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Chapter 2B

The Physical Evidence of the American Garden

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While the time depth of American gardens is shallow compared with their Old World counterparts, they are as culturally diverse as the nation's history. Each wave of colonization, immigration, and migration brought with it new gardening traditions and materials. These gardening traditions were adapted to the American landscape, both physical and cultural. Far too varied and expansive to describe comprehensively here, the specific characteristics of the physical evidence at a site are, obviously, dependent on the particular context of the garden – its date, region, climate, economic circumstances, urban or rural setting, public or residential, etc.[1] For instance, in California Mediterranean Revival gardens, the hydraulic systems (pipes, fountains, and pools) are central to the infrastructure (fig. 1), while the signature elements of many late 18th century Chesapeake landscape gardens are their series of terraces linked by falls and ramps. In short, American garden history is replete with a variety of styles and their associated material culture. But style is a question, not an answer, and deciphering the meaning of a garden's material culture is the central task of the archaeologist.

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[1] This essay draws heavily on Therese O'Malley with contributions by Elizabeth Kryder-Reid and Anne L. Helmreich, *Keywords in American Landscape Design*, New Haven, Yale University Press, 2010. Other key sources for the material culture of the American garden include Audrey Noel Hume, *Archaeology and the Colonial Gardener*, Williamsburg, Colonial Williamsburg Fondation, 1974; and Mat Brawley Hill, *Furnishing the Old-Fashioned Garden: Three Centuries of American Summerhouses, Dovecotes, Pergolas, Privies, Fences, and Birdhouses*, New York, Harry N. Abrams, Inc, 1998. Barbara Israel and Michael Hales, *Antique Garden Ornament: Two Centuries of American Taste*, New York, Harry N. Abrams, 1999, is particularly useful for 19th and 20th century gardens with its well-illustrated survey of "high-end" garden ornaments and its appendix of manufacturers including foundry chronologies and maker's marks. These works, in conjunction with historical American garden treatises such as Andrew Jackson Downing, *A Treatise on the Theory and Practice of Landscape Gardening*, New York, Wiley and Putnam, 1841 and the widely read periodical garden literature, provide valuable period visual and text references to inform interpretations of the archaeological record.

1. Fountain standing in the center of the 1873 garden at the Santa Barbara Mission, Santa Barbara County, US. The circular fountain dates to the original 19th century garden, but the tiered basins were added in the 20th century (E. Kryder-Reid).

Like counterparts in other areas of the world, excavators of American gardens do not expect to encounter the kind of artifact density manifested in more intensively used work and habitation sites. As at other sites, garden archaeology recovers portable artifacts, such as the tools and equipment used to tend the gardens, as well as decorative objects such as urns and statuary uniquely designed for garden setting. While such artifacts may be part of a garden assemblage that is excavated and catalogued, the material culture of the garden also includes a wide variety physical evidence, as well as its traces left in the documentary and visual record.[2] Instead of simple assemblages of artifacts, the material culture of the garden must be conceptualized as the elements of the designed landscape, including the topographic features, plantings, and garden architecture, that comprise their spatial and visual logic and that structure the experience of the garden. The material culture of the American garden, therefore, may be envisioned as different classes of evidence.

At its most elemental, garden material culture is the physical infrastructure of the space. Landforms and topographic features, such as falls, mounds, mounts, ha has, rockeries, berms, and terraces, were carved from the land and survive as extant features or buried soil horizons.

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2 For a discussion of textual and visual evidence of American gardens up to 1852, see Kryder-Reid 2010b: 25-47 and Helmreich & O'Malley 2010: 49-71.

Garden architecture, such as temples, summerhouses, seats, icehouses, and pavilions, is revealed through foundations, postholes, and architectural debris such as bricks and glass. Structures such as greenhouses, orangeries, conservatories, and cold frames are vital tools in the gardener's quest to extend seasons, cultivate delicate exotics, and bring the garden closer to the domestic sphere[3]. Structures for sheltering animals, insects, and birds in the garden are rarely recovered archaeologically, but historical records and images document the significance of aviaries, apiaries, bee skeps, bee boxes, dovecotes, and birdhouses for attracting species that were prized for their song, pollination, and (in the case of birds) fertilizer. Water features, such as pools, ponds, canals, and fountains, served both utilitarian and ornamental functions, and their remains may survive intact, as in the fountain at the Santa Barbara Mission, or be revealed only by the pipes, ditches, channels, or aqueducts that once conducted the water. In rare instances, water features may even survive as a buried footprint, as at the Paca garden in Annapolis, Maryland (see Part VII, chapter 20) and the Bartram garden in Philadelphia, Pennsylvania. (fig. 2) At the base of Paca's 18th century terraced urban garden, excavations removed the deep overburden to expose the outline of a fish-shaped pond, which, according to oral tradition, began to fill with spring water and in the spring a growth of reeds sprouted where the fish's eye would be (Paca Garden Project).

2. Excavations reveal the profile of the pond at Bartram's garden in Philadelphia, Pennsylvania, US (Courtesy of Joel Fry, Bartram's Garden, The John Bartram Association).

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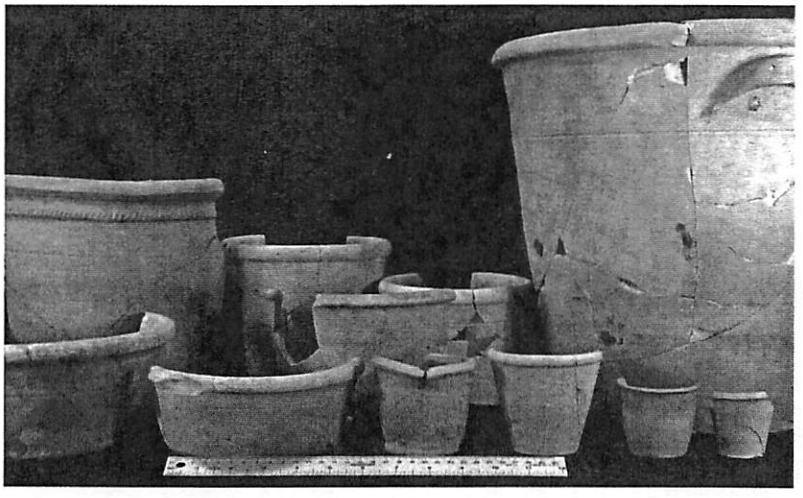
[3] Cunningham 2000.

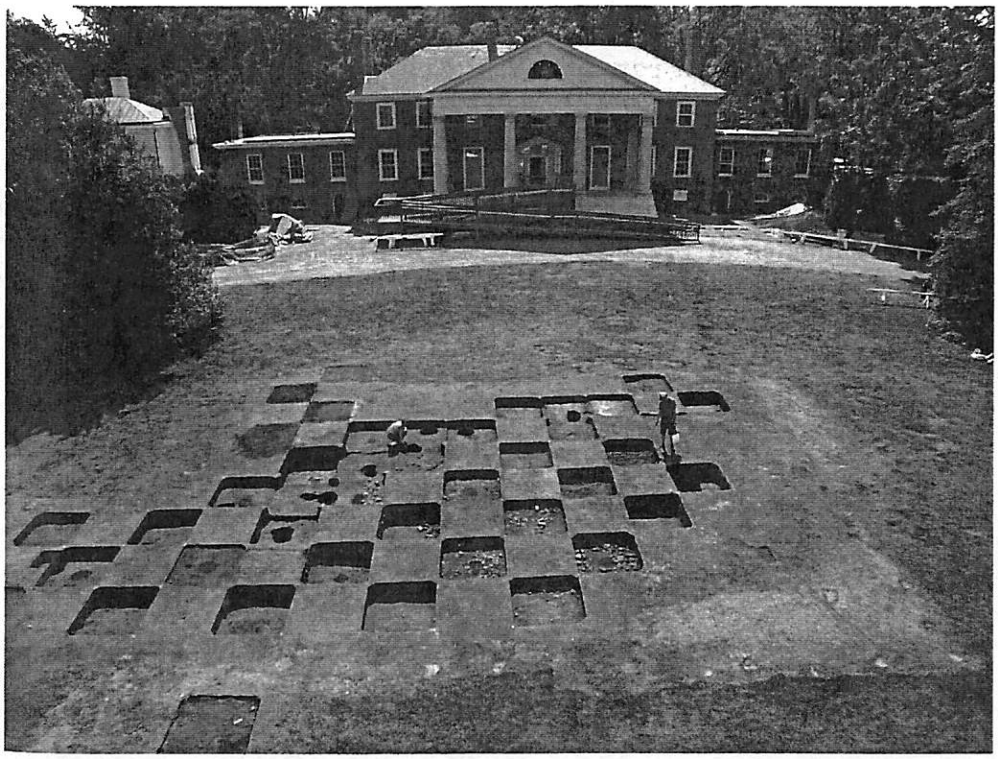
Another significant body of physical evidence is composed of circulation routes like paths, drives, walks, allées, avenues, ramps, steps, and bridges that structured the processual experience of the landscape as well as the spatial and visual logic of the garden. Enclosures such as fences, walls, gates, and hedges bound and spatially defined the landscape while they also functioned as protection from human and animal intruders, microclimates, supports for plants, and symbolic markers of land possessed. Planting arrangements, such as beds, parterres, orchards, vineyards, wildernesses, shrubberies, and copses crafted plants and trees into patterned, structural garden elements in their own right. Garden supports, such as arbors and trellises, were employed for the propagation and cultivation of plant material. Containers of all kinds from window boxes to urns were used for different effects.[4] For example, mixed plantings resembling arranged flowers were popular in the Gardenesque style.[5] Potting plants also allowed them to be moved for decorative effect or to be taken into protected environments during nights or turning seasons. Dating these garden containers is challenging, however, as some of the basic materials and manufacturing techniques have changed little over time. For example, unglazed earthenware flower pots have been found in gardens from the earliest colonial times to present, and there continue to be a mix of molded and handthrown pots on the market (fig. 3). Finally, the material culture of United States includes a wide variety of portable artifacts and garden furniture used to ornament garden spaces, from 18th century statuary and sundials to the bottle trees, painted tire planters, and flamingos of 20th century vernacular gardens.[6]



3. Flower pot fragments excavated at Bartram's garden, Philadelphia, Pennsylvania, US (Courtesy of Joel Fry, Bartram's Garden, The John Bartram Association).

4 Helmreich 2010.
5 O'Malley 2010.
6 Helmreich 2010; Westmacott 1992; Gundaker 2005; Sheehy 1998.

One of the challenges of garden archaeology is the ephemeral nature of most garden features. Not only do plant materials die and decay, but garden maintenance has a destructive impact on the archaeological record as beds are turned, paths raked, meadows plowed, and ponds dredged. Garden excavators generally encounter far fewer artifacts and far more fill than those digging dwellings. Another challenge of recovering and interpreting American garden material culture is that their ephemeral and fragmentary nature must be interpreted within the broad scale of the garden design. Contextualizing the meaning of the material traces in the archaeological record, whether crushed shell from a path, a hinge from a cold frame, or the planting holes of a privet hedge requires a synthesis of the material, documentary, and visual evidence to reconstruct and interpret a garden's design and cultural significance. The scale of recovery is also often vast and requires broad enough horizontal exposure that one can interpret the patterning of faint traces of plantings or circulation routes, as excavations for the forecourt at Montpelier, Hanover County, Virginia have done to trace the fence line and drives that originally framed the approach to the house (fig. 4).[7]



4. Excavations of the front yard at Montpelier, Hanover County, Virginia, US in 2006 revealed the location of fencepost holes (Courtesy of The Montpelier Foundation).

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[7] Reeves 2007.

As Gleason has detailed in this volume, it also requires sampling and recording systems that relate associated spatial horizons and features over wide distances. Simple datum points of depth and location may be meaningless if multiple landscapes have been crafted over time. For example, the gardens of Mount Vernon, Fairfax County, Virginia, are a palimpsest of both George Washington's horticultural experiments on his 18th century plantation and the impulses of early 20th restorations, which envisioned a colonial revival garden capturing the imagined spirit, if not rigorously documented garden, of the nation's founding father. The challenge at Mount Vernon, therefore, is to discern among the evidence of myriad fencelines, beds, and retaining walls which features belong to which eras.[8]

Evidence of plantings and their arrangement as landscape features are critical in the recovery of garden material culture. The most common evidence of planting patterns are beds and planting holes of various shapes and sizes that are dug into the strata for planting bushes and trees. If the plant has decayed in place with little disturbance to the soil it is sometimes possible to detect the root mold within the planting hole as a darker organic-rich soil within the larger planting hole feature, but generally the feature is distinguished only as a planting hole. In some soils the spreading root pattern is defined as darker organic soil and this pattern may be of use in identifying characteristics of certain tree species (those with deep tap roots versus shallow, spreading root systems). Often the challenge is to distinguish planting features from rodent nests and burrows, and identifying tapering roots from the telltale more uniform diameter of rodent runs is a critical distinction. Bisecting the feature and profiling the cross-section are also generally reliable ways to distinguish the planting hole's tapered shape (wider at the top and narrowing at the base) from a rodent burrow. Sectioning also makes identification of any mold from the root ball easier to distinguish.

Archaeologists are trained to look for patterning in the material record, and garden archaeology requires a familiarity with landscape design history. Understanding the broader context of garden history allows excavators to deploy appropriate strategies and to interpret patterns in the material record as evidence of the intent of designers and gardeners, whether they were creating a *ferme ornée*, a *jardin anglais*, a French style garden, a picturesque garden, wilderness, or pleasure ground. In a landscape park, such as a Jens Jensen "Prairie School" design, for example, one would anticipate isolated or scattered plantings of large trees across a meadow while a garden in the "Dutch style" would be characterized by parallel axes, complex parterres, and geometric topiaries.[9] But interpreting seemingly irregular planting holes can also be a challenge in settings where

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[8] Pogue 1994; Rees 1998.

[9] O'Malley 2010.

the design intent is unknown and the preservation more spotty. For example, in Colonial Williamsburg's excavations of Bush Neck Plantation, a 17th century house and garden, archaeologists encountered planting holes that did not appear to align with any known structures or boundaries or to form a coherent pattern. In other instances, the pattern of the plantings is the critical organizing device of the garden. Orchards and vineyards, for example, are characterized by regularized plantings, and property lines or roads are often delineated by tree lines or hedgerows, which may also have served as a visual privacy screen or a deterrent to intruders. Excavations at several mid-Atlantic plantations have yielded evidence of these sorts of plantings. Vineyards were located at Jefferson's Monticello, Albemarle County, Virginia and Charles Carroll the Barrister's Mount Clare home in Baltimore, Maryland. Excavations at Mount Vernon have found evidence of trees along with a series of ditches and fences that enclosed and divided the beds of the orchard and vineyard built by George Washington. In each case, the planting holes corroborated independent evidence (maps, descriptions, or paintings) that identified the types of plantings, but the archaeology provided the exact locations of the trees or vines.

5. Garden beds excavated at the Peyton Randolph site in Williamsburg, Virginia, US, reveal bottle glass bases at the base of the bed (Courtesy of Colonial Williamsburg Foundation).

Planting patterns on a smaller scale are more often distinguished by the outline of beds than by individual planting holes. These beds may be distinguished as richer organic soil cut into the surroundding subsoil or other matrix. The beds may also be outlined more definitively by edging, such as the brick edging at the Hermitage in Nashville, Tennessee or the brick bats excavated at Monticello, Albemarle County. In at least two instances – Bacon's Castle in Surry County, Virginia, and the Peyton Randolph site in Williamsburg – garden beds were lined with broken glass bottles and shell at their base, presumably to enhance the drainage of the dense Virginia clay (fig. 5). In gardens where there has been little disturbance, planting patterns have been identified using aerial reconnaissance that picks up visual differences caused by settling or by differential moisture retention, as at Poplar Forest, Bedford, Virginia or using infra-red photography, as at Bacon's Castle.[10]

Another common soil feature encountered in garden archaeology is the post hole, generally associated in landscape settings with fence posts, plant supports, and post-in-ground architecture. Fence posts are usually identified by their linear alignments, and their placement within the garden is often a critical element in the interpretation of the divisions of work and leisure space, the creations of sight lines or, conversely, the screening of unwanted vistas, the control of traffic patterns or circulation routes, the creation of microclimates (due to their providing shade or protection from wind), or their use for plant supports or animal barriers. At Poplar Forest, the distribution of buttons along the fence line has been interpreted as evidence that the fence was used to hang washing on. The use of fences as a design element, their construction technology, and their symbolic resonance are topics that go beyond the scope of this essay, but their importance in the American landscape cannot be underestimated.[11] Of similar importance, although far less ubiquitous, are other barriers such as walls and hedgerows. Here, too, period garden treatises are helpful in identifying different construction techniques and their particular advantage in the garden. For instance, J.C. Loudon's *An Encyclopaedia of Gardening* (1826) contains extensive entries on garden wall types including "hot walls" in which flues run through the masonry, creating a microclimate suited for forcing trained or espaliered fruit.

In addition to planting and post holes, garden archaeologists may encounter ditches or trenches of various sorts. In some cases the trenches may have been for irrigation or drainage purposes. For instance, the Carroll family referred in their letters to one of the slaves as "Tom ye Ditcher" and the father and son competed for claims to his attentions in maintaining the ditches in their respective gardens. In other cases the

[10] Luccketti 1990.
[11] Patrick 1983; Kryder-Reid 2010.

trenches may be aligned with rows of plantings, as was discovered in excavations of the East Garden (1750-1775) at Stratford Hall, birthplace of Robert E. Lee.[12] Archaeologists have also found furrows, plow scars, soil divots, and other remnants of the cultivation of soil (fig. 6).

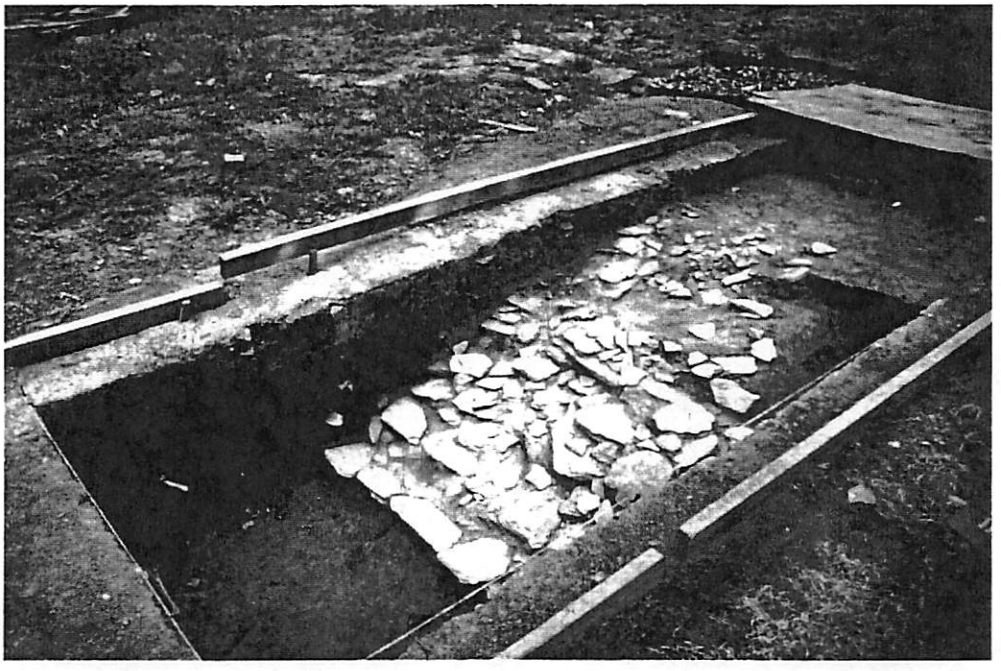
6. Shovel divots at the base of a late 18th-century bed in the Charles Carroll of Carrollton garden, Annapolis, Maryland (E. Kryder-Reid).

On a much broader scale, soil changes in color and composition reveal the massive earth moving and filling associated with crafting gardens. Such changes to the land may include dredging low-lying areas to create ponds and lakes, such as the lake at the Lyman House, Waltham, Massachusetts. It may include building up mounds or mounts, such as those flanking the gate at Mount Vernon or serving as earthen hyphens at Poplar Forest.[13] Ha has, or "sunk fences" as they were also known in the colonies, were created by cutting broad ditches, sometimes with a retaining wall one side, as at Mount Vernon.[14] Bowling greens or "sunk lawns" are mentioned in the documentary record, although they have been more difficult to identify archaeologically as excavations at Mount Clare in Baltimore demonstrated.[15] Large-scale earthmoving has also been a fundamental part of the cutting and filling of natural slopes to create the series of terraces and falls or slopes known as "falling gardens," which were particularly

[12] Sanford 1999.
[13] Heath 1999; Gary *et al.* n.d.
[14] Mansbach 1982; Kryder-Reid 2010.
[15] Comer *et al.* 1986.

common in the Chesapeake area in the last quarter of the 18th century and in Colonial Revival gardens of the early 20th century.

One of the garden elements most likely to survive are the remains of circulation routes in the garden, whether of a scale designed for vehicles, such as carriages, wagons, or cars (roads, lanes, drives, or avenues), or pedestrians (walks, paths, or avenues). The construction and surface treatment of these routes varies across time, place, and setting, but they bear in common both their relative visibility in the archaeological record and their importance for understanding how the garden was meant to be experienced. In American gardens, masonry materials – such as the gravel paths excavated at Montpelier, James Madison's home in Virginia, the stone steps excavated at Morven in Princeton, New Jersey (fig. 7), and the brick walk at the George Reid house in Williamsburg – are all testimonies to the durability or the construction material[16] These walkways, dictated in some instances by the placement of outbuildings (and privies in particular), were sometimes prime factors in determining the layout of gardens, particularly in smaller urban lots.

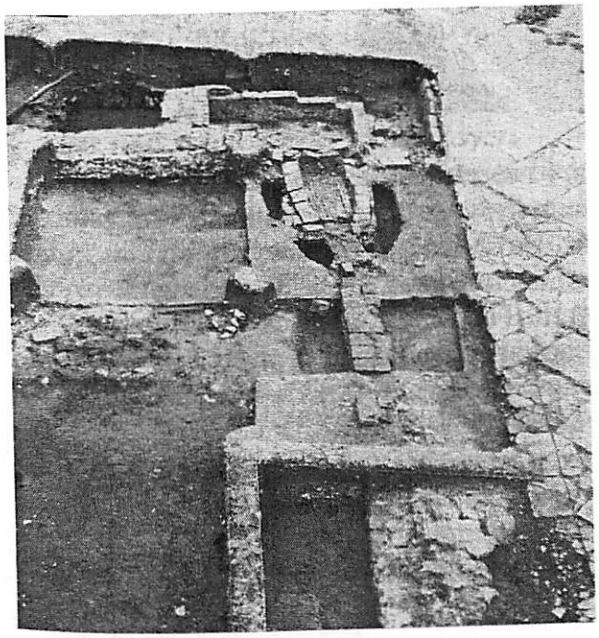


7. The stone steps excavated at Morven in Princeton, New Jersey, US (Courtesy of R. Yamin).

The design and placement of garden architecture is an enormous topic, particularly when considering the entire scope of American garden history. Of great benefit to the archaeologists seeking to recover and interpret past landscapes is that if the documentary record is going to reveal anything

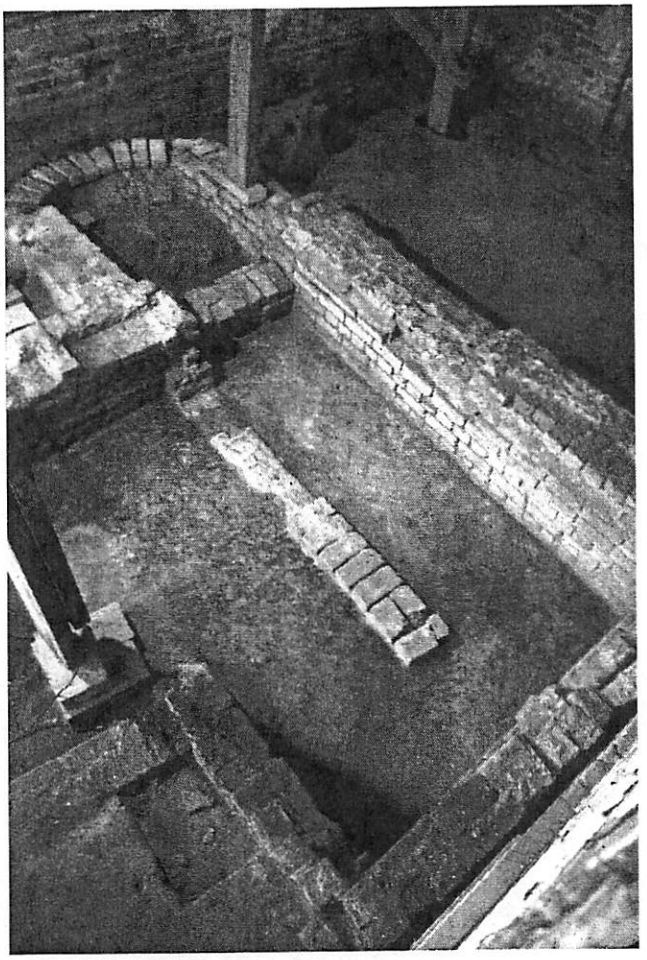
[16] Metheny *et al.* 1996; Hume 1976: 262; Reeves 2007.

about the garden beyond its mere existence, it is likely to mention any significant structures. Such garden architecture might include the fullest flights of whimsy or classical allusion, such as in the classical temple Jefferson designed to top James Madison's ice house at Montpelier, the obelisk and temple Charles Willson Peale designed for his own garden at Belfield in Pennsylvania, or the pair of brick pavilions Charles Carroll of Carrollton built at each end of his seawall, perhaps in quotation of Alexander Pope's own riverside garden in London.[17] Garden architecture not only ornamented the landscape, but was used to raise plants in structures such as greenhouses, hothouses, conservatories, and orangeries.[18] Archaeologically, these plant propagation structures are generally marked not only by their foundations but by their specialized heating systems (fig. 8). One of the most elaborate examples is the hypocaust excavated at the Calvert House in Annapolis (fig. 9), a feature that was subsequently "glassed over" with a transparent floor in the restoration of the house as a hotel.[19] Other signatures may include fire-reddened soil and higher than expected concentrations of glass along the southern walls where glass panes or windows captured the sun's strongest exposure. For distinctions among these types of plant propagation structures – particularly if the site's period coincides with the burgeoning business of hybrids that spawned an increase in specialized greenhouses – garden treatises and horticultural periodicals are helpful sources.[20]



8. Excavation of a 19th-century greenhouse built on the foundations of an earlier residence shows the heating feature, a coal burning stove grate and firebox, in the upper right corner (St. Mary's Site, Annapolis, Maryland). (E. Kryder-Reid).

17 O'Malley 1991; Kryder-Reid 1998.
18 O'Malley 2010.
19 Yentsch 1990.
20 Kryder-Reid 2010b.



9. Calvert House hypocaust which heated the 18th-century orangery, Annapolis, Maryland, US (Courtesy of Archaeology in Annapolis, Historic Annapolis Foundation).

Animal-keeping structures are more rare than their plant propagation counterparts, in part because animals were often kept in other areas of the property and in part because in those instances where animal or insects were kept in the garden, the architecture was generally ephemeral or with minimal below-ground impact. For example, in contrast to the foundations of a greenhouse, a bee skep was often kept on a low platform that rested on small legs, and dovecotes were built with similar minimal structural support or included in the upper parts of other farm or garden buildings, as in Jefferson's design for a dovecote in his garden temple.[21] Aviaries are almost unknown as garden buildings in America, but even the more common birdhouses, known through images and descriptions, leave little archaeological footprint. Other kinds of garden architecture include various farm or plantation buildings that were placed within the garden for functional reasons and sometimes ornamented to complement their surroundings. Examples of these structures include privies, tool sheds, ice houses, smoke houses, well housings. John Michael Vlach has noted that

[21] Kryder-Reid 2010a: 223.

the sides of slave quarters facing the main house were more finished, presumably to enhance the master's view of his plantation landscape.[22]

Finds of garden tools are relatively rare, but the most frequent survivors are the heads of tools, such as hoes, shovels, scythes, and rakes and the iron nosings that were attached to the wooden blades of spades. Later 19th and 20th century gardens are were obviously the beneficiaries of technological advances in watering systems and various grass cutting devices, and the remains of these tools can often be identified through catalogue compilations. While intact vessels such as watering cans, bell jars, and flower pots have been recovered at sites such as Colonial Williamsburg,[23] it is far more common to find broken shards of utilitarian flower pots.[24] More elaborate garden ornaments, such as statuary, fountains, furniture, and urns, are likely to have been removed at the time of the garden's abandonment or transferred to other purposes, and they are also less likely to make it into the depositional cycles of household waste disposal that create the middens, surface debris, and yard scatter artifact contexts in other sites. Fortunately several histories of American garden ornaments provide excellent visuals for interpretating site descriptions in period accounts or the identifiying excavated artifacts.[25]

Conclusion

The issue of the survival rates of material culture is not unique to garden archaeology, but it does have particular import for its methodology and interpretation because of the depositional patterns one expects to find in gardens. *In garden archaeology, soil features – such as shovel divots, garden beds, and stratigraphic layers – are more common than a high density of artifacts*. Furthermore, unlike domestic sites that typically have sheet refuse in yards, artifacts accumulated beneath floor boards, and trash deposits in abandoned wells, privies, and trash pits, the artifacts found in a garden are most likely associated with construction, demolition, and the movement of fill that accompanies shaping the landscape. It is rare to find the physical remains of what people actually did in the gardens once they were built, with the exception of botanical evidence. While such plant remains may be indicative of gardening activities, there are few artifacts that relate directly to the behaviors of the gardeners, laborers, and those who experienced the garden as part of their daily life. For instance, it is rare to recover gardening tools or fragments of garden ornaments, such as urns, vases, and statuary, let

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22 Vlach 1993, 2002.
23 Hume 1976.
24 Goodwin 2005.
25 Hill 1998; Israel 1999.

alone the remains of picnickers, anglers, or amblers who enjoyed the garden as a recreational space.

In addition to the depositional patterns that limit the artifacts recovered through garden archaeology, there is the issue of the discrepancies between the conceptual categories of archaeologists and those who created and experienced the gardens. Archaeological categories of knowledge are generally predicated on the material assemblage recovered from the ground and often framed by the materiality of the collection. Glass, ceramic, floral and faunal remains, metal, and wood all have their individual conservation needs, dating criteria, and classificatory categories. Analysis of these objects is crucial for dating and for identifying their original form (such as vessel or nail type). This analysis, in turn, allows archaeologists to interpret the stratigraphy of the site and perhaps the land use in different areas of the garden.

But this organization of archaeological data may have little to do with the understanding of the material culture at the time the garden was created. Instead, the original garden's designer may have conceived of garden ornaments as elements of the aesthetic experience of the space or tools to adapt the environment for use, whether as a well-drained lawn for bowling, a sheltered area for nursery plants, or a brick wall to encourage the ripening of espaliered fruit. For instance, to a garden designer envisioning a focal point at the end of an allée or walk, it may have made have made little difference whether it was a topiary in a ceramic pot or a trellis of trained vines over a wooden arch. For the gardener the critical factor may have been the visual effect of the garden element and how it furthered plant propagation, while for the archaeologist the significant variable is often the type of material.

Another divergence between these past and present conceptual frameworks is the definition of material culture itself. Again, archaeologists generally focus on the excavated assemblage of artifacts for their sample, but garden archaeologists must keep in mind the much broader definition of material culture demanded by landscape design. *They must understand how gardeners of the period conceived of formal and aesthetic elements, and how they bound them together to create a spatial composition that was essential to the use and experience of the garden.* Stone retaining walls from 1760 and 1960 may look indistinguishable archaeologically, but their role and meaning in the landscape are profoundly different. One need only look at the table of contents and illustrations of classic garden treatises such as Philip Miller's *Dictionary of Gardening* (1731), John Claudius Loudon's *An Encyclopedia of Gardening* (1826), A.J. Downing's *A Treatise on the Theory and Practice of Landscape Gardening* (1849), or A.E. Bye's *Art into Landscape, Landscape into Art* (1988) to appreciate the range and complexity of American garden design history. *The task of the garden archaeologist, therefore, is both to recover the material culture of the past landscape and to interpret it within the context of design and cultural history.*

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