great," *Near Eastern Archaeology* 77, no. 2 (June 1, 2014): 76–97; Kathryn L. Gleason, "Introduction," in *The Cultural History of Gardens in Antiquity*, ed. Kathryn L. Gleason (London: Bloomsbury, 2013), 1–14.

[58] Until recently, the identification of garden species has been largely unknown, but new work from the Levant, using techniques first implemented in the American Southwest, has proven that garden pollens can be extracted from wall plasters, allowing for a reconstruction of species profiles for garden plants. See Dafna Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," *Palynology* 37, no. 1 (2013): 115–29; Dafna Langgut, Kathryn Gleason, and Barbara Burrell, "Pollen Analysis as Evidence for Herod's Royal Garden at the Promontory Palace, Caesarea," *Israel Journal of Plant Sciences* 0, no. 0 (January 15, 2015): 1–11; James Schoenwetter and Patrick Scott Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," *Journal of Field Archaeology* 27, no. 1 (April 1, 2000): 63–73.

often have to turn to ancient texts for more information about choices of plantings and horticultural arrangements in these gardens when organic material is lacking.

The main ancient authors who are often consulted when discussing horticultural practices in ancient Roman gardens are Cato the Censor (234-149 BC), Varro (116-27 BC), Columella (1st Century AD), Pliny the Elder (23-79 AD), and Palladius (4th Century AD).[59] Though the majority of these texts deal with farming (Pliny the Elder's is an encyclopedic work), they do contain information pertinent to the tending of gardens and the growing of vegetables and other useful and ornamental plants. They show us that even the plants themselves may be the result of numerous actions and components, as they describe how Roman gardeners engaged in extensive grafting (to allow certain plants and trees to produce the flowers and fruits of other species) and forcing (causing plants and trees to grow, blossom, and fruit out of season), not to mention how, through use of strategic pruning and polling, garden plants could be teased to grow in certain ways.[60] Vitruvius' (75-15 BC) *De architectura libri decem*, while not containing a treatise on garden construction, does include discussions of constructed landscapes and their design, and his instructions for siting projects, organizing drainage, integrating green space with built environments, and aesthetics for design all can inform our understanding of the manner in which Roman gardens were constructed. The text demonstrates that all of these considerations would have been taken into account during the building of a garden space.[61] First-hand accounts of garden arrangement can also be found in the letters of Pliny the Younger, specifically in his letter

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[59] Patrick Bowe, *Gardens of the Roman World* (Los Angeles: J. Paul Getty Museum, 2004), 8.
[60] Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants," 73–118.
[61] Kathryn L. Gleason, "Design," in *The Cultural History of Gardens in Antiquity*, ed. Kathryn L. Gleason (London: Bloomsbury, 2013), 15–40; Ingrid D Rowland, Thomas Noble Howe, and Michael Dewar, *Vitruvius: ten books on architecture* (New York: Cambridge University Press, 1999).

to Gallus (*Epistulae* 2.17). Here, he describes the arrangement of the large garden at his villa at Laurentum:

> The *gestatio* (strolling path) is bordered round with boxwood or rosemary, where the boxwood has died back; for the boxwood, whichever part of it that is protected by the buildings, grows abundantly; it withers up where it is exposed to the sky and winds and, though a good distance away, to the spray of the sea. Near the *gestatio* in the interior border lies a vine-bower, soft and shady, and even soft enough for walking with bare feet. Numerous mulberry and fig trees cover the garden, for which trees the soil is most greatly suited, while inhospitable to other species.[62]

Pliny the Younger's description of his garden is part of a larger discussion of his Laurentine villa, where he describes the built environment of the villa and the parts of it he enjoys or thinks worthy of note. So, too, is the garden included in this built environment, and his description of its parts and constitutive plants indicates that he is aware of its composed nature.[63] The garden here, like a text, is the physical result of the combination of numerous actors and elements, comprised of soil, trees, different hedging plants, and vines, not to mention the unspoken labor of gardeners, landscapers, and slaves which resulted in its final form as Pliny describes it. Moreover, it would also have contained within itself the aesthetic qualities embodied in architectural design as articulated by Vitruvius. The same can be said for the "unpopulated" gardens of the Vesuvian region, and while we do not necessarily know the precise species that went into their planting, the vestiges of their construction and arrangement are still a visible testament to the processes of their creation.

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[62] R. A. B. Mynors, *Epistulae (C. Plini Caecili Secundi Epistularum Libri Decem)* (Oxford: Oxford University Press, 1966), 2.17.14–15. *Gestatio buxo aut rore marino, ubi deficit buxus, ambitur; nam buxus, qua parte defenditur tectis, abunde uiret; aperto caelo apertoque uento et quamquam longinqua aspergine maris inarescit. Adiacet gestationi interiore circumitu uinea tenera et umbrosa, nudisque etiam pedibus mollis et cedens. Hortum morus et ficus frequens uestit, quarum arborum illa uel maxime ferax terra est, malignior ceteris.* Translation mine.
[63] Unfortunately, he does not discuss its substructure.

The physical garden could be made to encode meaning like texts and idealized painted gardens, too. The myriad meanings discussed above are not limited to the painted garden, but can also be expressed in physical space, with political and mythical meanings encoded in wood, leaf, and soil. For example, if we look back at the Villa of Livia *ad Gallinas Albas*, but toward the actual garden terrace there as opposed to the Garden Room, we see Augustan imagery being evoked in a physical space. Based on both Roman literary evidence and archaeological evidence from *ollae perforatae* (planting pots), the terrace has been identified as the site of the famous "laurel grove of the Caesars," from which the Julio-Claudian emperors took the laurels used in their triumphs.[64] Here, the laurels filled multiple representative roles, both sacral and political. In a sacred role, the laurels were representative of Augustus' indebtedness to the god Apollo, with whom he allied himself and to whom he attributed victory over Antony and Cleopatra at Actium, and also served as a memorial for the legendary omen that precipitated the grove's founding, wherein an eagle dropped a live, white chicken holding a laurel sprig in its beak into Livia's lap.[65] The laurel sprig carried by the chicken, the story goes, was the founding plant for the entire grove at the villa.[66] In its political role, the grove performed a civic function (supplying laurels for state processions), while also being a visible symbol of Augustus himself, given that he had made Apollo's symbol his own, striking it on his coins and planting two laurels by the doors of his house on the Capitoline.[67] The grove, therefore, was Augustus' power personified; a living, growing symbol of the emperor which, so long as it was maintained, was

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[64] Klynne, "The Laurel Grove of the Caesars: Looking in and Looking out," 5–6.
[65] Klynne, "The Laurel Grove of the Caesars: Looking in and Looking out," 5–8; Marleen B. Flory, "The Symbolism of Laurel in Cameo Portraits of Livia," *Memoirs of the American Academy in Rome* 40 (January 1, 1995): 53–56.
[66] Ibid. The story is recounted by Pliny the Elder, Cassius Dio, and Suetonius.
[67] Flory, "The Symbolism of Laurel in Cameo Portraits of Livia," 54–55.

indicative of the emperor's lasting power and influence, in addition to being a monument to the power of the god he chose to honor.

Additionally, meaning did not necessarily have to be encoded in plants within the garden, though, as we have seen, this is entirely possible and was done. It could also be encoded in statuary programs placed within the garden to evoke certain mythological themes or landscapes, or to create an intellectual landscape populated with the images of famous philosophers and statesmen in order to guide discussion with visitors or inspire deep thought, as Cicero did in his own garden.[68] Furthermore, garden sculpture could be used to create the illusion that there were more people in the garden than just the viewers, either working to create a *locus amoenus*, or to create the illusion of a philosophical garden populated with famous interlocutors.[69] These sorts of sculptural programs have been found in various archaeological gardens, with the Villa dei Papiri at Herculaneum providing some of the best examples of garden statuary. In that situation, however, the actual meaning of the program is unknown, as those statues were moved by the villa owners, possibly while evacuating during the eruption of AD 79.[70] Nonetheless, based on the types of statues present (images of gods, women who may be Danaids—daughters of the mythical Greek king Danaus—, animals, and numerous busts of philosophers, kings, and generals), multiple meanings have been suggested for the statuary program there, ranging from

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[68] Frederick Jones, *Virgil's Garden: The Nature of Bucolic Space* (London: Bloomsbury, 2013), 146–147; Stackelberg, *The Roman Garden*, 26. Regarding the function of statuary, von Stackelberg writes: "The wealth of sculptural material corresponds to the preference of elite Romans, who ranked sculpture second only to architecture as the medium through which to reflect their self-image (Neudecker 1988: 29, 118-19). Therefore Cicero, as a man of letters, emphatically rejected a set of Bacchantes (lovely quality, but inappropriate) in favor of the Muses for a garden pavilion he was building, his 'Academy' (Cic. *Fam.* 7.23). A similar statement of intellectual and philhellenic leanings can be seen at the Villa of Cassio in Tivoli."

[69] Kim J. Hartwick, *The Gardens of Sallust: A Changing Landscape* (Austin: University of Texas Press, 2004), 13; Kathryn L. Gleason, "Wilhelmina Jashemski and Garden Archaeology at Oplontis," in *Oplontis : Villa A ("of Poppaea") at Torre Annunziata, Italy. Vol. 1, The Ancient Setting and Modern Rediscovery*, ed. Nayla K. Muntasser and John R. Clarke (New York: American Council of Learned Societies, 2014), para. 997–1024.

[70] Richard Neudecker, "The Roman Villa as Locus of Art Collections," in *The Roman Villa: Villa Urbana* (Philadelphia: The University Museum, University of Pennsylvania, 1998), 77–91.

the intellectual to mythological. If the garden at the Villa dei Papiri was like that described by Cicero, it could have been possible for that garden to, likewise, have functioned in such a way as to influence discussion of visitors toward talk of great deeds, exemplary character, and philosophical topics. Statuary, together with plants, therefore, allowed ancient Roman gardens to fulfill that role of texts in which they could encode political, artistic, mythological, and intellectual messages.

Finally, just as in our prior theoretical discussion, physical Roman gardens had the capacity to exert power over the visitors to them as dictated by their designers and owners. During the late Republican era, Rome's political elite made use of gardens, both private and public, to exert and display political power, with both Gnaeus Pompey and Julius Caesar (among others) using their private gardens to entertain and curry favor with the masses.[71] The gardens of private villas, too, were used by social-climbing politicians to compete against one-another within their social circles, intending to amaze their friends with their gardens' opulence, variety of plantings, inclusion of garden paintings (which enlarged the garden by means of illusion) and statuary, and control of water—an effect created, without a doubt, by the gardens at the Villa of Poppaea at Oplontis.[72]

Perhaps the most direct application of power upon visitors and viewers of gardens is visible in strolling gardens, like those at the Villa Arianna in Stabia, and the palaces of Herod the Great, which, while not Roman, were greatly influenced by Roman fashions.[73] Here, we see *ambulationes* (walkways) bounded by rows of planted beds and trees, making it possible for

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[71] Elizabeth Macaulay-Lewis, "Use and Reception," in *The Cultural History of Gardens in Antiquity*, ed. Kathryn L. Gleason (London: Bloomsbury, 2013), 102–105.
[72] Bergmann, "Art and Nature in the Villa at Oplontis"; Gleason, "Wilhelmina Jashemski and Garden Archaeology at Oplontis."
[73] Gleason, "The Landscape Palaces of Herod the Great."

garden owners to negotiate the views experienced by strollers as they move through the garden space, either allowing them to selectively reveal or obfuscate certain things (e.g., making it so that only certain parts of statues, water features, or remarkable plants can be seen only in a certain way), or to create layered views through selective pruning and planting that can only be seen from particular perspectives. It may be that, as in the idealized gardens of Roman wall paintings like that at the Villa of Livia, actual gardens were arranged and cut to create layered images that additionally imparted various meanings when viewed in a certain way.[74] This is suggested by the arrangement of root cavities in planting beds at the Villa Arianna, with closely packed plantings closest to the house (from which the garden would be viewed), and more widely spaced plants behind these plantings moving further away from the house.[75] Here, the garden is a tool for control on the part of its owner and designer, dictating the experience or "reading" of the garden by its viewers, and restricting their movement through the space and only allowing them to access the garden in a way desired by the owner.[76] While no statuary is extant, it could be that, at the Villa Arianna, such constraints on viewing and experience may have been used to cause statues to "pop out" to viewers as they strolled, or to dictate the visual interactions between statuary and plants as people moved among them.[77] Again, we see here that the physical garden, and in this case, the garden at the Villa Arianna, can perform the controlling function of a text, dictating the experiences of viewers, or, to put it another way, "readers." Thus, from the preceding, physical gardens, based on the various examples from textual records and surviving garden remains, perform the same sorts of functions attributed to texts.

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[74] Kathryn L. Gleason, "Constructing Nature: The Built Garden. With Notice of a New Monumental Garden at the Villa Arianna, Stabiae," *Bollettino Di Archeologia* Speciale D/D9/3 (2010): 12–14.
[75] This has been suggested by Kathryn Gleason. See her discussion in "The Landscape Palaces of Herod the Great," 85.
[76] Stackelberg, *The Roman Garden*, 111–120.
[77] This was something I noticed when working in the gardens at Stabia last summer. The site report for the Villa Arianna is currently still in press.

The Question of Access

So far we have seen that gardens, theoretical, ideal, and physical, are like texts in that they are composed like them and perform similar functions. But we are still left with the question of whether or not they performed these functions across the board in Roman society? The examples we have seen of idealized and physical gardens have come from elite contexts—villas belonging to the imperial family or to high-ranking politicians, and in these cases the gardens appear to be for the purposes of display and pleasure. Would utilitarian or lower-class gardens have had the same potential functions, and would members of the non-elite have been able to appreciate or be affected by elite gardens? It seems that they would not have been prevented from doing so. All members of Roman society apparently had some understanding of what the garden was and what it could do—non-elites, according to Pliny the Elder, knew the purpose of gardens as spectacle and knew what the basic *imago hortorum* (image of the gardens) was supposed to be.[78] Public gardens, with all of their associated statuary and paintings, were open to everyone, and members of the general public, rich and poor, did visit them for the purpose of seeing fine artworks, and even some of the more modest urban gardens of Pompeii and Herculaneum do contain images, deepening their embedded meaning.[79] Furthermore, non-elites were not barred from the influence of private elite gardens, as elites would often have their properties open to the public in order to curry political favor.[80] In a world as heavy-laden with political and mythic imagery as the Roman Empire, it is not at all unlikely that all members of

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[78] Stackelberg, *The Roman Garden*, 2, 66; Karl Mayhoff, ed., *C. Plinii Secundi Naturalis Historiae Libri XXXVII*, Bibliotheca Scriptorum Graecorum et Romanorum Teubneriana. [S.r.] (Leipzig: Teubner, 1870), 19.59: *iam in fenestris suis plebs urbana imagine hortorum cotidiana oculis rura praebebant…*

[79] Hartwick, *The Gardens of Sallust: A Changing Landscape*, 16–17.

[80] Stackelberg, *The Roman Garden*, 67, 70: "Class was only a bar to garden ownership insofar as the census roll categorized citizens by their personal wealth. If the Elder Pliny's Roman poor could access an *imago hortorum*, whether as painting or potted plants, then class alone did not restrict individual access to a garden. Invitations extending from Senators and Equites to members of the *plebs urbana*, while uncommon, appeared to carry no social stigma for the elite host."

society were aware, to some degree, regarding what the multi-layered agendas of gardens were, and what functions they played.[81] As Katharine von Stackelberg eloquently describes them, gardens were (and still are) "cultural symbols" to the Romans which

> are only effective when they correspond to a physical referent within their society. Without such a referent, the symbol loses meaning, and no association or communication can take place. Logically, there was a meeting point where the *hortus* of Vergil's Corycian gardener and the small garden of a domestic house in Pompeii coexisted, where the iconographical and literary tradition of gardens transmitted information reconcilable to the general values and social practices of garden inhabitants.[82]

The full, palimpsest world of the Roman garden, with its myriad embedded meanings, messages, and abilities, would have been known to its viewers, who would have appreciated or been affected by it, and who would have been aware of the various associations and meanings garden components could have and would have "read" these at different levels. The garden-as-text, therefore, would have been a very real and universal phenomenon in the Roman world.

In Conclusion

Throughout the course of this essay, we have approached the question of whether the idea of a text, as articulated by John Moreland, can be applied to landscapes, specifically, to gardens. As we have seen, gardens, in both their idealized and physical forms, mirror texts in that they are created from disparate elements, are able to encode complex information about power and memory that can be "read" by their viewers, and are able to control the experience of those "reading" them in order to meet agendas set by their creators. It is my hope that, having

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[81] A fantastic visualization of the constant presence of cultural motifs and symbols known to Romans on a daily basis can be seen in the opening titles sequence for HBO's television series, *Rome*, in which Roman graffiti is animated to act out the various mythological, legendary, and political stories depicted in the images.
[82] Stackelberg, *The Roman Garden*, 3.

successfully applied this understanding of “garden as text” using Moreland’s definition of “texts” and their functions to Roman gardens, the same understanding may be applied to garden complexes (and indeed, other constructed landscapes) from other times and places, allowing us to see how these spaces were constructed and could be used to convey information and control experiences on the part of their viewers.

CHAPTER 2

Applications of Pollen Analysis in Reconstruction of Environment, Agriculture, and Horticulture at Ancient Sites[83]

Pollen data are a very important source of information for archaeologists studying ecosystems, gardens, farms, and plantings in the ancient world. Though techniques for soil and artifact sourcing of fossil pollens have been in existence since the early 20th Century, plaster-sourcing techniques have only been seriously explored since the late 1980s-early 1990s.[84] Considering the success of plaster sourcing in the relatively arid conditions in the Eastern Mediterranean, plaster sourcing may also be a useful method of retrieving pollen data from Roman sites in the Bay of Naples, where fossil pollen and macrobotanical preservation in the soil is poor. The use of plaster-entrapped pollen would make it possible for archaeologists to better understand the arrangement and plantings of gardens and farmsteads in the area surrounding the Bay. Pollens trapped in plaster layers can also give archaeologists a seasonal snapshot of the vegetation growing in a particular region, both wild and domesticated. To understand the potential efficacy of sourcing pollen data from plasters, the importance of pollen data and general soil-sourcing techniques will first be discussed. Then, plaster-sourcing will be discussed

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[83] Originally written for Dr. Sturt Manning, Fall 2014. The following chapter makes use of images from the following publications: E. M. v. Zinderen Bakker, "Archaeology and Palynology," *The South African Archaeological Bulletin* 6, no. 23 (September 1, 1951): 87; S.E. Durno, "Pollen Analytical Evidence of 'landnam' from Two Scottish Sites," *Transactions of the Botanical Society of Edinburgh* 40, no. 1 (January 1, 1965): 14; Alfred Traverse, *Paleopalynology*, 2nd ed., vol. 28, Topics in Geobiology (Dordrecht: Springer, 2007), 106–107; Wendy Matthews, "Micromorphological and Microstratigraphic Traces of Uses of Space," in *Inhabiting Çatalhöyük: Reports from the 1995-99 Seasons*, ed. Ian Hodder (Cambridge: McDonald Institute for Archaeological Research and British Institute of Archaeology, 2005), 364–367.

[84] Gerald K. Kelso and Irene L. Good, "Quseir Al-Qadim, Egypt, and the Potential of Archaeological Pollen Analysis in the near East," *Journal of Field Archaeology* 22, no. 2 (July 1, 1995): 191–202; Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel." See especially Langgut, et al.'s work in Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem."

along with two case studies demonstrating its usefulness. Finally, pollen's potential for yielding useful data in the Bay of Naples will be addressed.

The Importance of Pollen

Palynology is the study of plant pollens, spores, and palynomorphs, which are small, granular bodies derived from certain plants, animals, and microorganisms. The name was introduced by Hyde and Williams in 1944, who derived it from the Greek *παλύνω*, "I sprinkle," cognate with Latin "pollen," meaning a fine grain or powder.[85] It is a microbotanical discipline, originally developed by Norwegian geologist Lennart von Post in the early 20th Century as a method for constructing dating sequences for certain parts of the world based on "pollen zones," which exhibit particular regional pollen sequences over time.[86] Samples from sites within these pollen zones can be compared to sequences for whole zones and assigned a particular chronological date.[87]

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[85] Bakker, "Archaeology and Palynology," 80; Traverse, *Paleopalynology*, 28:1.
[86] Colin Renfrew and Paul Bahn, *Archaeology: Theories, Methods, and Practice*, 5th ed. (New York: Thames & Hudson, 2008), 245.
[87] Renfrew and Bahn, *Archaeology: Theories, Methods, and Practice*, 131.

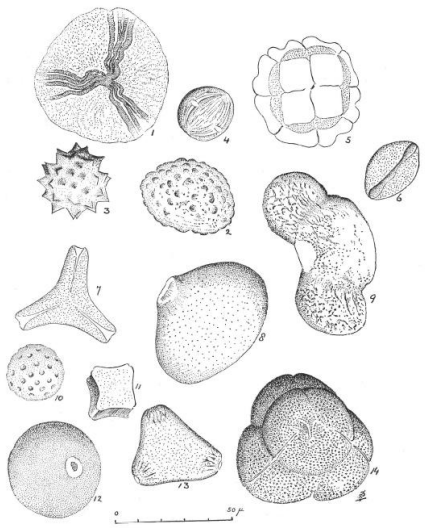

Fig. 2.1. Pollens come in many shapes and sizes.[88]

Pollen grains are, specifically, the male gametes produced by heterosporous seed plants, and are produced by cones in gymnosperms (e.g. coniferous trees) and anthers in angiosperms (e.g. flowering plants).[89] Functionally, they are the microgametophyte of a plant, contained by the plant's microspore wall. The distinctive microspore wall is what survives in fossil pollen, and makes identification possible.[90] Pollen can be windborne (anemophilous), waterborne (aquaphilous), animal or insect-borne (zoo/entomophilous), or in the cases of some plants, self-pollinating. Pollen and spores are relatively hardy thanks to the tough outer echine layers of the microspore wall, and are able to survive well in damp, acidic environments as a result (which also allows for their survival when processing to remove organic material and soils from pollen samples).[91]

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[88] Image from Bakker, "Archaeology and Palynology," 87.
[89] Ronald O. Kapp, *How to Know Pollen and Spores*, Pictured-Key Nature Series (Dubuque, Iowa: W. C. Brown Co, 1969), 1–2. Heterospory refers to the adaptation in land plants to produce spores of different sizes and sexes.
[90] Traverse, *Paleopalynology*, 28:11.
[91] Kapp, *How to Know Pollen and Spores*, 3–10.

What can pollen do for archaeologists?

Pollen gives us a window onto the "plant world" of the past, telling us what plants existed in the immediate environment around a site, as well as those plants which are associated with patterns of human habitation and activity (ruderal plants, crop plants, and garden plants, among other). It also tells us what the environment around a site was like over a long period of time. Pollens are the primary source of information about plant history at the sub-continental scale.[92] Coring samples show us the pollens that accumulate in different sediments, indicating changes in types of flora across time. The cores can be taken from lake sediments (these, especially lakes with large catchments, provide the best data for large-scale vegetation histories), glacial varves, ancient soils, including peat deposits, floodplains, ditches, cesspits, and caves.[93] Pollen sourced from caves can enter them by means of natural processes (wind, water, and wild animals) or human activity (bringing in animal fodder and plant foods and bedding materials) and can indicate human use.[94] Pollen can also be sourced from coprolites.[95] These environmental samples are important because they provide a baseline for what the flora of a site is supposed to look like prior to the establishment of a habitation site (especially one involved with intensive agriculture or other land use, like logging). This helps us to understand when changes in the floral composition of the ecosystem have occurred over time, since natural ecosystem changes can more easily facilitate human activity in a region.

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[92] Dena F. Dincauze, *Environmental Archaeology: Principles and Practice* (Cambridge: Cambridge University Press, 2000), 377.
[93] Dincauze, *Environmental Archaeology: Principles and Practice*, 377; Nick Branch et al., *Environmental Archaeology: Theoretical and Practical Approaches*, Key Issues in Environmental Change (London: Hodder Education, 2005), 68.
[94] Branch et al., *Environmental Archaeology*, 77.
[95] Paul S. Martin and Floyd W. Sharrock, "Pollen Analysis of Prehistoric Human Feces: A New Approach to Ethnobotany," *American Antiquity* 30, no. 2 (October 1, 1964): 168–80.

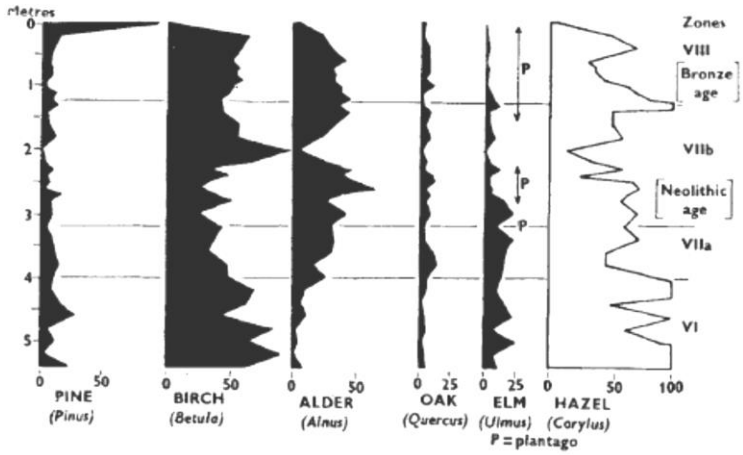

Fig. 2.2: Example of an AP spectrum from Dalnaglar, Scotland.[96]

Since natural changes can affect human activities in this way, pollen can show us if and when human activity might be expected to occur. Pollen sequences can also show environmental changes that would have negatively affected human settlements (such as long-term droughts, desertification, etc.).[97] Moreover, pollen data can indicate environmental changes from arboreal pollen (AP) to non-arboreal pollen (NAP), indicating shifts from forest to meadowland (the result of climate change) or from forest to farmland (result of human intervention).[98] For example, a shift from largely AP to pollen from grasses and shrubs can indicate that there was a change in climate so that forestland retreated, giving way to open terrain. The land, presumably now open, may have been more suitable for farming or other subsistence activities, and given people more incentive to settle there. Pollen data were first used to this end by Iverson (1941) with his *landnam* theory (that fossil pollens can indicate land use), wherein he was able to identify the beginning of the Neolithic in Denmark due to a marked change from AP to NAP in his samples.[99]

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[96] AP spectrum graph from Durno, "Pollen Analytical Evidence of 'landnam' from Two Scottish Sites," 14.
[97] Dafna Langgut, Israel Finkelstein, and Thomas Litt, "Climate and the Late Bronze Collapse: New Evidence from the Southern Levant," *Tel Aviv* 40, no. 2 (November 1, 2013): 149–75.
[98] Dincauze, *Environmental Archaeology: Principles and Practice*, 350.
[99] Durno, "Pollen Analytical Evidence of 'landnam' from Two Scottish Sites," 13.

Pollens can indicate the migration of non-native species (or species families) into a geographic region over time through gradual increase of "foreign" pollens in soils and catchments. Again, this can answer questions about the effects of climate change on a region, and the subsequent potential for human benefit wrought by these changes. Because humans have a mutual relationship with their ecosystems, pollen can also indicate the introduction of non-native species by humans (e.g. west-Asian grasses, fruits, etc.) when macrobotanical (seeds, leaf impressions, desiccated remains, etc.) evidence for these species is not extant.[100] This is especially helpful in areas with acidic soils or soils with a high oxygen content (which leads to acidification), given that macrobotanicals, like seeds, glumes, and leaves, do not survive particularly well in such soils.

Pollen deposits also provide us with chronologies for change within local environments. When paired with tree-ring or radiocarbon data, they provide an absolute chronology for a region or site, and depending on preservation conditions (as well as the durability of pollens), chronologies can extend back many of thousands or (as in the case of the Hadar sediments of the Omo Valley, Ethiopia) millions of years.[101]

As previously stated, the presence of pollens can tell us about the existence of species in a region or site when macroremains belonging to those species are no longer extant. They provide information about the economic use of plants that are absent in the archaeological record, providing information about cultivation choice, potential uses as medicine, food, dye, fiber, or oil plants, and the brewing of alcoholic beverages.[102] They can reveal evidence of

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[100] Dincauze, *Environmental Archaeology: Principles and Practice*, 391–392.
[101] Renfrew and Bahn, *Archaeology: Theories, Methods, and Practice*, 131–132, 245.
[102] Dagfinn Moe and Klaus Oeggl, "Palynological Evidence of Mead: A Prehistoric Drink Dating back to the 3rd Millennium B.C.," *Vegetation History and Archaeobotany* 23, no. 5 (November 6, 2013): 515–26; Manfred Rösch, "Pollen Analysis of the Contents of Excavated Vessels—direct Archaeobotanical Evidence of Beverages," *Vegetation History and Archaeobotany* 14, no. 3 (August 1, 2005): 179–88.

gardens and other plantings which may not appear in the archaeological record as well. This is important because the survival of garden plants is very rare, so more often than not, we do not know what plants are chosen to be grown in them. This is important for sites like the gardens in the area around Naples, where root cavities have been preserved thanks to the lapilli cover caused by the eruption, but where no wood, seeds, or fruit-stones are present. Here, pollen can fill in the gaps as to what types of plants were present in the area.

Thus, the advantages provided by pollen are many. But there are some issues involved with using pollen as evidence for dating, reconstruction of environmental composition, etc. First of all, pollen does not survive well in arid or dry environments, but is better suited to moister soils, like peat, or lake deposits.[103] If an ancient environment was drier than it currently is, pollen most likely will not have been preserved well. Likewise, climatic fluctuations (especially temperature and moisture heaving) is bad for pollen's survival in soil and archaeological contexts--the grains break apart. Pollen grains can also become damaged or destroyed due to abrasion from mechanical degradation—in the right conditions, soils can break down pollen grains).[104] Soil chemistry also affects pollen survival, as pollen does not survive well in more basic soils (with pH higher than 7).[105]

Another caveat lies in that not all pollens present at a site are necessarily local. Some anemophilous pollens, given the low density of their grains, can be transported for thousands of miles on air currents and skew the spectrum.[106] Likewise, zoophilous pollens may rarely appear in soils because their grains are sticky and heavier; since they are not windborne and are carried

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[103] Bakker, "Archaeology and Palynology," 80.
[104] Vaughn M. Bryant Jr. and Richard G. Holloway, "The Role of Palynology in Archaeology," *Advances in Archaeological Method and Theory* 6 (January 1, 1983): 195.
[105] Bryant and Holloway, "The Role of Palynology in Archaeology," 196.
[106] Bryant and Holloway, "The Role of Palynology in Archaeology," 195.

more or less strictly by organisms, they don't often make it away from the plant. Their representation in a sample may be much lower than their actual distribution at the site or in the region. Those plants with very large pollen grains (like *Zea mays*) may also appear to be over-represented at a site because their grains are too heavy to travel very far by wind dispersal.[107] Different plant species produce different amounts of pollen and spores throughout the year as well, so sheer volume alone may skew a pollen spectrum. This is especially true of some coniferous species, which can produce several billion pollen grains per tree.[108]

Furthermore, pollen can be difficult to assign to taxa, and grains of related species may be hard to differentiate from each other. Pollen grains are often only identifiable to the family or genus level, and very rarely to the level of species. Very often, all the species of one genus will look similar (e.g. *Pinus* spp. all bear resemblance to a "Mickey Mouse" hat with respect to shape), and even the pollen of related genera can look similar to each other (*Pinus* and *Picea* spp. can be difficult to differentiate, for example). In some taxa, like Graminae grasses, it is nearly impossible to tell different species apart. Other species are easier to identify given their particular shape or size (e.g. maize pollen, which is the largest of grasses). Therefore, a palynologist must have a very good grasp of pollen shapes, sizes, and differences between taxonomic groups that may appear similar, as well as knowledge of those species native to the sampled area.[109]

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[107] Bryant and Holloway, “The Role of Palynology in Archaeology,” 195.
[108] Bryant and Holloway, “The Role of Palynology in Archaeology,” 194.
[109] G. W. Dimbleby and Eberhard Grüger, “Pollen Analysis of Soil Samples from the AD 79 Level,” in *The Natural History of Pompeii*, ed. Wilhelmina F. Jashemski and Frederick G. Meyer (Cambridge: Cambridge University Press, 2002), 181.

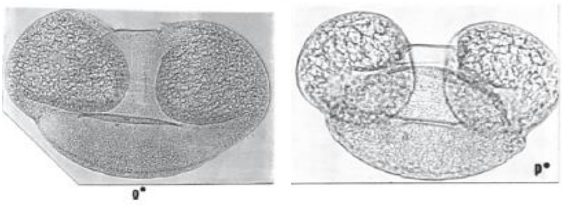

Fig. 2.3: Picea likiangensis Pritzel var. purpurea *Dallimore & Jackson (left) and* Pinus resinosa *Ait (right).*[110] *Note the similar shapes of these two coniferous pollens can cause confusion for untrained investigators.*

Soil composition may also affect distribution of pollen grains throughout a sample. Looser soil or wetter soil may allow for more recent pollen to penetrate further into a soil matrix. This means that actual representation of fossil pollen grains within a particular soil horizon may be distorted by the intrusion of later grains. Some pollens may wash out due to higher water content as well. To help compensate for this, palynologists have to use a "pollen influx ratio," which indicates the rate at which a given pollen would have been deposited each year at the sampling site.[111] It gives researchers an idea about the size and rate of pollen rain at a site for a particular species.

On a final note, pollen sourced from coprolites may not provide much information about diet plants; they are more likely to preserve environmental pollen that has been inhaled and swallowed by people and animals.[112] But, that aside, coprolites can tell us about seasonal site occupation based on the pollens present in them.[113]

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[110] Photograph from Traverse, *Paleopalynology*, 28:106–107.
[111] Bryant and Holloway, "The Role of Palynology in Archaeology," 207.
[112] Renfrew and Bahn, *Archaeology: Theories, Methods, and Practice*, 280.
[113] Bryant and Holloway, "The Role of Palynology in Archaeology," 211–212; Martin and Sharrock, "Pollen Analysis of Prehistoric Human Feces."

Sourcing Methods

Soil Sourcing

Soil samples are taken from soil cores or dug samples on-site, and usually comprise 0.5L-1L of soil, which are divided into smaller sub-samples between 1 ml and 10 ml in size.[114] Additionally, samples should be taken from outside of the site, as these provide an environmental control for comparative study.[115] Surface soil samples should also be taken to provide a modern control to aid in identifying modern contamination as well.[116]

The usual method of processing pollen samples in soils involves three main actions: flotation and sieving of the sample to separate out organic and mineral fraction from the sample, application of acids to dissolve remaining organic fraction, and preparation for mounting and viewing.[117] Lycopodium spores may be added to the sample to aid in the fraction process. A sample extraction method suggested by Branch, et al., because it is less harsh on harsh pollen grains, is as follows:[118]

1. The sample should be dispersed in a 1% sodium pyrophosphate or hexametaphosphate solution.
2. The preparer should sieve the sample-in-solution through 90 μm, 125 μm, 150 μm, or 200 μm mesh to remove large organic and mineral fraction from the sample.
3. Then, she should sieve the sample through a 5 μm mesh to remove fine organic and mineral fraction.

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[114] Bryant and Holloway, "The Role of Palynology in Archaeology," 199; Branch et al., *Environmental Archaeology*, 126.
[115] Renfrew and Bahn, *Archaeology: Theories, Methods, and Practice*, 247.
[116] Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," 66.
[117] Branch et al., *Environmental Archaeology*, 126.
[118] Branch et al., *Environmental Archaeology*, 126.

4. Organic and mineral fraction should be separated out through "heavy liquid flotation" following the final sieving using sodium polytungstate at a specific gravity of 2.0 g/cm3.
5. Whatever mineral fraction still mixed in with the organic fraction may be removed by adding a 40% solution of hydrofluoric acid to the sample-in-solution. This will dissolve any mineral fraction left in the sample.
6. The organic fraction containing the pollen is then treated with an acetolysis mixture and centrifuged (Langgut, et al. suggest using a nine parts acetic anhydride to one part sulfuric acid mixture and a wash with glacial acetic acid to remove any residues prior to and after acetolysis) .[119]
7. The sample may then be stained with safranine and water to make viewing pollen grains easier under a microscope, and is then mounted in glycerin or silicon oil.[120]

Other methods are discussed in Bryant and Holloway 1983.[121] Pollens can also be extracted from the surfaces of tools and vessels (baskets and ceramics) as well, usually by using a low-acidity wash.

Plaster Sourcing

A less-often utilized source of palynological information in archaeological contexts that has been utilized since the 1960s, but is now becoming more popular, are plasters from floors and walls.[122] Plaster has the potential to trap both aquatic and environmental pollens, as well as anthropogenic pollens from the direct vicinity of the sample site. This means that plaster taken

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[119] Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem."
[120] Bakker, "Archaeology and Palynology," 81; Branch et al., *Environmental Archaeology*, 126; Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," 119.
[121] Bryant and Holloway, "The Role of Palynology in Archaeology," 202–205.
[122] James N. Hill and Richard H. Hevly, "Pollen at Broken K Pueblo: Some New Interpretations," *American Antiquity* 33, no. 2 (April 1, 1968): 200–210.

from surfaces in gardens or farms can trap heavier and exotic pollens that may not appear in surrounding soil contexts, especially if soil conditions are not ideal for preserving pollen grains (high pH, low moisture, etc.). The rough surfaces of some plasters may also serve to trap aerial pollen grains in a manner similar to surfaces of tools and ceramics, and plaster floors also have the potential to trap pollens that have been pressed into them from repeated use.[123] Also, given that plaster surfaces frequently undergo reapplication—in some cases monthly—pollen profiles from subsequent plaster layers can create a seasonal pollen sequence (potentially indicating seasonal changes in represented species).[124] Having this kind of seasonal sequence can tell archaeologists which plants people were cultivating at a site and when they were doing so, and perhaps also indicate shifts in planting choices (e.g., a farmer growing one crop in favor of another crop). For these reasons, plaster may be a good substrate to mine for pollen data.

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[123] Bryant and Holloway, "The Role of Palynology in Archaeology," 212–215; Hill and Hevly, "Pollen at Broken K Pueblo," 200; Kelso and Good, "Quseir Al-Qadim, Egypt, and the Potential of Archaeological Pollen Analysis in the near East," 198–199; Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," 65–66.

[124] Nicole Boivin, "Life Rhythms and Floor Sequences: Excavating Time in Rural Rajasthan and Neolithic Catalhoyuk," *World Archaeology* 31, no. 3 (February 1, 2000): 367–88.

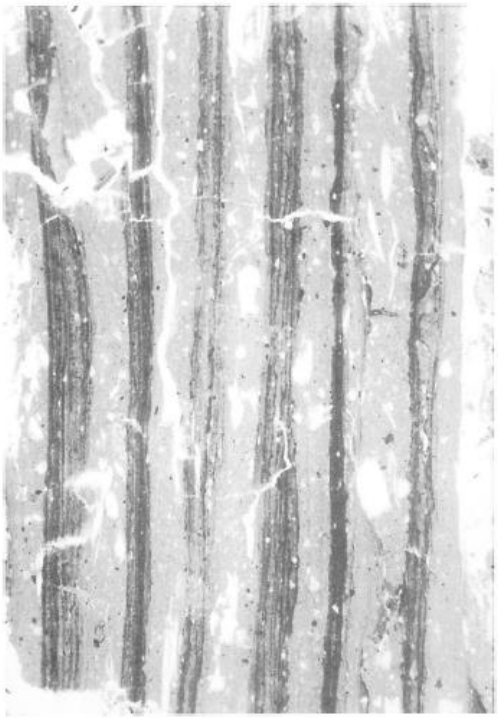

Fig. 2.4: Plaster thin-section from Çatal Höyük. The black streaks and specks in the plaster profile are soot particles. Pollen can be trapped in the same way.[125]

An alternative method of analyzing pollen from plaster that could be fruitful is the thin-sectioning of plaster with a microtome or saw to view pollen within the plaster matrix.[126] The idea behind this is that pollen trapped in plaster can be analyzed with minimal processing of the sample and minimal chemical exposure (if any at all). Instead, the plaster sample is sliced to make individual cross-sections of the sample, allowing for the viewing of pollen grains in the matrix. The upshot is that doing this saves time and expense for the investigator, and allows the investigator to see how pollen is distributed in the plaster matrix. It is not necessarily useful for the purposes of pollen identification, given that individual grains of pollen trapped in plaster will not necessarily be aligned in such a way that, when cut, they can be identified. But, thin-sectioning can help investigators identify plasters that contain pollens, identifying for them those

[125] Photograph from Matthews, "Micromorphological and Microstratigraphic Traces of Uses of Space," 364–367. Used with permission.
[126] This method was first brought to the author's attention by Dr. Linah Ababneh, personal communication.

loci from which they can take further samples for proper identification. The number of plaster layers visible in the thin-section can also give researchers an idea of how often the surface was re-plastered. If pollens appear clustered in certain layers, the thin-section can indicate the season in which that particular layer was applied, and whether or not plaster was applied at regular, seasonal intervals, which can aid archaeologists who are interested in identifying a chronology for structures on-site.[127] Further investigation of this method needs to take place, but it could be fruitful for understanding how pollen grains are trapped and distributed in wet plaster.

Case Studies

Bethsaida, Israel

The work done at Bethsaida in 1996 focused on the Temple of Julias (dated to AD 30) and the granary and storage bin attached to the complex, with the intent of learning something about Philip's socioeconomic policies during the tetrarchy and to determine if Philip was modeling his own economic policy on Rome's.[128] The researchers also wanted to identify the manner in which crops were being brought to the temple as tribute.

Conventional methods of pollen extraction yielded few, if any, fossil pollen grains.[129] Geyer decided to sample multiple contexts to understand why Levantine deposits rarely preserve pollen, and chose plaster surfaces as sampling sites, taking a total of twenty-seven samples from the floor plaster of the temple *naos*, granary, storage bin, and cobble pavements, as well as from levelling fill layers, which he assumed would have trapped pollen during the complex's use-

[127] See Boivin, "Life Rhythms and Floor Sequences" for a discussion of plaster reapplication frequency in the Indian subcontinent.
[128] Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," 65.
[129] Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," 66.

life.[130] Thirteen of these samples (and a modern control) were tested. The samples were processed using a detergent solution and sodium hydroxide to deflocculate the samples and break up organic cementing agents that trap pollen grains; this produced sufficient quantities of pollen for analysis in 12 of the 13 samples.[131] A number of these samples were contaminated by modern, exotic pollens (specifically *Eucalyptus*, which was introduced to the Levant in the 1880s). The samples that exhibited this contamination had been exposed to the open air for two seasons, which allowed for intermixing of modern pollens in the samples. Those samples which remained uncontaminated were either solid chunks of plaster, or had remained unexposed prior to sample collection.[132] The number of species that were represented in the samples taken from the plaster floors were wide ranging, but those pollens that were in sufficient number for analysis belonged to flax (*Linum*), barley (*Hordeum*), wheat (*Triticum*), olive (*Olea*), willow (*Salix*), tamarisk (*Tamarix*), pondweed (*Lemna*) grasses (Poaceae), oak (*Quercus*), sagebrush (*Artemisia*), apiaceous plants (carrot family), and members of the Chicoriodeae and Asteroideae (sunflower family plants).[133] Cultivated species (flax, wheat, and olive) comprised 28.1% of the pooled floor samples, while ruderal 23% and hydrophyl plants made up 53.6%. Oak and sage made up the remainder. Of these, flax and *Lemna* were the most significant in the samples derived from the granary bin and pavement.

The paucity of olive pollen, which is anemophilous and sticks to the fruits of the tree as well as the baskets and tools used in the processing of olives (eventually making it into olive oil itself during the pressing process), seems to indicate that if olives were being brought to the temple, they were brought in the form of olive oil rather than raw fruits (and processed off-

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[130] Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," 65–66.
[131] Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," 66.
[132] Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," 69.
[133] Schoenwetter and Geyer, "Implications of Archaeological Palynology at Bethsaida, Israel," 70.

site).[134] Flax, on the other hand, is zoophilous, so its pollen would not be present in large quantities under normal circumstances. Here, however, its high representation, especially in the granary floor, indicates that the flax there was harvested when it was in flower and brought to the temple in sheaves prior to retting and processing into fiber.[135] Other pollens appear to have been tracked in by people at the temple.

The investigations at Bethsaida show that pollen can be sourced from plaster surfaces in areas where fossil pollen rains are not well preserved in soil matrices, and indicate that possible human activity can be inferred by the presence of certain pollens embedded in plaster surfaces, and plaster surfaces associated with agricultural materials and processing can provide pollens that are indicative of the specific genera being processed on them. The investigations at Bethsaida are also a testament to the resistance of plasters to modern pollen contamination. Though the floor surfaces that were exposed to the open air for multiple seasons did exhibit modern pollen contamination, solid plaster surfaces that have not been left exposed or broken remain uncontaminated--they don't appear to become contaminated through pollen influx. This means that large plasters that remain unviolated can provide "pure" pollen spectra for archaeological contexts.

Ramat Rahel, Israel

The recent work at the 4th Century BC Persian palace at Ramat Rahel in Jerusalem also highlights the usefulness of the study of pollen spectra in reconstructing the flora of elite gardens, which can be helpful to the later study of ancient horticulture and the significance of

[134] Schoenwetter and Geyer, “Implications of Archaeological Palynology at Bethsaida, Israel,” 71.
[135] Schoenwetter and Geyer, “Implications of Archaeological Palynology at Bethsaida, Israel,” 71.

particular flora in garden design in particular cultural contexts.[136] As in the case at Bethsaida, macrobotanical remains were not well preserved, nor were pollen grains preserved well in soil contexts.[137] Inspired by the work done with plasters at Bethsaida, the Ramat Rahel team decided to source plasters from the garden at the palace to determine if particular plant pollens were trapped there that could shed new light on the plants growing there, since ancient garden plantings rarely are able to be reconstructed accurately.

Ten plaster samples were taken from a catchment pool in the garden from two layers (an interior plaster layer and an exterior plaster layer coated in slaked lime, which was removed in a laboratory) at Ramat Rahel.[138] The team worked under the assumption that any garden pollens would have been trapped in the plaster during its mixing and application while still wet. To extract pollen from the plaster samples, they dissolved out the plaster carbonates using a 10% hydrochloric acid solution, and then brought the pH of the samples up to 7 using distilled water rinses. Particulates were separated out using a zinc bromide solution with a specific gravity of 1.95, and then the samples were subjected to an ultrasonic bath to loosen and separate fine organic particles. Following this, the samples were centrifuged, sieved, treated with an acetolysis mixture, and then incubated, rinsed, and treated with glycerin.[139]

When the plaster samples were analyzed, they were found to contain few pollen grains from terrestrial plants, and more from aquatic species.[140] The outer plaster layer tended to contain more pollen grains than the inner layer, and most of these were from local maquis and batha flora. The interior layer, however, did preserve pollens from zoophilous fruit trees and

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[136] Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," 115.
[137] Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," 115.
[138] Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," 117.
[139] Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," 119.
[140] Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," 121–122.

ornamentals, including grape (*Vitis*), myrtle (*Myrtus*), willow (*Salix*), fig (*Ficus*), and poplar (*Populus*), as well as the earliest evidence for citron (*Citrus medica*), which is zoophilous, in the region. Other non-natives that appeared in the pollen assemblage included cedar (*Cedrus libani*), birch (*Betula*), and Persian walnut (*Juglans regia*).[141] Examination of the blooming times for these species (as well as the other maquis and batha species present) suggests that the plaster was applied at some time in the spring, allowing the archaeologists to determine when the architects at the garden would have been doing plaster work.[142] But, what the pollen data ultimately suggest at Ramat Rahel is that the Persian elites there were importing foreign trees for the garden as a way to recreate the Persian ideal *paradeisos* and present royal Persian propaganda through horticultural display.[143] Thus, here, pollen data from plasters were able to uncover a whole other aspect of horticulture at Ramat Rahel that would otherwise have gone unnoticed had investigators only used soil-sourced data. The palace at Ramat Rahel, like the temple of Julias at Bethsaida, demonstrates the potential inherent in sourcing pollen from plaster.

Applications around Vesuvius: Fertile Ground?

Throughout this discussion, the application of pollen analysis in archaeology has been explored, examining the advantages and disadvantages of pollen analysis, methods of extraction for analysis, and particular sourcing methods of extracting pollen from plaster, which has the potential to preserve pollens where the natural environment may not. The successes seen in Israel at Ramat Rahel and Bethsaida suggest that plaster sampling could be successful elsewhere in the Mediterranean, and the Vesuvian region seems to be a prime candidate for plaster testing.

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[141] Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," 122–126.
[142] Plastering later in the year would have made the plaster more susceptible to cracking.
[143] Langgut et al., "Fossil Pollen Reveals the Secrets of the Royal Persian Garden at Ramat Rahel, Jerusalem," 127.

Following their work with garden pollens taken from soil contexts, Dimbleby and Grüger both found that little useful pollen data could be extracted from the garden and agricultural soils from Pompeii, Oplontis, and Boscoreale because of the high alkalinity of the soil in the region, preventing any definitive reconstruction of plant species being grown in the gardens on-site apart from the use of carbonized material, which is sparse.[144] Other gardens in the region, such as those in the coastal villas at Stabia, among them the Villa Arianna and Villa San Marco, have poor preservation with regard to carbonized and other organic remains given regional soil chemistry, so apart from root cavities, the plants grown in them are not known.[145]

Pollen extracted from wall-plaster can serve to identify plants that are not visible as macroremains at these sites, and can indicate whether or not plants depicted in garden wall paintings are truly present at the sites where they are depicted, or if the paintings are there to augment or "fill-out" the real garden with exotic species the garden owner was unable to obtain. If exploited in the future, pollen from Vesuvian wall plasters may uncover a whole new dimension to our knowledge of Roman horticulture, and give us new insights into the aesthetics of elite garden design and Roman attempts to awe and delight through the arrangement of foliage. The potential for the identification of taxa present in plaster-sourced pollen, therefore, is great, and the utilization of plaster-sourcing methods can—and indeed, *will*—do much for broadening our understanding of Roman gardens.

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[144] Dimbleby and Grüger, "Pollen Analysis of Soil Samples from the AD 79 Level," 188–189, 210–211.

[145] These root cavities can be cast, allowing garden archaeologists to examine the root structures of the plants and trees growing in these gardens, but as of yet, species cannot be definitively assigned to them. Often, root types suggest certain species, but charcoal and seeds are used to corroborate this. If these are not present, a positive identification cannot be assigned. See Jashemski and De Caro, "Physical Evidence of the Garden: The Gardens of Pompeii and Other Vesuvian Sites"; Jashemski, "The Campanian Peristyle Garden" for further explication of the casting process, identification issues.

CHAPTER 3

THE GARDEN ROOM AT THE VILLA OF LIVIA *AD GALLINAS ALBAS* – AN AUGUSTAN VISION OF EMPIRE?[146]

The Roman world, not unlike our own, was riddled with political imagery. Given the many busts and statues of Roman emperors and statesmen, the many extant monumental structures they created, and coinage minted with their likenesses, the Roman world was suffused with political imagery and statements of power.[147] But political statements need not only have been encoded in worked stone or metal—then, as today, political messages could also be conveyed through a variety of visual media. This section explores how political power could be encoded by means of the manipulation of cultivated space, namely, gardens, with plants and arrangements used to represent different parts of the political statement being made.[148]

The actual nature of many Roman garden plants is unknown as they do not often survive in the material record, which presents a challenge to archaeologists desiring to understand how a "political" garden may have worked in practice. The Garden Room at the Villa of Livia *ad Gallinas Albas* provides a special example of this use of the garden as a political tool in that it depicts a Roman garden fully populated with realistic, identifiable plants. The political nature of

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[146] Originally written for Dr. Kathryn Gleason, Spring 2015. The following makes use of images from the following sources: Georg Reimer, ed., *Antike Denkmäler: Herausgegeben Vom Kaiserlich Deutschen Archäologischen Institut*, vol. 1 (Berlin: Georg Reimer Verlag, 1891), Tafel 11; Kathryn L. Gleason, Amina-Aïcha Malek, and Michele Palmer, "Restoring Ancient Stabiae: Villa Arianna Garden Archaeology Report, June 11-22, 2008" (Field Report, Castellammare di Stabia, 2008), 10 (RAS/UMd/Cornell, used with permission from T.N. Howe, RAS); and Kathryn Gleason (personal permission).

[147] See Zanker's lengthy treatment of this in Paul Zanker, *The Power of Images in the Age of Augustus* (Ann Arbor: University of Michigan Press, 1988). Of course, the Roman world was also suffused with images of humor, wit, etc., as well as piety and religious feeling.

[148] Stackelberg, *The Roman Garden*, 74–86.

the Garden Room is rooted in its ownership, painted some time following the Battle of Actium (perhaps ca. 20 BC) on the commission of either Livia Drusilla or the Emperor Augustus, and it depicts by means of these plants a peaceful vision of the empire under Augustus' *pax Romana*.[149] In this section, I will discuss how the various visual themes in the Garden Room work to support this overall Augustan program of peace; how the manner in which the Garden Room conveys political messages applies to actual Roman gardens; and how the bodily experience of the real and painted garden enhances the manner in which information is imparted to viewers. This paper constitutes part of a larger group effort to investigate the experience of the Roman garden through visual and bodily media.[150]

The Garden Room of the Villa of Livia *ad Gallinas Albas*: Augustan Themes

The Garden Room of the Villa of Livia *ad Gallinas Albas* is a beautiful example of Roman floristic painting, rendering some twenty-four species of flowers, shrubs, and trees, both native to Italy and exotic, in realistic detail.[151] The paintings simulate a garden in the round, depicting the garden plants bordering a walking path bounded by two fences. If imagined as a three-dimensional space, the first fence separates the viewer from a grass walk, on the other side of which is the second fence. Set into niches along this second fence are specimen trees (spruces, a pine, and an oak), and along its base are, at intervals, violets, irises, ferns, and ivy. It is behind this fence that the majority of garden plants are located, with smaller woody trees and shrubs—among them laurel, arbutus, oleander, myrtle, dogwood, box, and rose—, flowers,

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[149] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 27–29. See note 35 above regarding the dating of the room by means of masonry dating and painting style.
[150] This is being more fully explored in a forthcoming paper on strolling and the experience of garden space from the author, Kaja Tally-Schumacher, Jessica Pfundstein, and Mujahid Powell.
[151] Caneva and Bohuny, "Botanic Analysis of Livia's Villa Painted Flora (Prima Porta, Roma)."

fruiting trees, pines, oaks, palms, and cypresses all making up the floral panoply. The plants in the garden exhibit some manner of pruning and care that causes them to be displayed in such a way that they create a layering effect, with certain parts (flowering branches, fruits) highlighted, perhaps emphasizing actual pruning practices or trends in planting and floral design against an image of "wild nature."[152] The fruiting trees and shrubs tend to take up the foreground of the space behind the second fence, with a mixture of woody shrubs and larger trees making up the mid- and background. It is in this mid-ground that we find some of the major components of the Augustan political program of the Garden Room.

Fig. 3.1: The north wall of the Garden Room as it appeared in Antike Denkmäler *(1891).*[153] *The garden paintings sustained subsequent damage and are most fully depicted in the 1891 paintings.*

[152] Gleason, "Constructing Nature: The Built Garden. With Notice of a New Monumental Garden at the Villa Arianna, Stabiae," 12–14. See also Landgren on the *chamaeplatanus*, the dwarf plane tree, which could only exist by means of pruning (in a way, Roman bonsai): Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants," 100–103.
[153] Reimer, *Antike Denkmäler: Herausgegeben Vom Kaiserlich Deutschen Archäologischen Institut*, 1:Tafel 11.

In approaching the question of plants in an Augustan political program in the Garden Room at the Villa of Livia, we should first note that the idea of a garden of politics would have been familiar to Romans. Victoria Pagán has noted that literary gardens are able to comment upon the circumstances of their creation, either through direct engagement with their elements—she cites Horace's interaction with a statue of Priapus in Maecenas' gardens in *Satire* 1.8 as an example—or through the act of representation.[154] The Roman literary garden, she states, can be one that indicates the seat and direction of power in general, not merely politics in its stricter "governmental" sense.[155] The real garden can also do this, and gardens were used to enhance and comment upon the power of their owners or those who used them. Katharine von Stackelberg notes that Caligula's decision to meet Greek and Jewish delegates from Alexandria in the *Horti Lamiani* was just such an exercise of power.[156] In breaking the usual protocol of meeting in a chamber, Caligula undermined Jewish authority, and by ordering certain aspects of the *Horti* to be renovated to his tastes with the delegates present to hear his orders, he displayed his power as emperor to change and control the very landscape in which the delegates were meeting.[157] By reworking the garden, Caligula reworked it in his image.[158] We see how plants constitute the language of political programs, too, through their use in iconography, with Augustus' *Ara Pacis* demonstrating how the use of plants with certain iconographic meanings can present specific political statements to viewers.[159]

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[154] Pagán, *Rome and the Literature of Gardens*, 37–92.
[155] Pagán, *Rome and the Literature of Gardens*, 38–39.
[156] Stackelberg, *The Roman Garden*, 134–140.
[157] Stackelberg, *The Roman Garden*, 138–140.
[158] Stackelberg, *The Roman Garden*, 140. Caligula was mainly working with the architectural aspects of the garden, but this is further proof that garden spaces can be reworked to reflect a person's tastes and ideas.
[159] Caneva, *Il Codice Botanico Di Augusto: Roma - Ara Pacis, Parlare Al Popolo Attraverso Le Immagini Della Natura*.

The most prominent political program of the paintings in the Garden Room in the Villa of Livia *ad Gallinas Albas* is an Augustan or Apolline theme primarily evoked in the paintings' extensive use of depictions of laurel.[160] Laurel trees are ubiquitous in the Garden Room, and seem to form a belt in the mid-ground of the paintings around the garden, separating the trees, shrubs, and flowers of the foreground from the cypresses and pines in the deep background.[161] These laurels form a thick, dark protective band around the garden, contrasting the fruitful heart of the garden with the silhouetted cypresses in the background, which can be representative of death, and conversely, immortality and apotheosis. Augustus established his interest in the laurel as both a symbol of Apollo, whom he thanked for his victory at Actium, and as a symbol of his own rule (he put it on his own coinage and planted laurels outside the doors of his house). Therefore, the band of laurels is suggestive of the protected, peaceful realm created by him during the *pax Romana*.[162] The use of laurel to represent the protective imperial state is also suggested by its use as the wood in the *fasces*, which were symbols of executive power.[163] In this sense, the trees could be physical representations of that state power, perhaps indicating the boundary of the state. Layered onto these associations is the tradition that held that Augustus was sired by Apollo, or even a reference to his uncle and adoptive father, the deified Julius Caesar, who had used the laurel as his own symbol—an acknowledgment of divine parentage

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[160] The association between Augustus and the laurels in the painting is explored in Reeder, Kellum, Klynne, and von Stackelberg. See Reeder, "The Statue of Augustus from Prima Porta, the Underground Complex, and the Omen of the Gallina Alba"; Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*; Kellum, "The Construction of Landscape in Augustan Rome: The Garden Room at the Villa Ad Gallinas"; Klynne, "The Laurel Grove of the Caesars: Looking in and Looking out"; Stackelberg, *The Roman Garden*, 90–92.
[161] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 83–84.
[162] Stackelberg, *The Roman Garden*, 90–92; Klynne, "The Laurel Grove of the Caesars: Looking in and Looking out"; Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 85–86. The inclusion of palms in this layer also enhances this association—see Note 168 below.
[163] Caneva, *Il Codice Botanico Di Augusto: Roma - Ara Pacis, Parlare Al Popolo Attraverso Le Immagini Della Natura*, 110.

from both Apollo and the Divine Caesar.[164] The addition of laurel-like plants (viburnum and vinca) further enhances this association.[165]

Most tangibly, the profusion of laurel trees in the wall paintings may be a reference to the *lauretum* in the villa itself, from which the Julio-Claudian emperors took the laurels used in their triumphal processions, making the garden room an imaginary extension of the *lauretum* in reference to the legend surrounding the *lauretum*'s founding.[166] The laurel carried by the white chicken that gives the villa its name was said to have been used to establish the *lauretum*, and so was a sign of good omen. Positive ominous qualities, then, may be present here, too.

Certain species present in the paintings may also be representative of Augustus' building and restoration projects. The inclusion of oaks in the background, as well as the specimen oak in one of the garden niches, seems to suggest a Jovian or triumphal theme in the paintings, perhaps furthering associations with the victory at Actium. They may also be a reference to Augustus' restoration of the Temple of Jupiter Feretrius, where a sacred oak had been planted by Romulus to house important relics from an instance of single-combat.[167] The inclusion of oaks, then, could have been in reference to both Jupiter and Rome's mythical founder—Augustus, being the city's "second founder," would want to be associated with Romulus. Further Romulan

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[164] Denys Haynes, "The Portland Vase: A Reply," *The Journal of Hellenic Studies* 115 (January 1, 1995): 146–148; Karl Mayhoff, ed., *C. Plinii Secundi Naturalis Historiae Libri XXXVII* (*NH*), Bibliotheca Scriptorum Graecorum et Romanorum Teubneriana. [S.r.] (Leipzig: Teubner, 1870), 16.240; Kellum, "The Construction of Landscape in Augustan Rome: The Garden Room at the Villa Ad Gallinas," 13. The laurels may also reference the laurel grove at the Temple of the Divine Julius Caesar in the Forum Romanum as well.

[165] Both viburnum and vinca are called *laurus* in Pliny the Elder's *Historia Naturalis* (*NH* 15.128 and 15.30, respectively). Cato (*Agr.* 133.2) calls viburnum *laurea*, and Pliny also calls vinca *daphnoides* (*NH* 24.141) and *chamaedaphne* (*NH* 21.68, 172). These names imply that these plants were considered near-laurels or similar to laurels in some way. See Jacques André, *Les Noms de Plantes Dans La Rome Antique*, Collection D'études Anciennes (Paris: Belles Lettres, 1985) for further information regarding naming conventions of these species.

[166] Klynne, "The Laurel Grove of the Caesars: Looking in and Looking out," 5–8; Flory, "The Symbolism of Laurel in Cameo Portraits of Livia," 53–56; Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 84–87. As noted earlier in Chapter 1, according to the legend, an eagle dropped a white chicken bearing a laurel sprig into Livia's lap while she was sitting outside on the property.

[167] Kellum, "The Construction of Landscape in Augustan Rome: The Garden Room at the Villa Ad Gallinas," 211.

associations may be found in the inclusion of myrtles, since Augustus restored the Temple of Quirinus, which was known for being home to two myrtles.[168] By including plants associated with the temples of Rome's deified founder and its highest god, Augustus could have been making a statement about his relationship with the two, and his priestly role as one who not only restores the empire, but one who restores right reverence of the gods as well.

Additionally, there is a theme of imperial botanical colonialism in the Garden Room, which includes exotics from Persia and the East (quinces, pomegranates, and date palms).[169] This would suggest that these plants act as representatives of or captives from these places in the garden—if the garden is representative of the Roman state under Augustus, then these plants may represent the distant provinces within the empire's boundaries, with the bountiful Eastern provinces depicted as fruiting trees.[170] The construction of this garden room would have occurred following the defeat of Marcus Antonius and Cleopatra in 31 BC, so the inclusion of eastern exotics, especially date palms, which were associated with Egypt, may be indicative of the final pacification of that region under Augustus.[171] If this is not the case, then it could indicate a symbolic inclusion of the entirety of the East (including Persia) under Augustus' rule

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[168] Kellum, "The Construction of Landscape in Augustan Rome: The Garden Room at the Villa Ad Gallinas," 211.
[169] Caneva and Bohuny, "Botanic Analysis of Livia's Villa Painted Flora (Prima Porta, Roma)," 153–154. Caneva and Bohuny note that Möller (1890) identified citrus trees in the painting; they, however, identify these as quinces. Pollard notes that botanical imperialism was a fixture in the empire; see Elizabeth Ann Pollard, "Pliny's Natural History and the Flavian Templum Pacis: Botanical Imperialism in First-Century C.e . Rome," *Journal of World History* 20, no. 3 (2009): 320–327.
[170] See Totelin's discussion of the use of exotics by rulers as a means of expressing political and military power: Laurence Totelin, "Botanizing Rulers and Their Herbal Subjects: Plants and Political Power in Greek and Roman Literature," *Phoenix* 66, no. 1/2 (Spring 2012): 122–44,219.
[171] Palms were especially associated with Egypt, and are often depicted in Egyptianizing paintings and mosaics. See Eleanor Anthony King, *Bible Plants for American Gardens* (New York: Dover, 1975), 35; Wilhelmina F. Jashemski, Frederick G. Meyer, and Massimo Ricciardi, "Plants: Evidence from Wall Paintings, Mosaics, Sculpture, Plant Remains, Graffiti, Inscriptions, and Ancient Authors," in *The Natural History of Pompeii*, ed. Wilhelmina F. Jashemski and Frederick G. Meyer (Cambridge: Cambridge University Press, 2002), 140–141. The date palm also had Apolline associations, as in some traditions, Leto gave birth to Apollo under a palm tree, using it as a support for herself in birthing (see the *Homeric Hymn 3 to Apollo*, in T. R. Allen, W. R. Halliday, and E. E. Sykes, eds., *The Homeric Hymns* (Oxford: Clarendon Press, 1936), 3.115–118).

(in some ways echoing the "conquering of Ethiopia" mentioned in the *Res Gestae*, which never actually occurred). In another way, too, the eastern exotics seem to make a statement about the richness and opportunity to be found in the eastern provinces—they are young, but fertile ground for exploitation in the empire. The eastern fruiting trees are depicted as immature, yet are burgeoning with fruit. Similarly, the East is young under Roman hegemony (having only just been conquered), but it is already a rich, fertile land able to yield much wealth.[172] That the one specimen oak in the Garden Room—a victory tree—is flanked by a quince and a pomegranate reinforces this notion.

An alternative reading of this might also mean that the East can be brought to "fruiting age" through imperial intervention, perhaps casting Augustus as a symbolic gardener of empire, using methods of "botanical forcing" to make the empire reach its full potential.[173] Furthermore, considering the mythological aspects of so many of these plants (that they were either transformed for their misdeeds or that they were the objects of the love or lust of Apollo and other gods), this may also be a garden of conquest, where the plants depicted are seen as vassals to Augustus' power as ruler, as those plants were subject to Apollo's power.[174] Together with the laurels, the garden room so far seems to be a botanical representation of the ideal, unified empire under Augustus. If the black band surrounding the bottom border of the painted panels is indicative of a *euripus* or edge of an unseen garden pool (perhaps represented by the floor), then

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[172] The Romans would already have been quite familiar with the fertility of Egypt for at least a century, since it was from Egypt that Rome received the majority of her grain.
[173] Landgren, "Lauro, Myrto, et Buxo Frequentata: A Study of the Roman Garden through Its Plants," 79–104.
[174] Laurel (the nymph Daphne), cypress (the youth Cuparissos), and acanthus (the nymph Acantha) stand out as objects of Apollo's lust or affection; the pine (Pitys, a nymph) as an object of Pan's lust. Other plants, like myrtle (originally Myrrha, who initiated an incestuous relationship with her own father), were transformed for their crimes.

the painting may be one of a botanical empire with the Mediterranean, symbolized by the black band, as a unifying boundary.[175]

The garden may also be one of healing, both in a real and metaphorical sense, but most especially one in which the wounds of Rome's civil conflict are healed under Augustus' peace. Most of the plants depicted have medicinal properties described in ancient herbal texts and encyclopedias (e.g., Pliny the Elder's *Naturalis Historia* or Dioscorides' *De Materia Medica*). Six of them are attested in Pliny to be useful against snake venom, scorpion stings, and spider bites (*Anthemis* sp., *Iris* sp., *Myrtus communis*, *Nerium oleander*, *Vinca major*, *Viola* sp.), and pomegranates are said to act as snake repellent.[176] These plants anti-venom properties play into the greater Augustan/Apolline program in the painting given that Apollo was the slayer of the noxious Python, and Augustus vanquished Egypt, which venerated snakes in political and religious iconography.[177] That so many of these plants have medicinal functions constitutes a statement on the part of Augustus that under the *pax*, Rome and her protectorates will experience a kind of healing following the decades of civil war predating his principate, culminating in a message of a new "golden age" like that identified in the program on the Ara Pacis, and touted by Vergil in his Fourth Eclogue.[178]

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[175] Ann Kuttner, "Looking Outside inside: Ancient Roman Garden Rooms," *Studies in the History of Gardens & Designed Landscapes: An International Quarterly* 19, no. 1 (1999): 27; see Note 80 (34) for further clarification regarding the singularity of this feature.

[176] For discussions of these plants and their various properties and attributes, see Mayhoff, *C. Plinii Secundi Naturalis Historiae Libri XXXVII*, 1.21, 1.39, 13.9, 2.60, 13.103, 13.112–113, 13.118, 15.30, 15.39, 15.118–126, 16.79, 16.107, 17.62, 17.67, 17.95, 21.27, 21.40–41, 21.64, 21.68, 21.130, 21.172, 22.53, 23.105, 23.107, 23.109, 23.114, 23.159, 24.90, 24.141. Also, see André, *Les Noms de Plantes Dans La Rome Antique* for further, non-Plinian citations.

[177] In some ways this comes as a surprise given that snakes held a portentous and religious significance for the Romans (e.g. the snake that comes out of Anchises' tomb in *Aeneid* 5 and the association of snakes with Aesculapius), but the snakes implied by the Garden Room appear to be antagonistic.

[178] Caneva, *Il Codice Botanico Di Augusto: Roma - Ara Pacis, Parlare Al Popolo Attraverso Le Immagini Della Natura*; Verg. *Ecl.* 4.4-10 in R. A. B. Mynors, *Eclogae. P. Vergilii Maronis Opera* (Oxford: Oxford University Press, 1972).

Following the presence of plants with power against snakes in the garden, it is possible that their inclusion is in reference to the final defeat and pacification of Egypt under Augustus' principate. Snakes play an important role in Egyptian iconography, so the garden, with Augustus, taking on Apollo's role as protector and snake-slayer, in addition to so many plants that either act as antidotes to snake venom or drive them away, might be a vision of the empire without Cleopatra's "poisonous" presence, a safe place for the "birds" of the empire—which may represent the citizens of the empire or even the imperial family itself—to roost. That vinca is effective against the bite of asps in particular is interesting given this reading of the space, since, according to tradition, this was the snake that Cleopatra used to commit suicide.[179] Furthermore, that the garden paintings seem to depict a view from inside a grotto or subterranean space also seems to imply a "de-serpented" place. Since snakes are chthonic animals, a grotto would be a natural place to find one, and not a place where we might expect to see a wide variety of bird life. But, if the grotto and garden represent Augustan Rome—perhaps building upon the legend of the Cave of the Lupercal as a mythical stand-in for Rome as a whole (and reinforcing associations between Augustus and Romulus), or making allusions to the cave where the goat Amalthea nursed the infant Zeus—built up through the Apollo-granted victory over Cleopatra, then we might be able to expect that the threat of "snakes" has been removed from both spaces, allowing the birds of the garden to live in peace without fear of molestation.[180] This lack of snakes further echoes Vergil, who states in the Fourth Eclogue that, with Augustus' advent, the

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[179] David Sider, *The Library of the Villa Dei Papiri at Herculaneum* (Los Angeles: J. Paul Getty Museum, 2005), 66–68. The identification of the asp is supported in the manuscript of the *Carmen de Bello Actiaco* found in the Villa dei Papiri, which describes Cleopatra experimenting on criminals with snake venom to determine which method of suicide would best suit her.

[180] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 78–80. For further explication of Amalthea's cave, see Antoninus Liberalis: I. Cazzaniga, ed., *Antoninus Liberalis. Metamorphoseon Synagoge.* (Milan: Istituto Editoriale Cisalpino, 1962), 36.1–4.

"serpent shall perish."[181] The absence of snakes or dangerous animals along with the safe environment created for the denizens of the garden would fit with the motif of the "nourishing grotto" identified in other wall paintings by Reeder, where animals can rear their young in safety, and continues the Augustan protective motifs suggested by the belt of laurels and pseudo-laurels in the mid-ground of the paintings.[182]

From our viewing of the garden paintings at the Villa of Livia, some kind of symbolic Augustan or Apolline theme is present in the painting's imagery, announcing a safe Rome and a pacified East. The ornamentation found in the Garden Room may have served as a reminder to guests of the work Augustus had done to bring peace to the empire. They would also have acted as a reminder of his self-identification with Apollo, perhaps showing them that he desired to emulate the god who, according to tradition may have been his father. The paintings would have announced, echoing Vergil, that *iam regnat Apollo*, or rather, his agent, Augustus, and that he had made the garden of empire safe so that the "birds" of Rome could fly.

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[181] Verg. *Ecl.* 4.24: *occidet et serpens*.

[182] Reeder, *The Villa of Livia Ad Gallinas Albas: A Study in the Augustan Villa and Garden*, 78–80. In Cicero's letters to Atticus, Atticus refers to part of his estate (perhaps a garden house?) as his "*Amaltheum*," and Cicero desires one as well. The meaning of what the space is supposed to be is unclear, but regardless, it seems to be some sort of retreat. See Frank Gardner Moore, "Cicero's Amaltheum," *Classical Philology* 1, no. 2 (April 1, 1906): 121–26.

Encoded Meaning and the Real Garden[183]

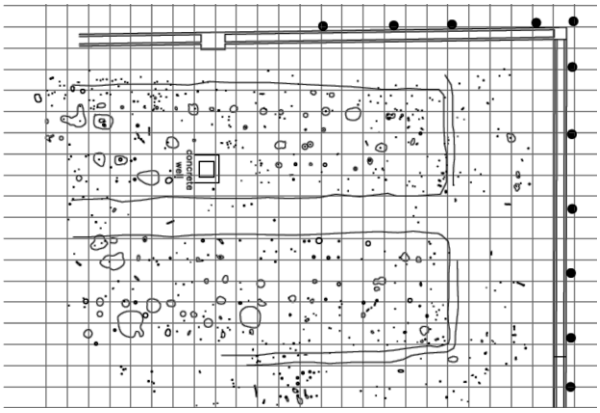

Fig. 3.2: Beds PB1 and PB2 at the Villa Arianna from the 2007 CAD drawing created by the University of Maryland. The beds point toward the peristyle and house, with PB1 at the top and PB2 below it. Circles and other shapes indicate the presence of root cavities, soil depressions, and holes left behind by wicker fencing.[184]

The garden paintings from the Villa of Livia demonstrate in a painted medium the sort of message encoding we could expect to find in a physical Roman garden. Recently, such examples comparable to the Garden Room, in terms of layering of plantings, have been found in the beds of the large peristyle garden at the Villa Arianna in Stabia on the Bay of Naples (early 1st Century AD).[185] Here, two of the planting beds (PB1 and PB2) indicate, through the presence and arrangement of root cavities, that the dense layering of garden plants seen in the wall painting at the Villa of Livia, with smaller plants in the foreground of planting beds giving way to larger shrubs and trees in the background, is representative of a real practice. As in the Garden Room paintings, it appears that here, too, the thick lushness of the section of the beds closest to the house (from which place the garden would have been viewed) thin out into more spaciously arranged trees (not visible in the diagram above).[186] The beds further mirror the

[183] The following is based on data from the Horti Stabiani Project, in association with Restoring Ancient Stabia (RAS) and the Vesuvian Institute.
[184] Villa Arianna Plan. University of Maryland, 2007, in Gleason, Malek, and Palmer, "Restoring Ancient Stabiae: Villa Arianna Garden Archaeology Report, June 11-22, 2008," 10. RAS/UMd/Cornell, used with permission from T.N. Howe, RAS.
[185] The gardens were destroyed with the villa during the eruption of AD 79.
[186] The Garden Room painting depicts more space between garden trees the further back one goes within the paintings.

plantings in the wall paintings at the Villa of Livia in that they seem to highlight a specimen object of some kind. At the end of each bed is an open, almost semi-circular space, in which a statue or urn could have been displayed, perhaps acting in a similar capacity to the specimen trees depicted in the garden painting.[187] If we take the evidence of cavity arrangement together with the apparent spacing created for a specimen piece, we can mentally populate the beds with plants in a manner similar to what we see in the wall paintings at the Villa of Livia, though in this case we do not know the species to which the plants at the Villa Arianna actually belonged.[188] Nonetheless, it seems that if beds PB1 and PB2 could create a visual effect similar to that of the Garden Room, then they could also have been used to present complex visual narratives through creative use of plantings as they appear in the Garden Room paintings.

Given that villa gardens were often used by wealthy Roman statesmen to curry political favor and compete socially against their peers, it may very well be that the garden beds at the Villa Arianna were used to a similar purpose.[189] Furthermore, these complex visual narratives could have been created in the act of strolling through the garden space. At the Villa Arianna, the beds are separated by *ambulationes*—walkways—which would have allowed for movement among the beds in such a way that it would allow the narratives of the garden to unfold for the viewer. Similar beds with *ambulationes* appear at the Villa of Poppaea at Oplontis and in the garden of the Templum Pacis in Rome (evidenced depictions of beds with *ambulationes* on the Severan marble plan).[190] A similar effect can be simulated in the Garden Room, where the depth of Augustus' political themes unfolds as one walks around the room. Since the room presents

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[187] See examples of this from Villa A at Oplontis in Gleason, "Wilhelmina Jashemski and Garden Archaeology at Oplontis."
[188] The pollen sourcing methods discussed in the previous chapter can aid in this.
[189] Stackelberg, *The Roman Garden*, 66–72; Macaulay-Lewis, "Use and Reception," 102–109.
[190] Gleason, "Wilhelmina Jashemski and Garden Archaeology at Oplontis"; Pollard, "Pliny's Natural History and the Flavian Templum Pacis," 319.

the garden as a circuit, one could see it as a never-ending *ambulation*, inviting viewers to stroll around it. The act of strolling through the garden space may also allow for variations in the way the garden's program is received, based in the stroller's personal bearing and his interaction with others in that space.[191] For this reason, it is important to note the importance of the human element to the creation and reception of garden programs.

The Populated Garden—Movement and the Human Element

Fig. 3.3: Reconstruction of movement in the Garden Room[192]

While interpretation of movement through the garden space is still ongoing, one thing that becomes immediately apparent as far as the political aspect of the garden goes is that the

[191] O'Sullivan's recent work regarding the act of Roman walking is very informative with regard to how Romans moved in public space with respect to their social status and in relation to other people. Status-appropriate clothing and behavior would have affected the ways in which Roman men and women moved, and these physical and behavioral constraints would have influenced their experiences in the garden space. See Timothy M. O'Sullivan, *Walking in Roman Culture* (Cambridge: Cambridge University Press, 2011).

[192] Photograph by Kathryn Gleason as part of the work with Tally, Pfundstein, Niemeier, and Powell (used with permission). Movement recreations were done in front of a green-screen using multiple takes to recreate different interactions with the garden space—strolling alone while viewing and interacting with the garden painting, men and women walking together, people of different social status encountering each other while viewing the painting, etc. After filming, the green-screen was digitally removed using Adobe Premiere and Adobe Photoshop, and one of the panels of the garden room was inserted in its place and set to scale. Shots were also done from the perspective of people viewing the strollers in the garden. Doing this, it was possible to recreate the ways in which people strolling in the garden room might have experienced or become part of the painted space.

garden becomes *populated*.[193] Without physical people in the space of the Garden Room, the birds have to suffice as analogues. But, when the Garden Room (or garden) is experienced with people in it, it becomes something Edenic—a completed Augustan *locus amoenus* featuring a fertile pastoral setting, serene bird life, and people to live in and enjoy the pleasures afforded by this setting.[194] In the Garden Room, this effect is at its most apparent if one takes the role of someone watching others interact with the space. In this capacity, the room becomes a harmonious place for people to interact with each other and be seen interacting; if seen as being within the bounds of the newly peaceful empire, the visitors to the room may be seen as being (or even encouraged to be) at peace within a safe place. Like the birds, the people in this vision of the garden of empire are free to conduct their lives in the comfort and safety afforded by Augustus and his patron god. A similar effect could easily be achieved in a real garden, with the added aspect of depth, where the people experiencing the garden would be able to walk among the beds or within rows of trees or shrubbery, receiving the messages encoded in the garden's botanical themes in a fully immersive way, and adding to the richness of the experience of those themes for others strolling between the garden beds or viewing them from a distance. Not only could the narratives of the garden unfold for the strollers as noted above, but the strollers themselves could become part of the garden (or Garden Room) program.

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[193] Movement in the garden space is the subject of two studies currently underway by Kaja Tally-Schumacher, Samuli Simelius, Kathryn Gleason, and David Torrey de Frescheville, and the aforementioned study by Kaja Tally-Schumacher, Nils Niemeier, Jessica Pfundstein, Mujahid Powell, and David Torrey de Frescheville, respectively.
[194] No doubt echoing the sentiments present in Verg. *Ecl.* 4.21-23: *ipsae lacte domum referent distena capellae / ubera, nec magnos metuent Armenta leones; / ipsa tibi blandos fundent cunabula flores.* The scene here is also reminiscent of the description of Calypso's cave in *Odyssey* 5.61-74, with its profusion of bird life and fruiting plants; elements, according to Wesolowski, pleasing to "all five senses:" Deanna Wesolowski, "Frustrated Desire and Controlling Fictions: The Natural World in Ancient Pastoral Literature and Art" (Ph.D., University of Missouri-Columbia, 2011), 37–38.

Conclusions

The Garden Room at the Villa of Livia *ad Gallinas Albas* demonstrates how Augustus used the medium of the garden to communicate a complex political narrative regarding his vision of the empire at peace during his principate, using images of garden plants to encode particular messages about himself, his patron deity Apollo, and the nature of the newly unified (and pacified) empire. The paintings in the Garden Room provide a model that, when compared to actual archaeological data from villa and temple gardens, demonstrates a way in which actual garden plantings could have been arranged and cultivated to encode messages like those encoded in the Garden Room paintings, and shows how they could be experienced and "read" differently based on how they were approached. The addition of people to the Garden Room and garden shows that the messages of such rooms or actual gardens would have been enhanced by the presence of people. By studying the political uses of gardens and garden paintings, it is possible to come to a closer understanding of how gardens may have been more than just pleasure spots or aesthetically pleasing fixtures of the villa. Rather, the Garden Room at the Villa of Livia *ad Gallinas Albas* shows us that the garden could be a powerful tool for imparting messages to its viewers. Further study of this aspect of the Roman garden, then, may be able to tell us more about the ways in which Roman garden culture was used to further the sociopolitical aspirations of Romans, perhaps at all levels of social stratification.

AFTERWORD

In the preceding essays, I have demonstrated that the Roman garden is a complex object, and one that is worthy of intensive study. In the first chapter, we saw how, from a theoretical standpoint, the Roman garden (and gardens in general) can be approached in the same way we approach texts. Because of this, we can see that the Roman garden has a power and agency of its own, as well as an ability to control the ways in which people experience it. In the second chapter, we learned the importance of pollen analysis to archaeological understandings of the garden, and how it affects our knowledge of what the world of the Roman garden was like, and how it might be reconstructed. In the third chapter, it was discussed how a garden, building on the power addressed in the first essay, can encode political messages in its very construction, and how these messages might have been experienced by their viewers.

The Roman garden is special. It gives us an intimate look into one aspect of Roman daily and intellectual life that often seems invisible, where deeper meaning is given to something usually viewed as quotidian, utilitarian, or merely aesthetic. Of course, given the ravages of time and caprices of preservation, our view of Roman gardens is still a partial one. As I have mentioned here, the vast majority of Roman gardens that we see today are "unplanted," and we do not really know what was grown in them (though we can guess). We only have an inkling of what was cultivated in them thanks to what Roman horticultural and agricultural texts tell us (these are problematic) and from the few garden materials that survive. Taking the new pollen sourcing methods discussed in the second chapter, we can come to identify the species truly present in Roman gardens. Pairing these species identified from pollen with root cavities (if present), planting arrangements can be reconstructed. Once we know this, we can make use of

garden paintings, like those at the Villa of Livia, to recreate their appearance, following the pruning and cultivation practices depicted in these paintings as demonstrated in the third chapter.

With these aspects of the garden reconstructed, it can then be possible for us to identify the ideological programs or themes that may be present in these gardens. From there, one can return to the questions of the garden's power and agency to see how such a garden space would have functioned.[195] If, as Pliny the Elder wrote, all Romans had an understanding of the *imago hortorum*, then we, too, ought to strive for a greater understanding of this important facet of Roman life, shedding further light on the ways Romans may have viewed the world around them in both the realm of the garden's microcosm and the greater landscape, and imbued them with power, thought and memory.

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[195] As discussed in Chapter 1.

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