

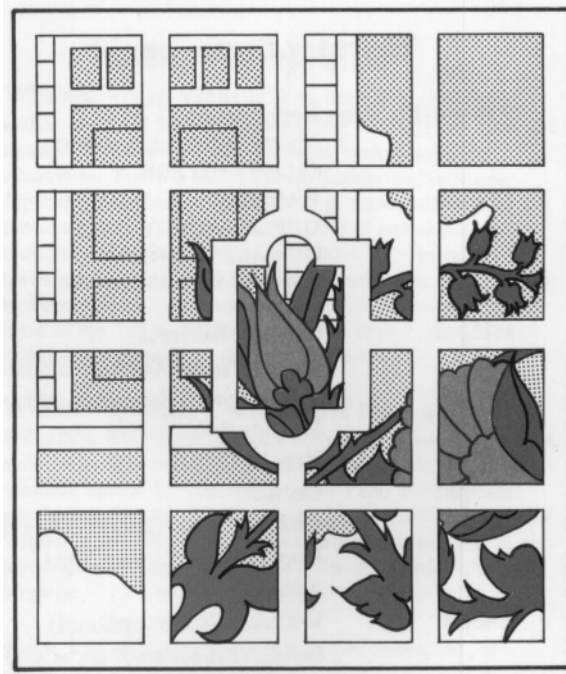
Cultivating History

*Exploring Horticultural Practices
of the Southern Gardener*



*Proceedings of the Thirteenth Conference on
Restoring Southern Gardens and Landscapes
September 27-29, 2001
Old Salem, Winston-Salem, North Carolina*

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Proceedings of the Thirteenth Conference on
Restoring Southern Gardens and Landscapes

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Old Salem,
Winston-Salem,
North Carolina

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The conference logo (previous page) represents the four periods in Southern gardening. The design of the squares centered by a rectangle with elliptical ends is the garden pattern at Pembroke Plantation from Claude Joseph Sauthier's 1769 map of Edenton, North Carolina. The doorway is Georgian from the eighteenth and early nineteenth centuries. The flowers are from a book of Victorian designs, and the garden pattern resembles early twentieth-century latticework fences used in many Southern gardens.

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*Sponsoring Organizations of the Conferences
On Restoring Southern Gardens and Landscapes*

Old Salem, Inc. is a nonprofit educational corporation formed in 1950. It is responsible for the restoration of Old Salem, a Moravian congregation town founded in 1766, and for the operation of nine house museums, The Gallery at Old Salem, and the Museum of Early Southern Decorative Arts, located in the historic district.

The Museum of Early Southern Decorative Arts (MESDA) is the only museum dedicated to exhibiting and researching the regional decorative arts of the early South. MESDA's collections, displayed in twenty-one period rooms and six galleries, include furniture, paintings, textiles, ceramics, silver, and other metalwares made and used in Maryland, Virginia, the Carolinas, Georgia, Kentucky, and Tennessee through 1820.

Historic Stagville, located in Durham, North Carolina, is a state-owned historic site dedicated to education in the social and material history of the plantation South (with special emphasis on the diverse communities of the Bennehan-Cameron plantations) and historic preservation.

The Southern Garden History Society was founded in Winston-Salem in 1982 as an outgrowth of the conferences on Restoring Southern Gardens and Landscapes. Old Salem serves as headquarters for the society, which today has over six hundred members. The society functions in the District of Columbia and the fourteen Southern states.

For information on upcoming conferences, write: Landscape Conference Coordinator, Old Salem, Drawer F, Salem Station, Winston-Salem, NC 27108-0346.

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Introduction

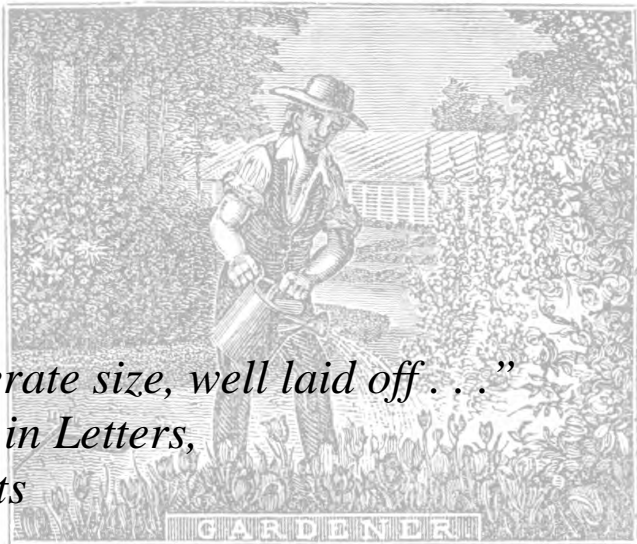
The Thirteenth Conference on Restoring Southern Gardens and Landscapes took place September 27-29, 2001. Held every other fall at Old Salem in Winston-Salem, North Carolina, since 1979, the conferences consistently promote primary research and attract speakers from many different disciplines who discuss with authority diverse topics related to the Southern landscape and the gardens associated with it. The first volume of proceedings was published after the 1995 conference, fulfilling the long-held goal to make the information presented at each conference widely and permanently available to scholars and the general public.

The 2001 conference, *Cultivating History: Exploring Horticultural Practices of the Southern Gardener*, built on and expanded information presented in the previous years. Speakers included university professors, living history interpreters, and professional historians. They presented ground-breaking information on topics as varied as horticultural tools, planting practices, and slave gardens. In this volume the reader will find 18th- and 19th-century gardens described by those who planted or observed them, lists of pests common in the South from 1700 – 1832, and studies of the African-American landscape from several vantage points. Although the workshop format of some presentations is impossible to reproduce in this book, we believe that the information and intent is fully represented here.

It is hoped that readers will also find inspiration and instruction in researching and documenting landscape and garden projects of their own. May this volume of proceedings and its companions provide a useful resource for all those interested in “Cultivating History” as it relates to the landscapes and gardens of the South.

Davyd Foard Hood

“Their garden was of moderate size, well laid off . . .”
Historic Southern Gardens in Letters,
Journals, & Travel Accounts



For three hundred years, since the arrival of John Lawson in the coastal Carolinas, and arguably since John White came to what is now North Carolina's Outer Banks in 1585, the landscape of the upper American South has engaged naturalists, travelers, botanists, and writers. These men and women left appreciations of both the natural landscape and cultivated gardens, records in the form of accounts prepared for those who supported their explorations, in private diaries and journals, and in letters to colleagues and friends. Several works, including Lawson's *A New Voyage to Carolina*, Mark Catesby's *The Natural History of Carolina, Florida, and the Bahama Islands*, and the diaries of Philip Georg Friedrich von Reck's two trips to Georgia in the 1730s, all saw publication soon after the initial travels. They quickly provided readers in England and on the Continent with appealing and sympathetic observation. Accounts of other travelers and explorers came into print long years after the initial trips were made. The experiences of John Bartram and his son, William, beginning with an expedition into Virginia in 1737, and continuing on foot or through correspondence for the next half-century, occurred after both men had achieved fame. William Bartram's *Travels Through North and South Carolina, Georgia, East and West Florida* was published in 1791, fourteen years after his father's death. It enjoyed immediate acclaim, and with the other works cited, became an essential reference. Most remain in print, in facsimile or other forms, to the present.¹

Another group of travel accounts and diaries from the eighteenth century did not enjoy publication until the twentieth century. Janet Schaw's narrative of her journey from Edinburgh, Scotland, to the West Indies, North Carolina, and Portugal from 1774 to 1776 lay quietly in the British Museum until 1904. Published in 1921 as *Journal of a Lady of Quality*, it remains a principal source on Wilmington and the Lower Cape Fear on the eve of the Revolution. The Italian botanist Luigi Castiglioni visited the newly-formed United States in 1785-1787, including Salem, North Carolina, on his two-year expedition. His *Viaggio* was published in Milan in 1790; however, it was not fully translated and published in English until 1983.

An equally valuable record of the Southern landscape and its gardens survives in the many journals, garden ledgers, diaries, and letters written by men and women since the early eighteenth century. These gardeners, whether in town or village, on plantations of thousands of acres or farms of smaller size, cultivated gardens large and small, year after year, generation after generation. Most of their writings remained unpublished until the twentieth century. Foremost in this category are the journals kept by Thomas Jefferson from 1766 until shortly before his death in 1826. *Thomas Jefferson's Garden Book, 1766-1824* was published in 1944; his *Farm Book* appeared in 1953. Together they document the agricultural and horticultural pursuits of the third president through the course of seven decades. The letters of the three William Byrds of Westover reflect the horticultural pursuits of the first dynasty of Virginia gardeners. *The Correspondence of the Three William Byrds of Westover, Virginia, 1684-1776* was issued in two volumes in 1977. Letters exchanged between 1734 and 1746 by John Custis of Williamsburg and Philip Collinson of London recount the exchange of plants, seeds, and bulbs between critical figures in England and Virginia. Utilizing a kinship defined by Peter Collinson during Advent 1735, they were published under the title *Brothers of the Spade* in 1949. The gardening world of eighteenth-century Tidewater Virginia was also recorded in a journal and letters by Philip Vickers Fithian, a tutor to the Carter family at Nomini Hall in the 1770s.

Eliza Lucas Pinckney provided fascinating insight into plantation life and garden-making in colonial South Carolina in letters she wrote to family and friends in the colonies and in England. Preserved in a manuscript letterbook, they were first published in 1972. A larger body of letters penned by Rosalie Stier Calvert in the opening decades of the nineteenth century record her extensive gardening at Riversdale, an estate in Prince George County, Maryland. While the eighteenth century can well be described as a golden age of botany and horticulture in America, a similar term could well define garden-making in the antebellum South. Catherine Ann Devereux Edmondston, who is arguably North Carolina's most engaging published diarist, began her diary in 1860. The bulk of it covers the Civil War years when she kept gardens at two plantations in Halifax County, Looking Glass and Hascosea, where she cultivated her beloved dahlias. She ended her diary on the 4th day of January 1866 and died nine years later.

William Byrd, Eliza Lucas Pinckney, Rosalie Stier Calvert, and Catherine Ann Devereux Edmondston stood at the center of society in their time and place. As aristocrats they were well known, their estates the subject of wide notice, and their writings reflect gardening at the upper reaches of society. Fortunately, gardeners of the gentry class also recorded their horticultural efforts in diaries, journals, and letters. Four such people garner our attention. Frances Baylor Hill kept a diary for a single year, 1797, at Hillsborough in King and Queen County, Virginia. As a young teenage girl she was more interested in the attentions of young men of her society; however, she also recorded the planting of peach trees and the joy of eating fresh peaches, cherries, and watermelons in their season. On 7 March 1846, Lucy Tucker Chambers of Boydton, Virginia, wrote to her sister-in-law, Margaret Tucker in Monroe County, Mississippi: "I have been setting out box all day . . ." The boxwood-lined front walk is perhaps the single most frequent garden feature in the Southern landscape. Here in Boydton, its planting was recorded to a specific day, and it survives although the view north, into the center of the village, is much different. Seven years later, in neighboring Halifax County, William Howerton was

setting about the construction of a Gothic Revival-style villa. In March 1853 he wrote to his sister with instructions concerning the placement of the house at the north edge of a grove of white oaks with four domestic outbuildings to the rear. Mr. Howerton's insistence on the placement of his house, for physical advantage and cool shade, was a time-honored practice in the South and elsewhere. Mary Sensemen came to Palmyra, in the Happy Valley of Caldwell County, North Carolina, in 1873 as the bride of Samuel Legerwood Patterson. From 1877 to 1891 she kept a "Gardening Memorandum." In it she recorded her kitchen gardening and the planting of both home and field orchards on the plantation.

Of course, not all those who kept travel journals and described the gardens along their path through the historic Southern landscape were either botanists, planters, or necessarily gardeners. The title of this paper comes from the pen of a nineteen-year old youth, who was making a journey from Edgefield, South Carolina, to Litchfield, Connecticut. He passed through Salisbury, North Carolina, in May 1809. There he enjoyed the hospitality of Albert and Elizabeth Torrence and their garden. His account was not intended for publication. Instead, each day he made notes of the day's events; on arrival in Litchfield, he composed the narrative that he dispatched back to Miss Harrietta Williamson in Edgefield. His travel account was part of his suit to win the hand of Miss Williamson. They were married two years later. Considered together, these published accounts, diaries, and letters offer valuable insight into garden-making in the South. With this overview established, we turn back in time to the explorations that gave rise to the early published travel records.

The explorers and writers of late seventeenth- and early eighteenth-century America followed a century after John White. In 1585 he arrived at Roanoke Island and proceeded onto the mainland where he found Indian communities, including Pomeiocc, where crops were cultivated and the people lived in a structured society. This visit and others, including the arrival of what became the Lost Colony, occurred during the reign of Queen Elizabeth who encouraged the arts, literature, and exploration on a scale previously unseen in England. John Lawson and his contemporaries, including Robert Beverly in Virginia, looked wide across a Southern landscape that we can never see and will only know from their writings and drawings. Their view was broad, over a landscape of pristine beauty. It was occupied by native peoples who moved over its surface, through its woods, and across its waters in search of only what they needed. It was the canvas on which European settlers would craft new settlements, clear fields, establish plantations and farms, erect mills, build churches, lay out new cities, and mark the boundaries of states and a nation.

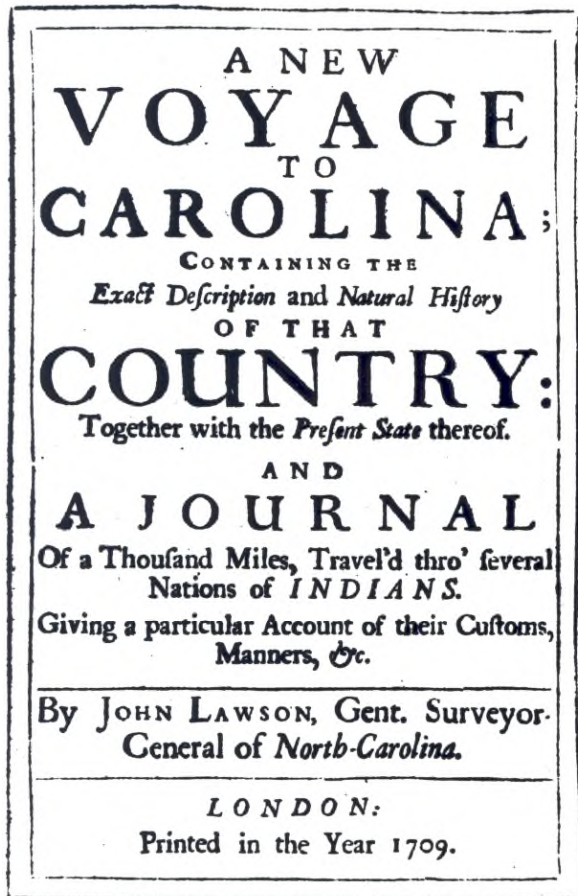


Figure 1. *A New Voyage to Carolina; Containing the Exact Description and Natural History of That Country: . . .* Title page, reproduced courtesy of the North Carolina Division of Archives and History, Raleigh, NC.

John Lawson came to the Carolinas, landing in Charleston, armed with knowledge of White's exploration. His creative energies were focused on written accounts that he composed on his travels, subsequently enlarged upon, and embroidered for *A New Voyage to Carolina*. It was published in 1709.²

A New Voyage to Carolina was the first American travel account that fits the modern form of that genre. It remains in print and readable to the present. Lawson extolled the beauty of the region - and the opportunities to be gained here - through descriptions of Carolina's abundant wildlife, rich soils, varied plant life, and clear waters. The book was based on a journey made through South and North Carolina, at the request of the Lords Proprietors. He departed from Charleston on 28 December 1700 and followed a path upriver and into the interior. Over the course of fifty-nine days he traveled some 500 miles, crossing into North Carolina south of Charlotte and then moving in an arc to end his journey at the plantation of Richard Smith on the Pamlico River on 23 February 1701. With as-yet limited settlement in the colony of North Carolina, there is little surprise that Lawson found ornamental gardening in its infancy.

The Flower-Garden in Carolina is as yet arriv'd but to a very poor and jejune Perfection. We have only two sorts of Roses: the Clove-July (clove-gilly)-Flowers, Violets, Princes Feather, and Tres Colores. There has been nothing more cultivated in the Flower-Garden, which, at present, occurs to my Memory; but as

for the wild spontaneous Flowers of this Country, Nature has been so liberal that I cannot name one tenth part of the valuable ones . . .³

The native plants and animals that fascinated Lawson held a like charm for Mark Catesby, a well-educated naturalist and artist, who arrived in Williamsburg in April 1712. Catesby's sister Elizabeth was in residence there with her husband, Dr. William Cocke. Catesby made the acquaintance of William Byrd II and enjoyed the hospitality of Westover for three weeks that spring. William Byrd later wrote that Catesby "directed how I should mend my garden and put it in a better fashion than it is at present."⁴

The friendship between the two men remained life-long, until their deaths in the 1740s. Byrd was a subscriber to Catesby's *Natural History of Carolina, Florida, and the Bahama Islands*, published serially from 1731 to 1747. It included some 109 birds and 171 plants; among them the *Rhododendron catawbiense* and *Magnolia grandiflora* that became ubiquitous in the Southern garden.

William Byrd (1674-1744) was a member of the first generation of colonial planters and gardeners whose correspondence survives, providing documentary insight into ornamental and kitchen gardening and agricultural practices of the early eighteenth-century South. Another in this group was John Custis, who was married to Mrs. Byrd's sister. Custis corresponded with the leading botanists and plant collectors of the day, in the colonies and in England, including Hans Sloane and Peter Collinson, who was also a friend of Byrd's. In 1737 when Peter Collinson sponsored John Bartram's botanical expedition into Virginia, he wrote Bartram, "I am told Colonel Byrd has the best garden in Virginia, and a pretty green-house, well furnished with orange trees."⁵

The garden included a honeysuckle-embowered summer house, described by Robert Beverley in 1705. It was still standing in the 1780s and garnered the appreciation of the Marquis de Chastellux when he visited Westover which was then occupied by the widow of William Byrd III. A letter, written by Byrd to Peter Collinson in 1729, reflects his horticultural interests.

Sir

Virginia, the 25th of June, 1729

I am very much obliged to you for the fine collections of vines which you was good to send me. They were kept so long on bord the ship, that they were all sprouted in the box, however I observed your directions, & they are allmost all growing at this time, and in a flourishing condition. But the strings with which the several bundles were tyed together were rotted, so that it was not possible to distinguish the several sorts. However this is not so great an inconvenience as you seem to apprehend, because our summers are long enough to ripen any of the kinds in the vinyard, without the help of walls, which woud rather bake, than ripen them. I likewise thank you kindly for the cuttings you sent me of choice apples and pears, which I immediately caus'd to be grafted. I have now above 20 sorts of vines growing, but am told by Mr. James, (who has converst very much with Italy and France) that the way to succeed in a vinyard, is to graft choice vines on stocks of our wild ones, to naturalize them the better to our soil & clymate. I beg you will send me your own and Mr. Warners advice in this matter, by which I desire to be directed. I stil want several kinds of Frontignac, Champaign, and Muscadine vines, which if you can send me without much

"Their garden was of moderate size, well laid off . . ."

trouble, I shoud be obliged to you. I shoud likewise be glad of some choice kinds of plumbs and pears⁶

Peter Collinson replied at length, probably early in 1730, advising Byrd on grape culture. “The better to illustrate the method of pruning which is the principal piece of management in order to have good fruit and a full crop, I have enclosed a rough sketch for your observation.”⁷

William Byrd remained concerned for the prospects of viticulture and the production of good wine; however, he concluded by 1737, that “the upper parts of the country towards the mountains will be the most likely situation” for vineyards.⁸

John Bartram, who came to Williamsburg in the winter of 1737-1738, was no doubt impressed with Byrd’s garden at Westover, but he levied his highest praise on that of John Custis. John Bartram had settled about 1730 on a farm on the Schuylkill River near Philadelphia. From it he traveled through the colonies until his death in 1777, gathering plants, seeds, cuttings, acorns, and roots, which he conveyed to patrons in England. He planted many of these in his own garden that became the first botanical garden in America and the basis of a nursery that provided plants to Southern gardeners into the nineteenth century. On many of his botanical and horticultural explorations he was joined by his son William Bartram, and it was on one of these joint travels that they discovered the *Franklinia altamaha* growing in Georgia. William Bartram published his *Travels Through North and South Carolina, Georgia, East and West Florida, the Cherokee Country, . . .* in 1791. When published in London, it was read by Wordsworth and by Coleridge who later described it as “the last book ‘written in the spirit of the old travelers’.”⁹

In 1735-1736 just prior to Bartram’s visit to Virginia in 1737, Philip Georg Friedrich von Reck traveled with a group of German settlers emigrating to Georgia. The colony settled at Ebenezer. Von Reck documented the experience in his journal and in a series of appealing watercolors. The written account was soon published; however, the watercolors languished unknown in the Danish Royal Library until the late 1980s and their first publication in 1990.

He described the spring vegetable planting thusly:

In April and May our people planted their fields and gardens at Old Ebenezer, and they also prepared some fifty acres in the new place communally and planted them in Indian corn, Indian peas, sweet potatoes, all sorts of garden seeds, melons, gourds, squash, cucumbers, cotton seeds, palma christi, &c.

Sweet potatoes are a kind of West Indian potato. They are white, red or yellow and are cut into pieces and planted in earth that has been piled up about a hand’s breadth deep. They must be planted when it has rained or is going to rain, for they require cool earth at first. . . . The sweet potatoes are sweet and healthy, and, when roasted in the ashes, they can be used in the place of bread. It is a light food and easy to digest.

The Indian corn grows on large stalks like Turkish wheat. Five or six grains are dropped into a hole, and each hole is at least a good step from the next. Between the bunches of corn they plant Indian beans or peas. The corn stalks serve these as

bean poles, and they hold the corn together so that the wind cannot tear it down so easily.

Watermelons are the best of all melons, which include musk-melons, sugar melons and red melons. They are as big or bigger than a gourd and are planted like gourds. On some of them the outer shell is dark green and on some it is light green. The meat is white near the shell and red or lemon yellow near the seeds. It is full of juice, and that is why they are called watermelons. The juice is agreeable, sweet and refreshing and quenches your thirst. And you can eat as much melon as you wish without danger.¹⁰

In the 1770s, on the eve of the Revolutionary War, two diarists recorded their impressions of gardens in Virginia and North Carolina. During the year of October 1773 to October 1774, Philip Fithian, a graduate of Princeton, served as tutor for the children of Robert Carter at Nomini Hall, Westmoreland County, Virginia. On the 31st of December 1773 while walking in the garden he was joined by Mrs. Carter.

We took two whole turns through all the several Walks, & had such conversation as the *Place* and *Objects* naturally excited--And after Mrs Carter had given some orders to the Gardiners (for there are two Negroes Gardiners by Trade, who are constantly when the Weather will any how permit working in it) we walked out into the *Area* viewed some Plumb-Trees, when we saw Mr Carter and Miss Prissy returning--We then repaired to the Slope before the front-Door where they dismounted--and we all went into the Dining Room. I shall in a proper time describe the great-House, & the several smaller ones in its neighbourhood; the *Area, Poplar-Walk, Garden & Pasture*; In the mean time I shall only say, they discover a delicate and Just Tast, and are the effect of great *Invention & Industry, & Expence*.¹¹

After discharging his students on the 16th of March, he had another walk with Mrs. Carter.

After school, I had the honour of taking a walk with Mrs Carter through the Garden - It is beautiful, & I think uncommon to see at this Season peas all up two & three inches - We gathered two or three Cowslips in full-Bloom; & as many violets - The English Honey Suckle is all out in green & tender Leaves - Mr. Gregory is grafting some figs - Mrs Carter shewed me her Apricot-Grafts; Asparagus Beds &c Before Supper a Black cloud appeared in the West, at which Mrs Carter discovered much concern as She is uncommonly affraid both of wind and Thunder.¹²

Mr. Fithian made note of the falling gardens in the Tidewater where the area between the mansion and the river was terraced and planted. He was greatly impressed with the Tayloe estate, Mt. Airy, the seat of Colonel John Tayloe.

Here is an elegant Seat!--The House is about the Size of Mr. *Carters*, built with Stone, & finished curiously, & ornamented with various paintings, & rich

Pictures. He has near the great House, two fine two story stone Houses, the one is used as a Kitchen, & the other, for a nursery, & Lodging Rooms.

He has also a large well formed, beautiful Garden, as fine in every Respect as any I have seen in *Virginia*. In it stand four large beautiful Marble Statues - From this House there is a good prospect of the River *Rapahannock*, which opposite here is about two miles across.¹³

Miss Janet Schaw was another visitor to the coastal South, coming in the spring of 1775 to Wilmington, North Carolina, where she spent most of the year. The greater portion of her days were enjoyed at Schawfield, the plantation of her eldest brother Robert, on the northwest branch of the Cape Fear River. She described the vineyards, orchards, and agriculture of the region and gave particular notice to the gardens of Schawfield.

I have just mentioned a garden, and will tell you, that this at Schawfield is the only thing deserving the name I have seen in this country, and laid out with some taste. I could not help smiling however at the appearance of a soil, that seemed to me no better than dead sand, proposed for a garden. But a few weeks have convinced me that I judged very falsely, for the quickness of the vegetation is absolutely astonishing.¹⁴

Later, she wrote:

. . . the garden is in great glory, tubby roses so large and fragrant, as is quite beyond a British idea, and the Trumpet honey-suckle is five times as large as ours, and every thing else in proportion. I particularly name these two as their bell seems the favourite bed of the dear little humming birds, which are here in whole flocks. The place altogether is very fine, the India corn is now almost ready, and makes a noble appearance. The rice too is whitening, and its distant appearance is that of our green oats, . . .¹⁵

Her comments on the luxuriant growth of *Tube Roses* bears out the mention made by Peter Collinson in 1735 when he wrote John Custis that “In South Carolina the Italian Tuberoses Increase prodigiously.”¹⁶ Miss Schaw visited other plantations in the region and commented at length on their houses and grounds. However, she made virtually no mention of any of the “gardens” that appeared on Sauthier’s 1769 map of Wilmington, giving rise, again, to the veracity of his maps as a true reflection of colonial gardens.

Travelers continued to come to America through the eighteenth century, and particularly so in the years after the colonies gained independence from Great Britain. Luigi Castiglioni, a trained botanist, came in 1785; over the next two years he traveled in all of the former colonies and into Canada. His *Viaggio*, subtitled “Travels in the United States of North America,” was published in Milan in 1790. Castiglioni observed the custom and character of each place, addressed its topography, and analyzed the development of the various states under the heading “Present Conditions.”

On the 20th of March 1786 he set out from Charleston for Savannah in the company of Henry Middleton. They stopped at Drayton Hall whose garden, Castiglioni

noted, contained “some handsome magnolias and some hedges of Paraguay grass.”¹⁷ They spent the evening at Middleton Place. Castiglioni was much taken with “. . . Batavia, vacation place of Commodore Gillon . . ., who has built there a house in the Dutch style and established a fine garden with rare plants and some green houses.” Batavia stood

. . . on the shores of the river where may be seen various trees and shrubs distributed over the various compartments of the garden, among which the redbud, or *Cercis canadensis*, and wild orange *Prunus (laurocerasus) serratifolia* were laden with flowers. In the vegetable garden I saw some of the best greens and legumes kept in greenhouses, and elsewhere in the garden some models of the Medicean Venus and the satyr of ...¹⁸

He continued on through North Carolina, stopping in Salem, and then into Virginia where he visited Monticello on 20 May. Castiglioni had met Thomas Jefferson in Paris, at the residence of Benjamin Franklin.

The situation of this villa is very pleasant. From it one can enjoy the view of the Blue Mountains, of the hills, and of the plain; and it overlooks numerous plantations beyond the town. The house, designed by the owner, is after the Italian style, with high, spacious rooms--possibly in accordance with too grandiose a concept, with the result that it isn't finished yet. On the slope of the mountains there is a quantity of grapevines, an abundant orchard of the best European fruit trees, and a collection of various plants and most unusual shrubs that he himself collected in the woods of Virginia. However, what renders Monticello most noteworthy is a copious library of the best and rarest English, French, Italian, Greek, and Latin books that Mr. Jefferson gathered, not indeed as a matter of luxury, but for his own edification, since he understands the languages. Mr. Jefferson is known in America and in Europe for his talents, and has distinguished himself no less in the sciences than in politics.¹⁹

The second part of *Viaggio* contained “Observations on the Most Useful Plants in the United States.” Plate 12 was the first published illustration of “Franklinia,” predating Bartram's promotion of his own discovery.

This appraisal of travel journals concludes with two entries from the account William D. Martin prepared in Litchfield for his friend Miss Williamson. On Saturday morning the 5th of May, Mr. Martin took breakfast in the inn operated by Albert Torrence and his wife Elizabeth in Salisbury, North Carolina.

Their garden was of moderate size, well laid off; the walks were handsomely embellished with a great variety of flowers, among which I observed for the first time what is called the “Snow ball.” It grows on a bush about the size, & not unlike the lilack, it is much larger than a white rose, with leaves nearly similar to it, which grow very thick to a small round substance.



Figure 2. William Dickinson Martin (1789-1833). This portrait probably dates to the 1810s, a decade during which Martin married Harrietta Williamson, was admitted to the South Carolina Bar, and was elected to the SC House of Representatives. In 1818 he began an eight-year tenure as clerk of the S.C. Senate. Reproduction by permission of Theodore Gunter Glass, a great-great-grandson of Mr. Martin.

In the centre of the Garden was a handsome bower, neatly built, & adorned with English Honey Suckle, Wood-bine & a few Jessamine.²⁰

Martin and his traveling companion, Robert Cunningham, crossed the Yadkin River, and made their way toward Salem where they took breakfast Sunday morning. Martin probably came into Salem by way of the road rising in the foreground of a view of Salem painted by Daniel Welfare in 1824. The travelers spent the day in the Moravian town, and climbed up into the steeple of the Church for a view across town and country. One of the places they visited was the Girls' Boarding School Pleasure Garden.

Next, I visited a flower garden belonging to the female department. The flowers were very numerous, but none of them remarkable for their beauty or novelty - the garden was badly laid off, for it possessed neither taste, elegance nor convenience; the soil appeared barren & unproductive, & the flowers by no means flourishing. There was nothing uncommon in the garden. But it is situated on a hill, the East end of which is high & abrupt; some distance down this, they had dug down right in the earth, & drawing the dirt forward threw it on rock, etc., thereby forming a horizontal plane of about thirty feet in circumference; & on the back, rose a perpendicular terrace of some height, which was entirely covered over with a grass peculiar to that vicinage. At the bottom of this terrace were arranged circular seats, which, from the height of the hill in the rear were protected from the sun in an early hour in the afternoon.²¹

Garden matters were an important topic in the correspondence and diaries of well-educated men and women of the eighteenth- and nineteenth-century South. Beginning

with William Byrd, planters, their wives, daughters, and sons often discussed the cultivation of pleasure and kitchen gardens, as well as crops, fruit trees, and vines in their fields and orchards. In lieu of contemporary plans, which are relatively rare for most of this period, and garden photography, which did not come into its own until the late nineteenth century, letters comprise a chief resource for the history of Southern gardens. The following selection offers perspective on the variety of accounts that appear in Southern letters through two centuries.

The letters written by Peter Collinson and John Custis between 1734 and 1746 and published in *Brothers of the Spade* are largely concerned with the exchange of plants between the two men and their success, or lack of it, in cultivating the plants they received. Bulbs, acorns, seeds, roots, and living plants were carefully packed in Virginia and London and entrusted to the care of ship captains for the voyage across the Atlantic. Custis sent yaupon (*Ilex vomitoria*) to Collinson, and both men followed the Indian practice of making tea from its leaves. We, however, see its value as an ornamental hedge in humid areas where boxwood and other evergreens cannot thrive. The passion flower was another native American plant that captivated Collinson as it had von Reck in Georgia. Writing to Mr. Custis in January 1739, Collinson continued after thanking Custis for Redbud seed: "Pray some more seeds of Each sort of Passion Flower and anything Elce that can be had with Ease scarsly any thing can come amiss."²²

Collinson's penultimate letter to an ailing John Custis in May 1745 concerned both plants.

I have troubled you with Sundry Letters Two by Different ships - with a Recipe in Each which I hope will prove to your Benefit. I have a Little Request to make which I hope will give you Little or No Trouble--that is to send Mee some seed of your Virginia passion Flower which I presume grows in your Garden and some Berries of Cassenna or Yoppon which Grows in your Island. Pray send by Two Conveyances for fear of Accidents. My best Wishes attends you. I will rejoice to hear you received benefits by the presecrption.²³

Their surviving correspondence ended early the next year. Custis would die at the end of the decade.

Historians have long cited Eliza Lucas Pinckney (1723-1793) of Charleston as one of the most distinguished women of colonial America. Garden historians recognize a like distinction. Known for her cultivation of indigo and the management of her father's plantations, she also raised two sons who were pivotal figures in eighteenth-century American life. One of them, Charles Cotesworth Pinckney, was celebrated by Andre Michaux in the naming of the *Pinckneya pubens*. Unfortunately, there is apparently no known surviving likeness of this remarkable woman. Her published letters for the period from 1739 to 1762 were written from the Lucas family's Wappoo Plantation, from London during a sojourn there in the mid 1750s, and finally those from the Charleston mansion and other residences she occupied on the extensive Pinckney plantations. In 1742 she confirms to her friend Mary Bartlett that "I love the vegitable world extremly. I think it an innocent and useful amusement."²⁴ Later in the spring of 1742, in her next letter to Miss Bartlett, Eliza Lucas describes an early episode of garden-making:

You may wonder how I could in this gay season think of planting a Cedar grove, which rather reflects an Autumnal gloom and solemnity than the freshness and gayty of spring. But so it is. I have begun it last week and intend to make it an Emblem not of a lady, but of a compliment which your good Aunt was pleased to make to the person her partiality has made happy by giving her a place in her esteem and friendship. I intend then to connect in my grove the solemnity (not the solidity) of summer or autumn with the cheerfulness and pleasures of spring, for it shall be filled with all kind of flowers, as well wild as Garden flowers, with seats of Camomoil and here and there a fruit tree – oranges, nectrons, Plumbs, &c., &c.²⁵

The next spring Eliza Lucas penned for Miss Bartlett an account of her visit to Crow-field during a tour of estates in Goose Creek, St. Johns Parish, etc.

The first we arrived at was Crow-field, Mr. Wm. Middletons seat where we spent a most agreeable week. The house stands a mile from, but in sight of the road, and makes a very hansoume appearance; as you draw nearer new beauties discover themselves, first the fruitful Vine mantleing up the wall loading with delicious Clusters; next a spacious bason in the midst of a large green presents itself as you enter the gate that leads to the house, which is neatly finished; the rooms well contrived and elegantly furnished. From the back door is a spacious walk a thousand foot long; each side of which nearest the house is a grass plat ennamiled in a Sepertine manner with flowers. Next to that on the right hand is what imediately struck my rural taste, a thicket of young tall live oaks where a variety of Airry Chorristers pour forth their melody; and my darling, the mocking bird, joyned in the artless Concert and enchanted me with his harmony. Opposite on the left hand is a large square boleing green sunk a little below the level of the rest of the garden with a walk quite round composed of a double row of fine large flowering Laurel and Catulpas which form both shade and beauty.

My letter will be of an unreasonable length if I dont pass over the mounts, Wilderness, etc., and come to the bottom of this charming spott where is a large fish pond with a mount rising out of the middle – the top of which is level with the dwelling house and upon it is a roman temple. On each side of this are other large fish ponds properly disposed which form a fine prospect of water from the house. Beyond this are the smiling fields dressed in Vivid green. Here Ceres and Pomona joyn hand in hand to crown the hospitable board.²⁶



Figure 3. Rosalie Stier Calvert (1778-1821) and her daughter Caroline Maria (1800-1842), painted by Gilbert Stuart in 1804. Reproduced by permission of The Maryland Historical Society, Baltimore, MD.

Rosalie Stier Calvert, painted by Gilbert Stuart in 1804, was another aristocrat in the world of Southern gardening. Born in Belgium she came to the United States as a girl of sixteen in 1794 with her parents, Henri Joseph and Marie Louise Stier, who were wealthy political refugees. In the summer of 1797 the family rented the William Paca House in Annapolis; they were living there in June 1799 when she was married to George Calvert, a scion of the wealthy Catholic family. Nine days after their marriage they were entertained at a large family dinner by George and Martha Washington at Mount Vernon. In 1803 when Mrs. Calvert's parents returned to Belgium, the Calverts took up residence in their newly-built house called Riversdale in Prince George County, Maryland, near Washington, D.C. Life at Riversdale, including the planting of its gardens and grounds, was a principal topic of her letters, particularly in the first decade of the nineteenth century when she completed the finish and furnishing of the house and undertook to implement the plan for the estate drawn by William Russell Birch of Philadelphia. Her published letters were written to family members, and mostly to her father who was always her mentor in horticultural matters.²⁷

On 12 August 1803 having located to Riversdale from Mt. Albion, she wrote to her parents:

We have five carpenters here now building houses for the negroes, lattice for enclosing the garden, etc. The garden has been a bit neglected, but I will bring my gardener over from Mount Albion in a fortnight and it will soon be put right. I have arranged all the orange trees and geraniums in pots along the north wall of the house, where they make a very pretty effect, and the geraniums, being shaded, bear many more blossoms and are growing well. You probably recall that we planted several orange cuttings together - not a single one was lost and now they

"Their garden was of moderate size, well laid off . . ."

are small trees. The hydrangea from my Uncle Joseph hasn't bloomed yet, but I think I am going to have three small ones . . .²⁸

Her promise "to make the garden my principal amusement this summer" proved true in 1804. That March she wrote to her mother:

I am very busy with gardening at the moment. Half the garden is leveled off now, and they are working on the palings. Today I planted four groups of cherry trees between the house and the barn, with some rose bushes around. Next I am going to plant several clusters of willows, Italian poplars, and acacias on the north side. There is so much work to do that we don't know where to start. We have extended the garden near the spring so that it is twice as large, but more than half will be planted with fruit trees, currants, raspberries, etc. I have planted a large number of all the varieties of young fruit trees I could find, and I am going to fill the orchard with young apple trees everywhere there is room.²⁹

On 19 May 1805 she wrote to her father:

The garden produces a quantity of excellent vegetables and a great variety of flowers, but it still has only a log fence because the [saw] mill hasn't been functioning. It costs so much to cut [fencing] by hand that it is better to wait. We are getting much better at the art of gardening, especially with fruit trees which we planted a large collection of this year. You would scarcely recognize the orchard. The manure which was applied here in 1803 improved it greatly, and young trees have been planted where needed and [the whole thing] extended a lot on the side of the woods. We are also going to surround it with a hedge. It is incredible how they grow here - within seven years they are impenetrable. . . .³⁰

On 18 October 1805 she included another garden report in a letter to her father.

At the moment I am busy planting my flower [bulbs]. I think I understand this culture now almost as well as you, and a resource you don't have, which I prefer to all types of manure, is old tobacco stalks. We cover the bulb beds with them in the winter, instead of straw, and it is amazing how it makes them grow. . . . The fancy for flowers of all kinds is really increasing; everyone takes an interest, and it is a great honor to have the most beautiful. . . . We have four or five flower-lovers in Bladensburg. I regret that I didn't have time to learn all your gardening secrets, for I often feel myself lacking.³¹

On 7 December 1807 Rosalie Calvert wrote a long letter to her father, thanking him for the generous gift of tulip bulbs which she did not think would suffer "although the season is advanced." Meanwhile, on 3 November she wrote, she had sent him ". . . a box containing tulip-poplar seeds and acorns. There are also a few seeds of the fragrant white azalea (*Azalea viscosa*). It is the most beautiful wild shrub in Maryland, as much for its flower as for its fragrance, and I don't think you have any. . . ." She ended the gardening paragraphs of this letter with a promise. "I will try to get you the catalogue of

Bartram of Philadelphia, who every year gathers seeds of different plants and trees of this country for sale.”³²

The next spring she was annoyed to report to her father that moles had eaten many of the bulbs she had received from him and planted the previous December. She asked for the “double-yellow wallflower and some little double pinks, too,” “some poppies and the double violet” she remembered from her childhood home. She also announced plans for “a small greenhouse this year.”³³

The gardening paragraphs in her letter of 1 November 1809 to Mr. Stier opened with a question:

Do you still amuse yourself with your hyacinths and tulips, dear Father? I am busy planting mine. My display beds are in front of the windows of the house where they will make a handsome effect.

We plan to build an orangerie next summer. I have a small collection of plants in pots which are a marvelous source of entertainment for me - geraniums, heliotropes, jasmines, China rose bushes, etc. I don't have any aloes or any of those other plants whose only recommendation is their rarity and which lack beauty. Our neighbor Mr. Ogle always has a nice collection and we frequently exchange [plants]. Among the flower seeds you sent me three years ago, there were some mallows - some double yellow [ones] and others [of] puce--which are extremely beautiful and are admired by all.

My garden takes much of my time since I am totally in charge of it, [and] my children take the rest of my time.³⁴

Rosalie Calvert's letters to her father continued up to the time of her death on 13 March 1821. George Calvert wrote to his father-in-law of her death a few days later, the letter reaching Belgium in May. Inconsolable, Rosalie Calvert's father died a month later. On 27 July 1821, her daughter Caroline, seen in the Stuart portrait of Mrs. Calvert, wrote her uncle, describing her mother's last days. “During the intervals of cessation of pain, she was busied in giving directions to her gardener, and even separated a quantity of seeds herself and said where and how she wished them to be planted.”³⁵

In another era and another state, North Carolina, Catherine Ann Devereux Edmondston (1823-1875) displayed a like commitment to gardening and the cultivation of place. In 1846 at the age of twenty-two she was married to Patrick Edmondston (1819-1871), the son of Charles Edmondston of Charleston. Patrick and Catherine Edmondston lived for a time in Charleston but soon removed to Looking Glass Plantation in Halifax County, North Carolina, which adjoined her childhood home, Conneconara. Looking Glass and a second plantation, Hascosea, formed a part of her \$10,000 marriage settlement. Today, neither of the houses which stood as the seats of these plantations survive. In 1860 when Catherine Edmondston began her diary their lands comprised some 1,900 acres valued at \$19,000. She and her husband were the owners of eighty-eight slaves who worked in the fields, orchards, and gardens while a small number served as domestic servants.

Catherine Edmondston began her diary with a short entry on 1 June 1860: “Moved from Looking Glass to Hascosea for the summer.”

“Their garden was of moderate size, well laid off . . .”



Figure 4. Catherine Ann Devereux Edmonston (1823-1875). This photographic portrait, first published in the third printing of the diary in 1995, is reproduced courtesy of the North Carolina Division of Archives and History, Raleigh, NC.

Through the course of the next six years, most of which coincided with the conduct of the Civil War, the Edmondstons used Looking Glass and Hascosea as winter and summer residences, respectively. With the help of slaves, particularly the faithful Owen who remained in her employ to her death, they gardened at both places through the course of the war. Mrs. Edmondston maintained her energy and much of her manner of living through the war, but at a high price, personally and financially. She abruptly ends her diary on 4 January 1866; the entry details the new arrangements they entered into with their former slaves who would now work on the plantations under contract with stated wages and conditions. After Catherine Edmondston ended her formal diary keeping she continued to write to friends and family members. Her letters record the greatly changed world of the Reconstruction period in North Carolina and their own diminished lives. Her father declared bankruptcy in 1868, listing debts of \$290,000. Patrick Edmondston died in 1871 and was buried at Trinity Church, Scotland Neck. Catherine Devereux Edmondston died in Raleigh at the age of fifty-one on 3 January 1875. Her body was carried back to Halifax County and interred beside that of her husband.³⁶

Garden-making at Looking Glass and Hascosea is recorded in relatively brief entries throughout the entire span of the diary; a mention here, a sentence or two in another entry, and the occasional paragraph when the subject especially held attention. She noted the planting, cultivation, and gathering of flowers from the beds and pleasure gardens and the like process with all manner of vegetables. Seeds were preserved or ordered, bulbs, roots, and plants exchanged with friends and family members, peaches were preserved or made into brandy, tomatoes were “put up” or made into paste, apples, potatoes, and other crops were gathered and stored for the coming seasons. Although she

did not have a glass house as we know it, she had hot beds in which she started both vegetables and flowers for the spring plantings. Through the seven hundred pages of the published diary she mentions dozens, if not hundreds of plants, that she cultivated or observed in the countryside. However, the dahlia held pride of place in her garden. Numerous entries record the annual process of setting out its roots in the spring, guarding against moles and deer, bringing the plant to bloom, and cutting blossoms for vases. In the fall, after frost but before freezing, the roots were dug, stored in crates or kegs for the next year, or packed and given to favorites among family and friends.

Not surprisingly, her first garden entries in the summer of 1860 concern the dahlia. On 25 July, she wrote,

My dahlias are magnificent! Malakoff is worthy of its name; Glory is gorgeous indeed; and Cheltenham Queen is indeed a Queen for delicacy and purity! My garden is beautiful - how I love it.³⁷

On the 10th of October, she noted, "A slight Frost; not enough to kill the Dahlias however - they continue splendid!"³⁸

At the end of the month she recorded the festivities attending a dinner and ball for the Scotland Neck Mounted Riflemen on their first anniversary as a local militia. "Mrs. Smith and I dressed the Pyramid of Flowers which were really beautiful! My Dahlias made a most magnificent show & won universal admiration."³⁹ A month later, on 25 November, she was ". . . very busy, packing up Dahlia Roots," and on the 29th she "Packed up a keg of Dahlia's for Margaret. They have been so beautiful the past summer & have given me so much pleasure that I am grateful to them & show the Roots the best possible care."⁴⁰ Margaret was her sister-in-law, the wife of John Devereux.

Gardening was renewed in February 1861 when "Beets, Carrots, Spinach, Parsnips, and Salsafy" were planted on the 16th.⁴¹ On the 18th she "Finished planting fruit trees at Hascosea. Planted 2 doz. Albany Strawberry plants bought in Augusta at Looking Glass."⁴²

On the 1st of March Mrs. Edmondston "Planted at Looking Glass more Salsafy, Celery, Leeks, Vic Cabbage, Lettuce of Kinds. Radish for brother's children. In hot bed sowed Egg Plant & Tomatoes. Saw the first strawberry blossom."⁴³

Four days later she

"Went to Hascosea. Straightened Asparagus beds. Sowed Beets, Carrots, Salsafy, Onions, Leeks, & turnips. Mr. Edmondston & I set out 22 Dwarf Pears from Philadelphia & 4 Dwarf Apples. Brought 2 pears & 2 Apples to Looking Glass. Patrick is dreadfully despondent and enough to take the heart out of one. Whilst we were planting the Trees - I holding it & he throwing in the Earth - he suddenly stopped & said "where is the use? We may be doing this for the Yankees. Before this tree bears fruit the Yankees may have over run our whole country."⁴⁴

A frost in late March 1861 forced her to replant virtually everything at both Looking Glass and Hascosea. She waited until all danger of frost was passed, and did not set out her dahlia roots until the 24th of April.

The gardening cycle was renewed and repeated in 1862. On the 6th of March she “Planted a Magnolia which I bought in Raleigh - my only horticultural purchase this year being two Magnolias, one for Looking Glass & one for Hascosea.”⁴⁵

At Looking Glass, by the middle of the month she “Found the Hyacinths in most beautiful bloom! They are truly exquisite & as we came into the gate & their fragrance stole over us, the charm of a quiet home never seemed greater.”⁴⁶

The question of the division of labor in the gardens of the antebellum South is not one that can be easily answered, despite the obvious status of master and slave. Some insight can be gained in Mrs. Edmondston’s entry for 8 May 1862, when she was suffering from fever. “Despairing of being strong enough in time I sent Owen out to Hascosea to plant my Dahlia and Tube Rose Roots, the first time it has ever been entrusted to other hands than my own!”⁴⁷

Illness slowed her efforts in the later spring. On 1 June 1862 she described the vegetable garden as “backward” and then continued with a long appraisal of the thriving condition of other parts of the plantation’s gardens and grounds:

Strawberries we have & have had in abundance for a month past. Our Quinces are for the first time in their lives loaded with fruit & as I walk past them, both themselves & the Strawberries seem to look at me saucily & defiantly, as tho’ they would say, “*Preserve* me if you dare!” for they must know that I have not sugar to spare for such luxuries. The Apples, even my young trees, are most promising, the peaches abundant. The old Pears are loaded with fruit, whilst a few are even to be seen on some of the Dwarf Pears in the garden for the first time. The flower Garden has been magnificent, “The Gardens of Gul[illegible] in their bloom,” Paestum, or any other garden either of poetry or antiquity never surpassed it! I trace an outline of a bud of Isabella Grey which has not yet commenced to expand, the green calyx barely beginning to turn back in proof of it. It has been five days gathered & has shrunk. Sir Joseph Paxton has been a blaze of beauty & the blooms on Fellenburg & Beauty of Greenmount are literally countless; but I feel in enumerating them as a General might who cannot name all the soldiers who distinguish themselves & when he once commences does not know where to stop, for Woodland Margaret looks at me reproachfully, whils “Thad Trotter,” “Rivers,” “Alex Backmetoff” & Giant of Battles seem to glow redder with indignation at being passed over and Alpha grows more saffron with mortification. So I desist. The Dahlias are growing fine and have increased greatly so that I look for a harvest of beauty from them.

All here is peaceful & happy--a bright contrast to some portions of our desolated county.⁴⁸

These few entries, while representing a short period in the life of her garden-making, provide a quick overview of the many riches of the Edmondston diary. The patterns of 1861 and 1862 were repeated in 1863, 1864, and 1865. However, the sense of joy in each sequence of seasons gradually gives way, near the end of the war, to introspection and melancholy. This change can be understood in her own description of a garden pavilion which concludes her entry made on 22 August 1864.

I referred above to the “Soltaire.” I have never described it. We have had a small house in the garden known to the rest of the world as a tool or root House privately fitted up, as a with drawing room. A couch, two chairs, a table for writing, an ink stand, a portfolio, a vase of flowers, a shelf, a few books, & *a broom* constitute its whole furniture. Here Mr. E & myself retire when we wish to be absolutely *alone*. When I find him in it before me I enter only on suffrance. It is a private place of whose very existence no one but ourselves know of & when we are wearied, out of sorts, or have some thing to do which demands quiet & seclusion we retire there & shut out family cares & with them all the rest of the world. It is so arranged that we can see out without being seen in turn & here have I taken my bible, prayer book, & Journal & with the perfume of sweet flowers around me I can daily read & lift up my heart in gratitude, better I fancy than I can in the house. Here, too, we make little appointments to meet at a certain hour & chat & spend the time at our ease.⁴⁹

Mrs. Edmondston held to the hope of a gardener in the face of certain defeat and a larger uncertainty. One of the most poignant entries in the diary occurred on 7 November 1864 after a day in the garden at Looking Glass.

At the plantation getting my hyacinths in the ground. Set with my own hand 608 (six hundred & eight) splendid blossoming bulbs (Owen dug the holes) & my store of smaller bulbs which need a year’s growth to perfect them is to large to count. Was interrupted by rain & came home to Hascosea in a drizzle, my little nephew John Devereux accompanying us.⁵⁰

Catherine Devereux Edmondston did not record the bloom of these bulbs the following spring, as she had in previous years. The events of war intruded violently into her life and filled the pages of her diary before she closed it on the 11th of April 1865, and consigned it to secrecy. She returned briefly to the diary on 4 October, only to end it three months later.

While Catherine Ann Devereux Edmondston’s gardening gained admiration in the mid-nineteenth century, and her diary brought her wide renown on its publication in 1979, the accounts left by three lesser known writers also recount important experiences of gardening and place-making in the nineteenth-century South. Of these three, only the letters of Lucy Tucker Chambers have been published.



Figure 5. Lucy Goode Tucker Chambers (1805-1854). Portrait, dated 1849, is reproduced from *Yesterday When It Is Past*, a family memoir written by her great-granddaughter, Rose Chambers Goode McCullough.

A Georgian Revival-style brick house, built in 1936 by Willoughby Hundley, forms part of the expected domestic landscape of Boydton, the county seat of Mecklenburg County, Virginia. The crape myrtles in the front lawn and the boxwood enframing the house are also expected features of its presumed Colonial Revival landscape. However, they have a longer, more interesting history. The boxwood allee, which carries from the foot of Bank Street to a service door in the north gable end of the house, is actually twice the age of the house. It was planted, not to frame this walk, but the earlier front walk of the Sydnor-Chambers House which stood at this site from the 1820s to 1936. Lucy Goode Tucker was married to Edward Chambers in 1824. In 1844 they bought the Sydnor house at auction, added a two-bay wing to the east and the porch, and set about other improvements. On 7th of March 1846, Lucy Chambers wrote to her sister-in-law Margaret, living in Aberdeen, Mississippi. The letter was mostly filled with local news and family matters that would appeal to Margaret and her husband, Sterling Tucker. Near the end of the letter she inserted a few sentences on her day's work:

O Mat I have been setting out box all day, two beautiful rows each side of the walk to the front gate, and I am going to finish my hedge of cedars around the yard on Monday that I began last fall[.] You won't know this place next fall when you and my dear brother come.⁵¹

Lucy Tucker Chambers died in 1854, eight years after planting the boxwood. Her letter is important for its association with this place, where the boxwood survives intact, although lessened in its landscape role when the 1936 replacement house was built to face east rather than north and down its length. But the account has a much larger significance in Southern garden history. The boxwood-lined front walk is one of the

important hallmarks of Southern gardening. Here in Boydton, this important, universal feature can be fixed in time and place, and to the hands of Lucy Chambers.

In neighboring Halifax County, Virginia, a letter written on the 18th of March 1853 documents another important example of place-making in antebellum Virginia. Following his marriage to Adrianna Tucker in 1848, William Matthew Howerton had remained at home with his parents at Oakland, until he set about to build a new Gothic Revival-style cottage, since known as Seaton. On 18 March 1853, while sitting with the legislature in Richmond, Mr. Howerton wrote to his sister Susannah with directions for the new house.

I am much obliged to you for letting me know Mr. Dabbs' situation in regard to progressing with our buildings. I enclose a sort of rough diagram of the order in which I wished my buildings placed from which Mr. Dabbs can see that I wanted the smoke house & Kitchen more immediately behind my dwelling house and the ice house & negro house at the two corners of my back yard. Well then I want the dwelling house to be in the back of the grove where Father and I agreed on and set parallel with the proposed new road. It seems this ought to be understood. Of course the row of houses in the rear of my dwelling I want in a straight line to be parallel with the dwelling and of course with the changed or new road.⁵²



Figure 6. The Chambers House, Boydton, VA. The boxwood planted by Lucy Tucker Chambers on 7 March 1846 lines the walk leading to the front door of the house, built for Beverly Sydnor, which Edward R. Chambers (1795-1872) bought in 1843 and fitted up as the family residence. This photograph of ca. 1900 shows the façade, made symmetrical with an expansion to the east, and later two-over-two sash windows. The ladies on the porch are two daughters of Edward and Lucy Chambers.

Mr. Howerton continued with explanations concerning the location of the dependencies, his preference for their construction, and the particular advantages of the three plans. He concluded his letter with a postscript.

"Their garden was of moderate size, well laid off . . ."

I wish I could come up to see about the location of the houses but I cant. . . . Still I would do so if Father & Mr. Dabbs thought it necessary. I want the grove saved by all means.

In due time the dwelling house was built by Josiah Dabbs at the north edge of the grove of white oaks, parallel with the new road, and the dependencies were situated in a parallel row further to the north. However, their final positions did not correspond to any of the three plans. A turn-of-the-century view shows the negro house in the northeast (right) corner of the yard with the ice house to its left (west) and the smoke house further to the left. The kitchen stood just outside the image, in the northwest corner of the yard. In the late nineteenth century, after the kitchen was moved into a block at the rear of the house, the old kitchen was incorporated into the carriage house and stable. The grove of oaks lasted well into the interwar period of this century but came down one by one. Today Seaton is embowered in boxwood plantings which flank its drives and walks. The towering white oaks which now shade its grounds are the offspring of those which Mr. Howerton was determined to preserve in 1853.

The letter and plan concerning the placement of Seaton has not been published, and neither has the "Gardening Memorandum" kept by Mary Patterson at Palmyra, in Caldwell County, North Carolina.⁵³ Palmyra stood on the north side of the Yadkin River in the Happy Valley where a wealthy, cultivated plantation society developed in the nineteenth century. The house, and its broad acreage, was located at the center of this community physically and socially. The house, completed in 1815 for Edmund Jones and his wife Ann Lenoir, passed to their grandson Samuel Legerwood Patterson who married Mary Senseman in 1873. The Pattersons occupied Palmyra until the 1890s when they lived in Raleigh while he was in the State legislature and served as commissioner of agriculture in North Carolina. Mary Patterson kept her gardening memorandum from 1877 until 1891, with most of the entries occurring in the spring of each year. Beginning in the spring of 1877 she planted cabbage, tomato, and pepper seed in her hot bed. A few days later she planted lettuce, radish, mustard, and cabbage in the garden. Vegetable planting continued through March and in April she planted both Irish and sweet potatoes. Cucumbers, corn, beans, tomatoes, mush melon, and watermelon followed in succession. Then on the 25th day of May a late frost made waste of much of her effort. That spring she also planted seven pear trees in the lower row of the peach orchard. They were the expected varieties: Bartlett, Napoleon, Duchess, and Seckel.

While her vegetable gardening followed convention, the records she kept of fruit growing at Palmyra are of greater interest. Tipped into the back of her journal are the plans of four fruit orchards at Palmyra. The "New Orchard - Over the Hill" contained 143 trees of twenty-five varieties; 86 were planted in December 1879; the remaining 57 were planted in February 1882. These included: Limbertwig, Shockley, Buckingham, Grimes Golden, Tuttle, Early Harvest, Baldwin, Nansemond Beauty; Red Astrachan, Early Red Streak, Magnum Bonum, and a seedling which she called Sambo. In 1885 the Pattersons planted a small mixed fruit orchard in the garden behind the smoke house. Here were fruits intended for the home table: plums, peaches, cherries, and pears. At his death in 1908 Mr. Patterson left Palmyra to the Episcopal Missionary District of Asheville as the campus for a school which survives today as Patterson School.

Mrs. Patterson's death draws us to a final episode of Southern Gardening and its record in letters and journals. Through much of the nineteenth century and well into the twentieth century, Southern women tended the graves of their loved ones just as they tended home grounds and gardens. This was particularly true in the 1860s and thereafter as scores of women went to cemeteries in town and country to plant ivy, periwinkle, roses, flowering shrubs, boxwood, etc. over the graves of fathers, husbands, sons, brothers, and nephews who died in the Civil War. Catherine Edmondston undertook just such a gardening task at Trinity Church, Scotland Neck, and recorded it in her diary on 5 March 1864.

Saturday - Have had a busy week, having been since Tuesday out at Hascosea gardening. . . . Went on Friday to attend to poor Tom's grave. I had a rustic cross of cedar made for the head stone which will I hope before the summer is over be covered with ivy and had the grave itself covered with ivy, thinking that better than turf. I carried some evergreens but found that they would interfere with the general plan of the Cemetery, so gave them to Mrs. Smith to be used at her discretion. I found her there superintending some workmen engaged in preparing the earth for placing a fine collection of evergreens which Mr Cheshire was to bring in the afternoon.⁵⁴

Seventeen years earlier Lucy Tucker Chambers undertook a like effort. In early 1847 her second daughter Elizabeth died in Mississippi on a visit to her Aunt Margaret and Uncle Sterling Tucker. In November of that year, Edward Chambers traveled to visit to the Tuckers. Lucy sent a letter with him.

My Dear Mattie

In the hurry and confusion of Mr C departure for your house, I have only time to say that I have sent you three arbor vitae and some tree box. I could find but three with root of the right size for the box and have sent one without which will grow as well as the others if put into the ground immediately. You will find some violets from my dear child's *own* bed please put them *on her grave after the Tomb stone is fixed*. I have sent two slips of common white roses which *she loved* tied up together. The loose slips are chinese perpetuals please plant *all* on her grave according to your own taste. Do it dear sister with your own hands, put them in the ground until you can go yourself and do it Mr C is come in so farewell I will write to you in a few days. . . .⁵⁵

I do not know the location of Elizabeth Chambers's grave, nor whether the violets and rose bushes thrived. Or bloom still? But I have been to a country churchyard in Halifax County, North Carolina, where lilies of the valley were planted about 1881 in the cradle over the grave of Sarah Bellamy, whose white marble headstone is enriched with carved lilies of the valley. And I know that the intention of the heart and the hand, to plant and to preserve memory in cemeteries in North Carolina and in another, half a continent away in Mississippi, recorded in the words of Catherine Edmondston and Lucy Tucker Chambers, and in the journals and letters of countless other Southern gardeners that await discovery, is what matters.

Davyd Foard Hood received a BFA degree from Virginia Commonwealth University (1971) and a MA degree in architectural history from the University of Virginia (1975). A consultant to the North Carolina Division of Archives and History in 1976-1977, he joined the staff of the State Historic Preservation Office in 1977 where he supervised architectural survey and National Register nomination projects until 1988. Since 1989 he has worked as a private consultant, specializing in late nineteenth-century architecture and garden design. He has written dozens of National Register nominations for North Carolina properties, co-authored the National Historic Landmark report for Pinehurst, North Carolina, and is completing a new National Historic Landmark report for Biltmore Estate focusing on its architecture, landscape architecture, and social history significance. He is a contributor to the Dictionary of North Carolina Biography and the Encyclopedia of Southern Culture; the author of *The Architecture of Rowan County (1983 – reprinted in 2000)*; and is currently writing a history of *St. Luke's Church, Salisbury*, to be published in 2003. A member of the Society of Architectural Historians, the Association for Gravestone Studies, the Garden Writers Association of America, and the New England and Southern Garden History Societies, he has lectured at regional and national conferences on architectural and garden history, contributed to journals including the *Journal of Garden History*, and serves as the book review editor for *Magnolia*, the quarterly newsletter of the Southern Garden History Society on whose board he serves.

1. For the larger body of travel literature on the South, see Thomas D. Clark, *Travels in the Old South: A Bibliography*, three volumes (1956-1959) and his *Travels in the New South: A Bibliography*, two volumes (1962).
2. John Lawson, *A New Voyage to Carolina*, 1709, reprint, with an introduction and notes by Hugh Talmage Lefler (Chapel Hill: University of North Carolina Press, 1967), 5-6.
3. *Ibid.*, 84-85.
4. Louis B. Wright and Marion Tinling, eds., *The Secret Diary of William Byrd of Westover, 1709-1712* (Richmond: Dietz Press, 1941), 540.
5. William Darlington, ed., *Memorials of John Bartram and Humphry Marshall* (New York: Hafner, 1967), 89, 113. For a fuller discussion of the gardens at Westover see Peter Martin, *The Pleasure Gardens of Virginia* (Princeton: Princeton University Press, 1991).
6. Marion Tinling, ed., *The Correspondence of the Three William Byrds of Westover, Virginia 1684-1776*, Volume I (Charlottesville: University Press of Virginia, 1977), 408-409.
7. *Ibid.*, 426.
8. Marion Tinling, ed., *The Correspondence of the Three William Byrds of Westover, Virginia 1684-1776*, Volume II (Charlottesville: University Press of Virginia, 1977), 518.
9. Quoted in William Bartram, *Travels Through North & South Carolina, Georgia, East & West Florida, . . . 1791*. reprint, ed. Mark Van Doren (New York: Dover Publications, n.d.), 5.
10. Kristian Hvidt, ed., *Von Reck's Voyage: Drawings and Journal of Philip Georg Friedrich von Reck* (Savannah: Beehive Press, 1990), 37-38.
11. *The Journal and Letters of Philip Vickers Fithian*, ed. Hunter Dickinson Farish (Williamsburg: Colonial Williamsburg Foundation, 1965), 44.
12. *Ibid.*, 78-79.
13. *Ibid.*, 95.
14. Janet Schaw, *Journal of a Lady of Quality: Being the Narrative of a Journey from Scotland to the West Indies, North Carolina, and Portugal, in the Years 1774 to 1776*, eds. Evangeline Walker Andrews and Charles McLean Andrews (New Haven: Yale University Press, 1921), 161.
15. *Ibid.*, 194.

16. E. G. Swem, ed., *Brothers of the Spade: Correspondence of Peter Collinson of London, and of John Custis, of Williamsburg, Virginia 1734-1746* (Barre, Massachusetts: Barre Gazette, 1957), 30.

17. Luigi Castiglioni, *Luigi Castiglioni's Viaggio: Travels in the United States of North America 1785-87*, trans. and ed. Antonio Pace (Syracuse, New York: Syracuse University Press, 1983), 122.

18. *Ibid.*, 122, 291. Alexander Gillon (1741-1794), a merchant and naval officer, was born in Rotterdam, Holland, and came to Charleston where he married Mary Cripps (d. 1787), a widow, in 1766. He was made a commodore in the South Carolina navy in 1778. For a fuller biography see *The National Cyclopaedia of American Biography* (1933), Volume XXIII, 304-305, and *Dictionary of American Biography* (1931), 296. Rouchefoucauld's visit to Batavia and his appraisal are cited by James D. Kornwolf in "The Picturesque in the American Garden and Landscape before 1800" in *British and American Gardens in the Eighteenth Century*, 97-98.

19. *Ibid.*, 185-186.

20. *The Journal of William D. Martin: A Journey from South Carolina to Connecticut in the Year 1809*, prepared by Anna D. Elmore (Charlotte, North Carolina: Heritage House, 1959), 11. Albert Torrence (ca. 1753-1825) was a son of James Torrence who emigrated to what is now Rowan County from Ireland. In 1791 he married Elizabeth Hackett (ca. 1774-1837). The inn operated by the Torrences is believed to have stood on the west side of South Main Street, near Bank Street. They are buried in the Old English Cemetery. For biographical information on the couple I am grateful to Mary Jane Fowler of Salisbury, North Carolina.

21. *Ibid.*, 13. The Girls' Boarding School Pleasure Garden was located about two blocks east of MESDA. It exists no more; one-half of its former grounds are occupied by Salem College's Gramley Dormitory and the other half is planted as a small orchard today.

22. *Brothers of the Spade*, 60.

23. *Ibid.*, 90.

24. Eliza Lucas Pinckney, *The Letterbook of Eliza Lucas Pinckney 1739-1762*, reprint, edited and with a new introduction by Elise Pinckney (Columbia, South Carolina: University of South Carolina Press, 1997), 35.

25. *Ibid.*, 36.

26. *Ibid.*, 61.

27. Rosalie Stier Calvert, *Mistress of Riversdale: The Plantation Letters of Rosalie Stier Calvert 1795-1821*, ed. Margaret Law Callcott (Baltimore: Johns Hopkins University Press, 1991). The opening chapter, "The Stier Family in America," recounts the life of the family from their arrival in 1794 until 1803 when the family except for Rosalie returned to Belgium.

28. *Ibid.*, 55-56.

29. *Ibid.*, 79-80.

30. *Ibid.*, 117. The hedges were hawthorn.

31. *Ibid.*, 132.

32. *Ibid.*, 173-174.

33. *Ibid.*, 183.

34. *Ibid.*, 213.

35. *Ibid.*, 368.

36. Catherine Ann Devereux Edmondston, "*Journal of a Secesh Lady: The Diary of Catherine Ann Devereux Edmondston 1860-1866*", ed. Beth Gilbert Crabtree and James W. Patton (Raleigh: North Carolina Division of Archives and History, 1999). The four manuscript volumes of Mrs. Edmondston's diary remained in family hands until 1921 when they were placed with the North Carolina Historical Commission. In 1959 the rights to the diary were conveyed to the NC Division of Archives and History. Over the course of many years the diary was transcribed by Beth Crabtree, and edited by Miss Crabtree and Mr. Patton, a director of the Southern Historical Collection. In 1979 the diary was published in an edition of 1,000 copies that quickly sold out, and a second printing was made. The third printing in 1995 was succeeded by a fourth printing in 1999.

37. *Ibid.*, 7.

38. *Ibid.*, 10.

39. *Ibid.*, 13.

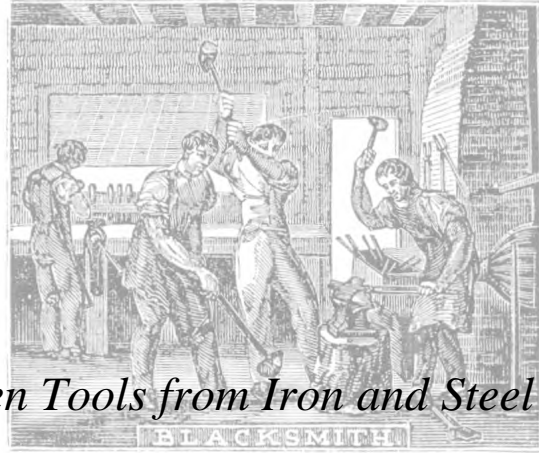
40. *Ibid.*, 17.

41. *Ibid.*, 37.

42. Ibid.
43. Ibid., 39.
44. Ibid., 40.
45. Ibid., 131.
46. Ibid., 136.
47. Ibid., 171.
48. Ibid., 186.
49. Ibid., 606-607.
50. Ibid., 634.
51. Rose Chambers Goode McCullough, *Yesterday When It Is Past* (Richmond: William Byrd Press, 1957), 132.
52. William Matthew Howerton, letter to his sister, 18 March 1853. Collection of Robert G. D. Pottage III, Seaton, Halifax, Virginia.
53. Mary Patterson's "Gardening Memorandum," Patterson Papers, North Carolina Division of Archives and History, Raleigh, North Carolina. Mary Senseman Patterson died in Winston-Salem on the 23rd of February 1909, and her body was buried beside that of her husband in the cemetery at the Chapel of Rest in Happy Valley.
54. Edmonston, "*Journal of a Secesh Lady*," 533. "Mr. Cheshire" was the Reverend Joseph Blount Cheshire (1814-1899) who served as rector of both Trinity Church, Scotland Neck, and Calvary Church, Tarboro, from 1848 until resigning charge of Trinity Church in 1869 and giving his full services to Calvary Church. Prior to becoming a priest Mr. Cheshire had studied law with Mrs. Edmondston's father, Thomas Pollock Devereux, in Raleigh in the 1830s. Possessing strong botanical interests, the Reverend Mr. Cheshire embellished the grounds of the churches he served. Some few plantings probably made by Mr. Cheshire remain at Trinity Church; however, his great achievement was the planting and stewardship of the churchyard at Calvary which survives today as the most important landscaped churchyard in North Carolina.
55. McCullough, *Yesterday When It Is Past*, 143-144.

Stephen Mankowski

Well Wrought: Making Garden Tools from Iron and Steel



In this workshop I discussed a number of techniques used to make period garden tools and the common repairs that would follow. It was important to explain the difference between wrought iron and steel and the application of these materials according to the tool's use. I also demonstrated the basic smithing techniques of drawing, upsetting, and welding, along with proper fire building, tool usage, and tool maintenance.

I chose to make a small garden hoe with a welded eye. Most hoes I have studied are made of iron with no attempt to weld steel to the blade end. Iron bar is selected for the eye, $\frac{3}{4}$ inch square. And for the blade a piece of flat bar measuring $\frac{1}{2}$ " x 2" x 4" is used. In the eighteenth century a blacksmith here in America would have been able to obtain square and flat bars of the same dimensions made at any number of forges or rolling and slitting mills that were established here as early as the seventeenth century.

The bar is heated in a charcoal or coal fire that is supplied with a steady blast of air from the bellows. A blacksmith works in heat cycles, the heat being the time the bar is worked into shape on the anvil. The higher the heat the longer it can be worked on the anvil. For example, a yellow heat is the highest and longest, red the lowest and shortest.

I started making the hoe by beginning with the eye. The $\frac{3}{4}$ inch square bar is flattened out in the middle in the first two heats. The bar is then folded back onto itself and welded to form the eye. This should take one or two heats. The next step is to weld this to the $\frac{1}{2}$ " x 2" x 4" flat bar. The two pieces are placed in the fire together and brought slowly to a bright yellow heat. When this heat is obtained, the two are hastily withdrawn from the fire and hammered on the anvil. In the remaining heats the blade is spread out to its final dimensions, 4" x $\frac{1}{8}$ " x 5".

The shaping of iron by this method is a way for the smith to make a strong product without wasting material. The material, iron in this case, is of a greater value than his labor. Most implements made by smiths in the eighteenth century were charged to the customer by the pound rather than the labor directly. Because of the high cost of materials and the low cost of labor, most customers to the smith shops wanted to have tools repaired, being often much less costly than purchasing new tools. A common repair, let's say to a hoe, would be welding a new piece of iron to a badly worn blade.

With the increased number of garden tools imported from England and Europe, it seems the main job of the smith in America was to repair these tools and to custom-make the non-standard iron implements the consumer needed.

Mr. Mankowski is a journeyman blacksmith specializing in eighteenth-century reproductions in iron and steel at Colonial Williamsburg. His work can be seen at many museums and private homes around the country. He also teaches workshops on basic blacksmithing techniques. Mr. Mankowski has worked at many museums including the Genesee Country Museum, Saint Marie of the Iroquois, and the Farmers' Museum.

Suggested Readings:

An Eighteenth-Century Pattern Book. R. Timmons & Sons, Birmingham. Reprint with introduction by Ken Roberts, ed. *Tools for the Trades and Crafts.* Fitzwilliam, New Hampshire: The Bond Press, 1976.

Council for Small Industries in Rural Areas. *The Blacksmith's Craft: An Introduction to Smithing for Apprentices and Craftsmen.* London, 1952.

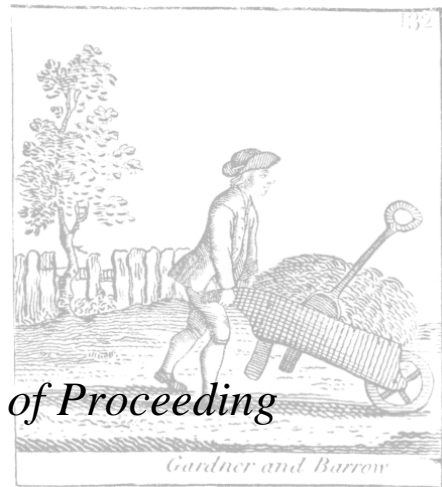
Noël Hume, Audrey. *Archaeology and the Colonial Gardener.* Williamsburg, Virginia: The Colonial Williamsburg Foundation, 1974.

Richardson, Milton Thomas. *Practical Blacksmithing 1888-91;* New York: Crown Publishers, 1978. (Four volumes in one)

Sanecki, Kay. *Old Garden Tools.* Shire Album 41, Shire Publications, Ltd., 1979.

Terry Yemm

Practical Gardening: The Method of Proceeding



Let me begin by repeating the old saying, “There’s more than one way to skin a cat.” It is not my contention that there is only one right way to garden, or even that in eighteenth-century Chesapeake Virginia (my usual historical window), there was only one predominant method of horticulture. I suspect the way a person gardened then depended on whether they were English-American, Scot-American, African-American, free or in servitude, rich or poor, urban or rural, lazy or industrious, along with other variables. The way they gardened also would be affected by the kind of soil, the changes in seasons, the sources of available water, the types of tools, and the crops they tried to grow. My impression of an eighteenth-century Tidewater garden includes many kinds of crops, but most of the period sources emphasize vegetables and so will my examples. What I intend to demonstrate are some of the ways I garden at Colonial Williamsburg, based primarily upon evidence from the eighteenth century.

Much of the period’s published documentary evidence about how gardening was done relates to professional English techniques. The most common author seems to have been Philip Miller, long-time gardener for the Chelsea Physic Garden, near London, England. His *Gardener’s Dictionary* appears in the libraries of many Virginia gentlemen, and his *Kalendar* was offered for sale at a Williamsburg printer in 1772. Another calendar listed in the same advertisement was authored by John Abercrombie, also a professional gardener in England.

Many surviving eighteenth-century American documents about gardening technique demonstrate the influence of English guides and professional methods. Martha Logan of Charleston, South Carolina, sold roots, shrubs, and imported seeds. She based the advice she shared in her *Gardener’s Calendar* upon her experiences in her own garden. Robert Squibb, who first published his *Gardener’s Calendar* in Charleston in 1787, was a professional English gardener who had only arrived in America in 1780. Despite their professional perspectives, neither Martha Logan nor Robert Squibb blindly followed English calendars, but attempted to adapt British methods to American conditions. Some of their techniques which differed from typical British horticulture were the result of the different American environment, especially in terms of climate.

The climate of Williamsburg, Virginia, is more moderate than that of Charleston, and perhaps for that reason the most detailed Williamsburg gardening documents from the eighteenth century correspond more closely with British guides. *A Treatise on Gardening*, attributed to Williamsburg resident John Randolph by Thomas Jefferson, was published in Richmond in 1793 after Randolph's death. Not a professional gardener, Randolph's treatise is strongly influenced by the writing of Philip Miller. At the same time, his treatise is sprinkled with anecdotes of local successes and failures in the vegetable garden. Joseph Prentis's *Monthly Kalender & Garden Book* is usually too brief in its entries to declare it distinctly Virginian and the longer articles make clear the influence of a British guide such as Miller upon this Williamsburg jurist.

Soil Preparation

One important process in eighteenth-century horticulture was preparing the soil before planting. It is clear from the guides of that period that different crops had different requirements with regard to the medium in which they grow. In order to achieve these differences, gardeners would have to amend the native soil with one material or several materials mixed together to achieve the best "compost" or mixture. All of these additives helped the plant to grow, and were sometimes called "manures" whether they were animal dung, ashes, or shells.

Then the gardener had to arrange the amended soil in the manner which would encourage optimum growth for the particular crop. An important goal of this was the relative looseness of the soil mixture. For example, if you had a stiff soil, it was important to relieve its compaction to cultivate root crops like carrots or parsnips. To illustrate an eighteenth-century approach to soil preparation, I have prepared this bed for you to see, according to Mr. Joseph Prentis's directions for creating an asparagus bed.

Dig a trench as wide as you intend your beds to be, and two feet deep, lay a layer of Oyster shells, six inches, then lay on six inches of Horse Dung, and as much Mould, continue so to do, till the Bed is done.

Planting

Once the soil is prepared, the crop could be planted. A shallow trench or "furrow" could be opened in the soil medium, the transplants could be positioned or the seeds dropped into the furrow at an appropriate distance from one another, and then covered over with soil. Of course each crop has its best depth of planting, best depth of covering, and its best amount of soil compaction around it. I have been surprised that guides from the period recommend for some crops "trodding" the soil (which I interpret as walking over the surface), in order to lightly compact the medium, before the furrow is opened.

Some crops prospered by sowing on the surface and being raked into the soil. They could be sprinkled evenly over the top of the bed (which was referred to as "broadcast" by the end of the eighteenth century), or they could be dispersed in a straight line or "drill." Or the seeds could be "drilled," dropped into individual holes poked into the soil for each seed, using a planting stick or a dibble. This can lead to confusion when

eighteenth-century guides write “drill” – do they mean a straight line or individual holes? Usually the context differentiates between the line (a noun) and the poking (a verb).

Another method of sowing seed was to draw the soil together to create a “hill.” Hills were most often made for crops with vining habits of growth such as cucumbers, melons, pole beans, etc. I usually use a hoe or a rake to pull the soil into a mound about three feet in diameter at the base, one and a half or two feet across on the top, and about nine inches in height from the bed surface to the top of the hill. To lessen the effect of erosion, I will sometimes compact the soil with a rake on the top or with a spade around the sides.

Watering

Today most gardeners tend to wait to apply water to seeds after planting, but that was not always the practice in the eighteenth century. Some crops required the encouragement of soaking the seed in water before putting it into the ground. When dry weather persisted, the furrow might be wet before the seed was dropped into the trench. Some gardeners even advocated a technique I’m demonstrating now – covering the seed bed with a layer of straw soaked in water to moisten and cool the planting, placing the straw down during the heat of the day and removing it at night.

Typically water was poured onto the bed surface in a manner that would least disturb the seeds or transplants. A sophisticated gardener might employ a watering pot with a rose that gently dispersed the stream in droplets resembling falling rain. A more humble gardener might use a dipper made from a hollowed gourd to wet the surface of the seed bed. Occasionally you find descriptions of filling the “alleys,” in this case the walkways between covered furrows, with water that could be poured from buckets.

Rain water and pond water were felt to be better than well water. Because water drawn from a well tended to differ in temperature from the ambient air temperature, many eighteenth-century guides recommended letting well water sit in tubs through the day in the sun. They also recommended, contrary to general horticultural practice in the southeastern United States today, applying water to your garden in the evening hours instead of the early morning.

Other Cultivation Techniques

Once transplants were settled in their bed after being “pricked” out of a seed bed, perhaps using the point of a trowel, or once seedlings grew to an appropriate size, the cultivation techniques became very specific to individual crops. Generalities about processes such as soil cultivation between growing crops, discouraging pests and diseases, covering of crops to mitigate weather, or other special treatments are a challenge to formulate. The particular crop and those aforementioned factors of knowledge, materials, and physical environment combine to allow many ways of gardening, too many to detail in the time allowed. Therefore I want to mention a few examples of things done in the eighteenth century to encourage growth.

Hoeing the soil between growing plants was meant to accomplish at least two things: remove weeds and loosen the crust which forms on the surface in order to allow deeper penetration of moisture. Most professional guides of the period imply that their

soil cultivation techniques resemble the modern agricultural practice of bare earth tillage, turning the soil to control weeds, instead of other modern techniques such as mulching or intensive planting. One tool that was used to accomplish such cultivation was the Dutch hoe, which is hard to find today. This kind of tool becomes much more attractive when a quick stirring of the soil surface is the primary way in which you control weeds.

Interplanting of crops was practiced as a method of weed control and insect control in the 1700s. I think the effort of soil preparation required of professional gardeners of the time encouraged them to maximize their production as in modern intensive gardening, but their approach did not require constant coverage of all soil surfaces. Instead, short term crops, usually radishes or other “salads,” were sown among long term crops such as cauliflower to take advantage of the temporary open space between transplants.

An additional benefit in this particular combination was that of pest control: the radishes, which were more attractive than cauliflower to an insect known as “the fly” in Britain, served as a lure to draw the insect away from the primary crop. The radishes were viewed as expendable compared to the cauliflower, in this eighteenth-century example. I have to wonder if this practice corresponds with the modern gardening concept of companion planting. In most modern examples of this practice I’ve heard, one of the plants in a companion planting serves as a repellent rather than a lure, and both benefit from their proximity.

Another challenge to colonial gardeners was the necessity of adapting European crops to American climates. Many techniques were used to mitigate the relative harshness of Tidewater climates compared to Britain. Plants were started earlier or carried longer than they would grow in the open garden using hot frames, cold frames, hand glasses, bell jars, straw mats, straw or “haulm” (plant stems). Most of these functioned as coverings to conserve heat, but the hot frame with its decaying dung also served as an artificial heat source. Those coverings made of transparent or translucent material also took advantage of radiant heat from the sun by acting as heat traps.

However, in the Southern colonies the rapid warming of the climate sometimes required gardeners to use techniques for shading tender plants, as well as adjusting their planting dates. Compared to the recommendations of the professional British guides, Americans in the South tended to start many tender crops a month earlier in the spring and about a month later for fall crops in the open garden. Shade was created by using straw, mats, or brush to protect the plants from heat. Shade was also used to blanch some crops to have them mature in the fashionable (pale) manner.

As crops grew and matured, they often required support. One practice of the period was staking. Some beans were grown twining around a pole. The hill was “stuck” with a single pole thrust into the center, when the seedlings began to twine. Indian cress, cucumbers, and garden peas could also be stuck. Since peas were sown in drills (I suspect the straight line sort) the method of sticking may have differed from bean poles. John Randolph didn’t reveal his exact method because, as he said, “. . . the manner of sticking them everybody knows.” I have arranged two rows of sticks into an arch over the drill, and have stuck sticks upright down the center. I found the arch more effective.

Conclusion

I hope that my demonstration today has provide some insights into the varied practices of eighteenth-century Tidewater gardeners, while giving you some ideas of where these gardeners turned for guidance. While emulating English gardening methods to a great extent, each individual sought techniques for achieving the desired results in their situation. In that regard, I suspect that they were much like gardeners today.

Terry Yemm began his career as a professional gardener 29 years ago in Mobile, Alabama. Over the following 13 years he gained experience working on a college campus maintenance crew, on the grounds crew of a 65-acre public display garden, as the supervisor of a company specializing in residential and commercial landscape installation, and as the owner of a company providing horticultural services. He joined the landscape department at Colonial Williamsburg in 1985 and served in various positions for 15 years. In August of 2000 he transferred to the educational division of the museum. He currently interprets to visitors about professional gardening in eighteenth-century Virginia in a variety of programs including character presentations portraying the royal governor's head gardener and a jailed runaway convict gardener. He also authors a column on garden history for the quarterly Colonial Williamsburg publication, The Interpreter. He was a charter member of the Williamsburg Garden History Society and has served on its board as program chair.

Rudy J. Favretti

“Sprung From the Earth:” The Layout of the Common Garden



This paper was presented as a slide talk using seventy-eight images. Because these images could not be used here due to space limitations, the talk has been revised in format but contains the same basic information.

Anthony Huxley said, in his *An Illustrated History of Gardening*: “Man began cultivating plants when he started to live in settled communities and to abandon the earlier subsistence based on hunting, or collecting animal and wild vegetable material.” This is when gardens began, we presume, though we have no hard facts to prove it.

When I was assigned this topic, I accepted it with pleasure not realizing that it would not be an easy task to speak on something as common as the common garden. Common gardens are simple gardens, and the subject seemed equally simple. It was not until I began researching the subject that I found that very little has been published about the common garden. The material we find in most books was written for or about the grander gardens, those of the affluent or famous. The common person did not buy or read books (many couldn’t read, or didn’t have time to), and record or journal-keeping was an added chore, so few records exist.

Hindsight tells me that it would have been easier to prepare a talk about the Garden of Eden or the Hanging Gardens of Babylon. There is plentiful information about each of these, though no two pieces agree because they are all pure conjecture. There is fragmentary information about some ancient gardens in Egypt, Persia, and other ancient cultures, but again, this information is about gardens of people of prominence.

As we get a bit closer to our era, we find some information about gardens related to castles, much of it derived from old text illuminations, as well as archaeology. Works such as *The Book of Rural Profits*, dated about 1470, give us excellent illustrations of gardens; however these, too, are the pleasure gardens of affluent.

Because of this dearth of information on siting, layout, form, and design of the common garden, we had to resort to analyzing a few we know about in various countries and drawing some conclusions about their characteristics.

In the Museum of Natural History’s publication *Natural History* (Volume XXII, no.2), Thornton Burgess wrote:

“Nature was the first teacher of the human race. With this statement, no one can take issue. It was not until our prehistoric ancestors began to observe the workings of nature and tried to discover the law governing the manifestations, which they observed, that they began to rise above the animals surrounding them. Every upward step since is traceable directly to increased knowledge of the laws governing life, and these laws are the laws of nature and have existed from the beginning. Nature was the first teacher and still is the universal teacher.”

Just what are these laws of nature that affected the common garden? The first was the need for good soil in which to grow the desired plants; the second was a favorable exposure to the sun in order to have conditions for optimum plant growth. It is impossible to say which one of these our ancestors considered first, but I suspect that the two were considered simultaneously.

Soil: Apparently our earliest gardeners realized that a soil that is rich in organic matter, loose in texture, and well drained favors good plant growth. They may not have studied plant physiology, but they instinctively knew the importance of proper soil aeration, and the need for organic matter to retain moisture and nutrients. They realized that when these conditions were present, and no single one was lacking, the plants responded well. Therefore, when they selected a site in which to make their first gardens, they wanted one relatively free of stone and ledge, and containing a good amount of organic material, probably from naturally decaying vegetative matter.

Exposure: I suppose it was through observation of plants in nature that they realized that those that grew on a south-facing slope showed through the ground earlier in the spring, and that the warm morning sun was better for the plants than the hot afternoon sun. They saw that plants on a north slope were later to emerge in the spring. Our forefathers learned early about solar benefits, and also about the limiting factors of too much sun, especially during the afternoon on a hot summer day. By selecting the right site, then, they could have the most favorable conditions for planting an early garden and thus having an early harvest.

Here at Old Salem, great care was taken in laying out the original settlement, and especially the houses and garden plots. If you visit Dr. Samuel Benjamin Vierling's House, near God's Acre at the north end of the village, you will see its east-facing garden terraces, a reminder of the way the gardens were laid out here at Old Salem utilizing the natural slopes to advantage.

A third factor in the equation, for solving the problem of where to place the garden, was choosing a site in proximity to the dwelling house. It almost seems certain that the garden site was selected first because the house could then be placed most anywhere nearby as long as its location was favorable in general. In any case, it was important to have the garden relatively near the house not only for the convenience of harvesting the produce, but also for protection from ravaging animals and even other people.

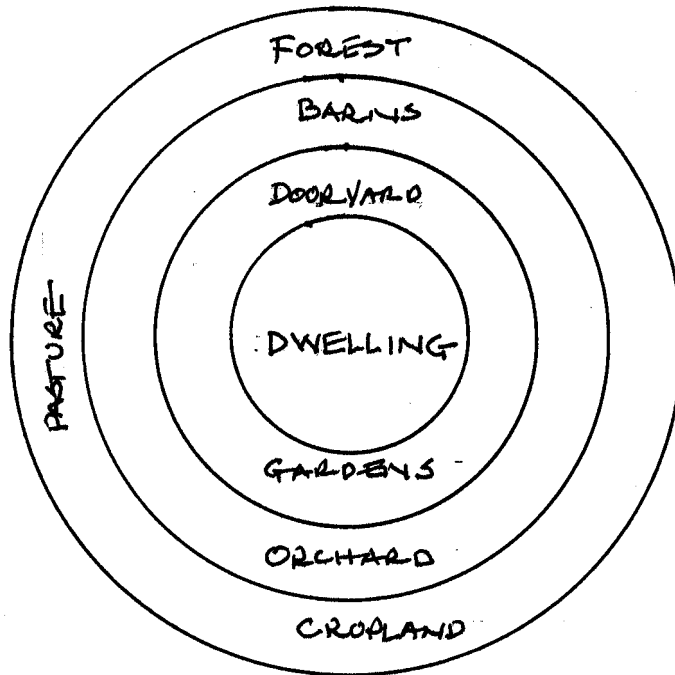


Figure 1. A simple schematic sketch showing the consistent relationship of the various parts of a farm or estate with the more intensive uses near the dwelling at the center, and those requiring greater ground in the outer rings.

I would like to offer a series of case studies illustrating these three points: soil, exposure, and proximity to the dwelling house.

Here are ruins of a croft in Scotland; note the terraced area outside the door of the house, with a slight slope to the south, where I am sure the garden would have been, perhaps a dooryard garden. As the need arose to house domestic animals for family use, such as cows, sheep, swine, and poultry, outbuildings were built, and a series of yards were needed in the landscape pattern surrounding the dwelling house. There was a dooryard near the house, a fenced garden, a barnyard surrounding or near the barn, sometimes divided into secondary yards and pens.

The eighteenth-century Bennet Farm, in Hampton, Connecticut, shows the careful layout, all based on an observance of the soil and the natural exposure of the land. You will notice that the house has a dooryard complete with a well, a flat paved area for performing outdoor tasks such as washing clothes when the weather was favorable, making apple butter, and a myriad of other chores. Flowers were tucked in around the edges of the dooryard for pleasure and adornment. The vegetable garden is also near the house, on the east side, in a stone-walled enclosure, the stones providing additional solar heat. The barn and its yard was sited north of the dwelling so that it could provide some protection from winter winds, but also be situated so that the summer breezes from the

south would carry off barnyard odors. To the south of the house, on a slope, was the orchard, placed there for good air drainage.

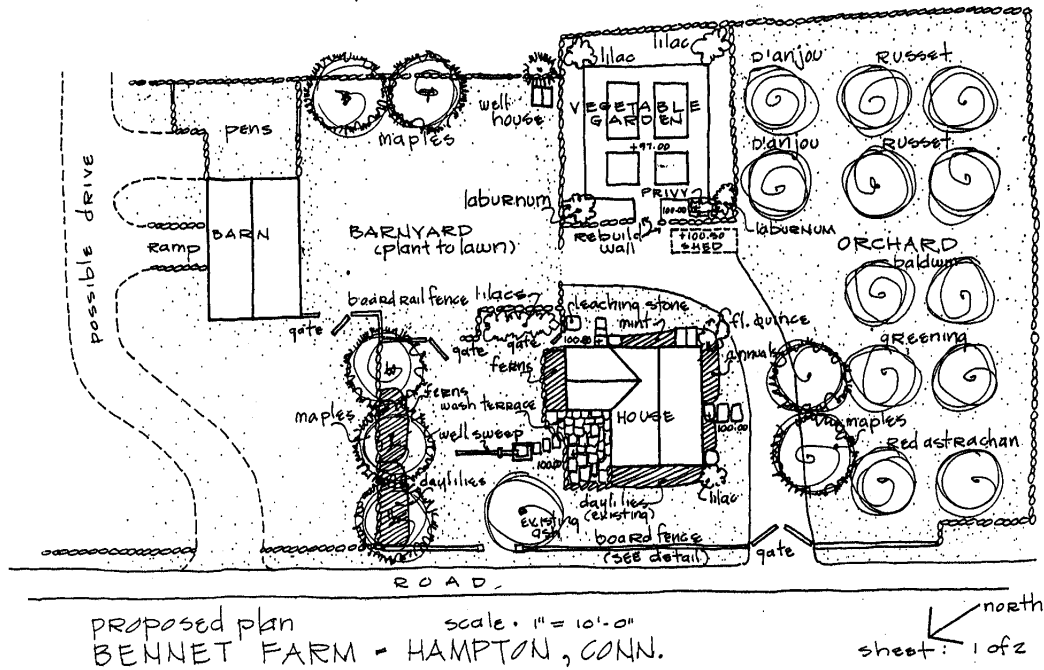


Figure 2. The Bennet Farm, with the dwelling and dooryard in the lower center, garden upper center, barn and yards upper left, and orchard upper right.

These major components of the Bennet Farm were not casually “plunked” down on the land. They were so placed based on two main features: the natural conditions of the soil and the land, and how the components must function in relation to the dwelling house and with one another. In other words, the familiar expression “form follows function” holds true here. While some attribute this expression to the Chicago architect Louis Sullivan, and others to Frank Lloyd Wright, and still others to members of the Bauhaus School, we in the garden-planning field know that it must have originated with gardens.

These two examples are not in the South, but the same principles were followed no matter the place. Here, in North Carolina, as well as elsewhere in the South, the dooryard might have become a “swept yard,” and we can see many examples of those here in Old Salem.

Once the site or location of the gardens was determined, the need for enclosing it arose. Gardens had to be protected from wild and domestic animals. Fences, or enclosures, were made sometimes from brick and stone, but most often of wood cut from the forests during land clearing. Wood fences took two basic forms: vertical palings or pickets, and horizontal rails or boards. There were numerous variations on these two basic styles.

When gardens were enclosed, it became harder to plow them with oxen or horses unless the space was quite large. This led to the compartmentalizing of gardens with smaller plots within the enclosure. When spring arrived, and it was time to plant peas, a plot just large enough to accommodate them was spaded by hand. Later, when it was time to plant lettuce, another small plot was prepared and planted. Plot by plot, the whole garden was eventually spaded and planted, and between each plot was a little path for access.

We can begin to see, here, the evolution of a patterned garden. While many of the common gardens remained simple, with just trodden earth paths placed irregularly between the various sections, angling and curving around the various sized plots, other gardens began to take on a more formal appearance with a definitely patterned path or walk system laid out symmetrically. Most rectilinear gardens had a central path with secondary walks coming off this path at right angles thus forming beds or plots between the walks. Sometimes, however, a diagonal arrangement of walks and beds would be made off of the main walk, and many other variations occurred according to the whim of the owner.

In the Victorian period, some gardens, once rectilinear in form, changed over to circular and curvilinear beds within the rectangular enclosure. A very good example of this is the garden at the Miles Brewton House in Charleston, South Carolina.

For vegetable gardens, the rectilinear arrangement seemed to be the best because it lent itself to plots varying in size to accommodate different vegetables. Even when the American landscape began to be affected by the English landscape style in the late eighteenth and nineteenth centuries, while the landscape was “deformalized” with a sweeping lawn and informal shrub and tree plantings, the vegetable garden kept its rectilinear form but was often relegated to one side or the rear of the property. We see this concept carried out at many places, such as Monticello and Mount Vernon, and you will also see many examples in books such as Alice Lockwood’s *Gardens of Colony and State, Volume I* (see the Elias Haskett Derby garden, pages 66-68), and in Jacob Weidenmann’s *Beautifying Country Homes*.

It is interesting to note here that the basic principles for the establishment and laying out of the common garden - soil, exposure, relationship to the dwelling house - also applied to the laying out of gardens on estates, or places grander than the common garden. The concept seems to apply throughout all types of garden styles and design.

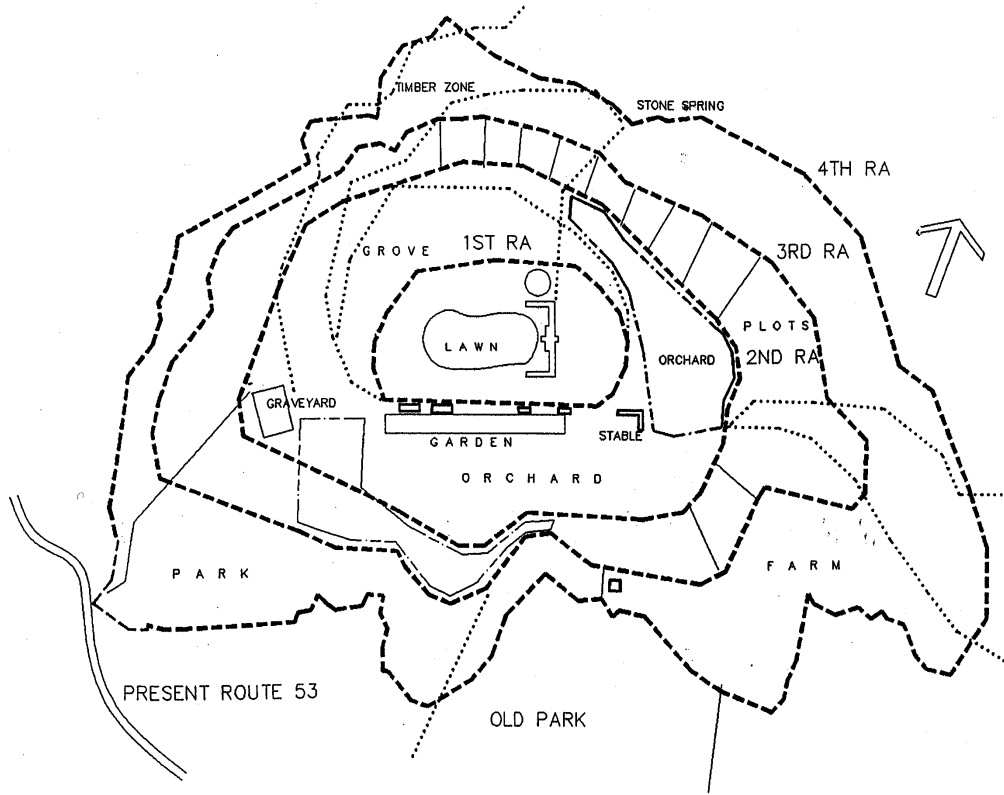


Figure 3. Plan of Monticello. The dash-lined rings show the mansion and flower gardens at the center, the vegetable garden and orchards in the next ring, gardens at the center, and the farmlands and forest in the extreme outer ring. This illustrates how a large estate has the same relationship of its parts as a simple farm (see Figure 1).

Once the gardens were sited and enclosed, their internal development was the next step: developing the walk system, deciding whether or not to have flowers and fruit trees included, whether to include hotbeds and cold frames, and whether to include certain water features such as wells and cisterns. Sometimes ornamental features and garden houses were included, too. These decisions were according to the whim of the owners, and because most were not basic to the location and structure of the garden, they may have changed from time-to-time over the years.

In the eighteenth and nineteenth centuries, many gardens had flowerbeds along the garden fence or wall. These flowerbeds were usually narrow, and they served a purpose other than ornamental. If the garden was large enough to be plowed with a horse, it would be impossible to get close to the wall or fence, so having a bed of perennial flowers, or a row of berries, or some other perennial plants there solved the problem. The kitchen garden at Bacon's Castle in Surry, Virginia is an example of this design.

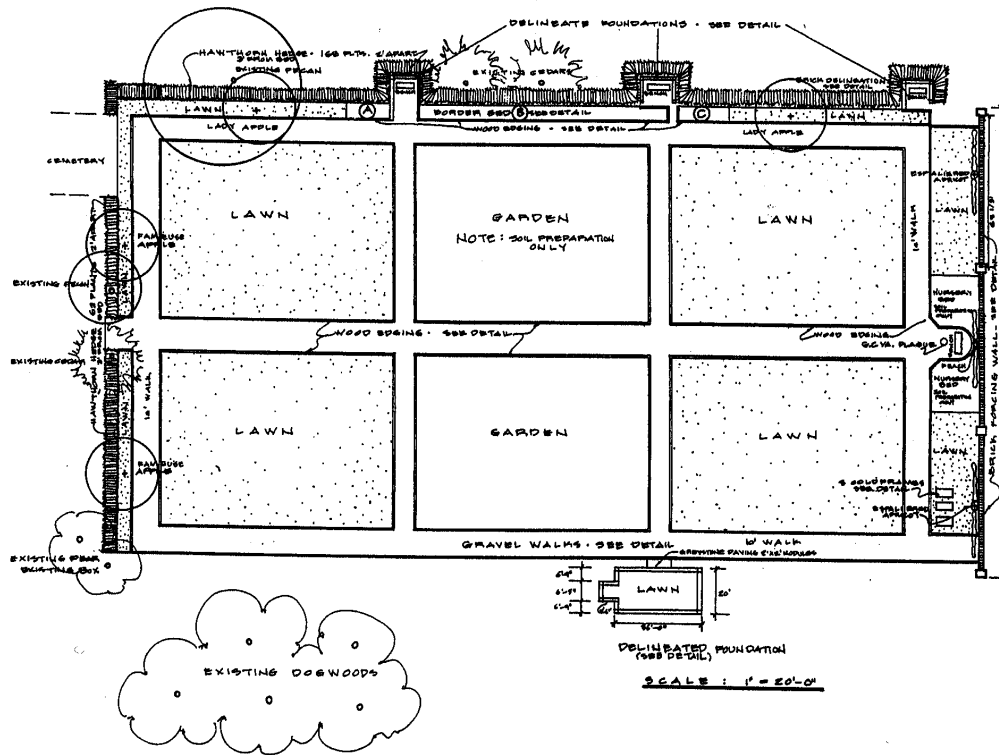


Figure 4. The general plan for Bacon's Castle, by the author, showing the border flowerbeds on the outside of the garden enclosure.

Sometimes fruit trees were included in the garden plots especially if space for an orchard was non-existent. Fruit trees were sometimes planted in the center, and then vegetables planted around the perimeter of the plot, those requiring sun on the south side, and those that might benefit from a bit of shade from the summer sun, such as lettuces, on the north.

In conclusion, we can say that the basics for laying out the common garden were to select a site with good soil and a favorable exposure to the sun and the elements, and to have this site as close to the dwelling house as possible. Then, the garden had to be enclosed, and its internal plan would develop according to the functional needs and whims of the owners.

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In the South, he has worked on over forty commissions including Monticello, Montpelier, Bacon's Castle, Middleton Place, and Old Salem. In 1998 he retired as the landscape architect for The Garden Club of Virginia after twenty years. He is a Fellow of the American Society of Landscape Architects.

Douglas W. Sanford
The Archaeology of Slave Quarter Architecture and Landscape



Introduction

In a relatively brief space it's difficult to do justice to a subject that spans such temporal and geographic diversity as American slavery, although those conditions make the study of this institution, African-American cultures, and consequently, slave quarter architecture and landscapes so appealing. Slave quarters span over 350 years of a European and American system of bonded labor, different environmental regions and plantation regimes, and varying African and African-American populations. In discussing the architecture of slave quarters, the placement of these buildings within Southern landscapes, and the immediate landscapes of yards, one goal is to articulate and briefly describe important patterns and trends within this complex picture. This is partly accomplished by reviewing the scholarship for the Chesapeake region of Maryland and Virginia and also by suggesting how such patterns can apply to other regions and periods. The critical points of how masters housed slaves, how slaves supported their own communities, and how quarters defined focal aspects of African-American cultures are particularly relevant for those considering the study and public interpretation of such buildings, their inhabitants, and the landscapes that envelope a rich, multi-cultural heritage and that inform our modern cultural politics.

Another objective is to fashion an archaeological perspective on slave quarters and landscapes in a traditional way, that is, by considering archaeology as a complementary and comparative database to those of history and architectural history. Artifacts, archaeological features, and building remains found at slave quarter sites offer the necessary comparison and contrast to period documents, surviving architectural examples, and the interpretations of historians and architectural historians. For example, archaeological evidence often represents the best available information for aspects of slave quarters that either went undocumented or under-documented, or that simply don't survive. In the Chesapeake region there are no surviving, aboveground, seventeenth-century slave quarters and extremely few and only better built eighteenth-century quarters. More nineteenth-century examples exist, but these buildings tend to be associated with upscale plantation estates of the

antebellum era, constructed of more durable materials, and modified in later periods by other architectural uses, repairs, new materials, and cultural sensibilities.

Archaeology represents a rewarding avenue for documenting past slave quarters and for understanding the circumstances for the African and African-American peoples who resided in and around these structures. Archaeology's inherent temporal perspective also helps to track how those buildings, peoples, and their material culture changed over time. Similarly, archaeology and botanical studies are primary and even necessary ways to study past plantation landscapes. Quarters purposely were designed to be parts of landscapes, and slaves made distinctive use of the grounds around their quarters and had particular relations to the plantation landscapes that enveloped those residences. The Chesapeake case study will: (1) summarize current interpretations of slave quarter architecture; (2) clarify prevailing trends in the size, materials, and architectural formats for slave quarters; (3) note patterns of quarters' placement within plantation landscapes; and, (4) briefly comment on the current archaeological knowledge of the outdoor spaces and activities that surrounded slave quarters.

While not developed here, keep in mind the point that slave quarter sites have formed the crux of African-American archaeology, which has become a recognized sub-field of American historical archaeology. Based on the simple recognition that quarters were central to thousands of African-American families and communities, archaeologists' excavations at quarters have informed discussions of slaves' material conditions, their standards of living and food practices, their expressions of cultural identity and religion, such as through ethnic markers ("Africanisms"), and a social life away from the white world.¹ Similarly, most slave-based plantations are best understood as overwhelmingly black communities wherein whites constituted the demographic, but dominant minority.

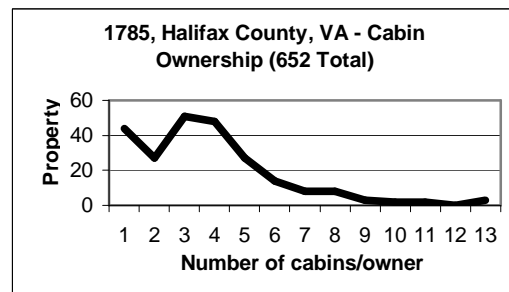
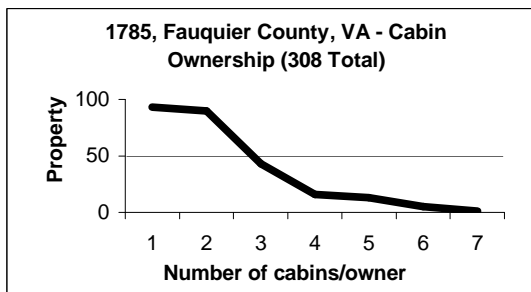
A final introductory encouragement is to consider slave quarters and nearby landscapes as creolized and negotiated entities. Masters used quarters to make their own statements of political economy, status, and accommodation. Slave owners drew upon long-standing cultural traditions for worker and lower class housing and similarly, quarters reflected changing local, regional, and international economies. Quarters could express both the outcomes of offering enslaved workers minimal maintenance and what nineteenth-century planters considered reform-minded, Christian, and pro-family improvements. Conversely, slaves found ways to supplement, alter, and subvert what masters provided in order to make quarters and grounds more to their liking, needs, and cultural preferences.² In sum, observed changes in quarters, their materials, formats, and sizes across geographic regions and through time reflect a constant dynamic of power between masters and slaves. The resultant cross-cultural exchanges are creole buildings and yards that can reveal changing social and economic conditions, masters' strategies for managing large agricultural units and groups of enslaved laborers, and conceptions of relations between different cultures that eventually became termed "races."

Slave Quarter Architecture – Terms and Concepts

Word choice matters when discussing the building format antecedents, geographic variation, and period terminology for slave quarter architecture. In that

respect this study does not address slave housing in other regions, such as the North, the Caribbean, or South America, or in urban and industrial contexts. Instead, the focus centers on eighteenth- and nineteenth-century Chesapeake plantations from the colonial, early American, and antebellum eras of the Upper South. Plantations are considered large-scale agricultural operations encompassing from 500 to several thousand acres and from 15 or 20 to several hundred slaves. Importantly, the small farms and middling plantations not discussed below were where the majority of Chesapeake slaves lived and their story remains a critical one to be researched and told.³

As an illustration, consider the nature of “cabin” ownership amongst white property owners in the 1785 census data for Halifax and Fauquier counties, Virginia.⁴ A majority (51.5% for Halifax and 86.6% in Fauquier) of owners had either none or one to two cabins, and 72% of owners in Halifax County and 93% in Fauquier County had three or fewer cabins (Figures 1 and 2). Realizing that these house numbers match patterns of slave holdings, it’s apparent that most African Americans lived on farms and small plantations with relatively few other slaves. The slave ownership data from the 1798 Federal Direct Tax listing for Berkeley Parish in Spotsylvania County, Virginia, only reinforce this point, showing how most (63.8%) slave owners held five or fewer slaves (Figure 3).⁵ Equally important, though, for understanding plantation-scale slavery and landscapes, is that the top 13.1% of these owners, masters with 11 or more slaves, held 39% of the parish’s total slave population - a pattern of accumulation seen in other Chesapeake counties.⁶ Consequently, a significant proportion of Virginia slaves lived and worked within these large plantation settings.



Figures 1 and 2. Cabin ownership in Fauquier and Halifax Counties, Virginia, 1785.

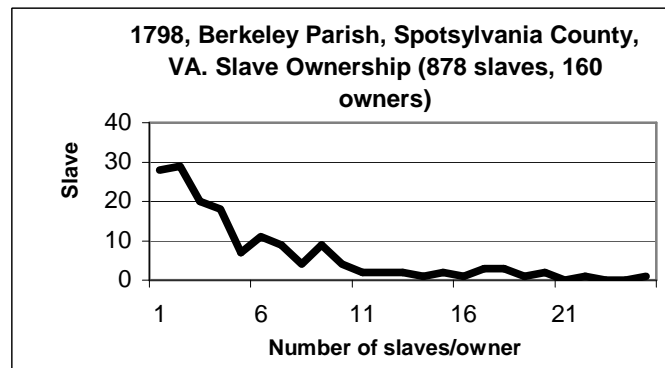


Figure 3. Slave ownership in Berkeley Parish, Spotsylvania County, Virginia, 1798.

Not surprisingly archaeologists have tended to study these large or “great” plantations, such as George Washington’s Mount Vernon and Thomas Jefferson’s Monticello in Virginia. Such estates have survived better, are associated with detailed documentary collections, and have received more attention, funding, and tourism efforts by the modern historic preservation organizations charged with their maintenance and public interpretation. While constituting an archaeological bias towards major plantations rather than medium and small land and slaveholdings, the bias represents an important and meaningful context for addressing slavery and slave housing. Beyond serving the resident populations of numerous slaves in any Chesapeake county, these plantations typically formed nodes of broader African-American neighborhoods and communities.⁷

In the Chesapeake and other southern regions settled during the seventeenth century, separate quarters for indentured European servants had become both a recognized material format and an expression of what masters considered appropriate housing for people deemed a different social class and work status. Many quarters utilized the earthfast (post-in-the-ground) construction method that had achieved architectural prominence for all types of buildings in the Chesapeake. As slaves became more common in the mid- to late seventeenth century, they too were housed in these quarters, often with indentured servants.⁸

The English terms “cabin” and “quarter” acquired new meanings in the Chesapeake in the eighteenth century that approximate today’s qualified sense of the association with slave houses. The Oxford English Dictionary defines cabin as “a permanent human habitation of rude construction, . . . used rhetorically for a ‘poor dwelling,’ and as distinguished from the more comfortable ‘cottage of working men,’” that is, free farmers.⁹ Carl Lounsbury’s architectural and landscape glossary confirms cabin as a “small building of simple or crude construction, usually intended for domestic use” that “during the eighteenth century the term took on additional associations with slave dwellings and log construction.” He emphasizes the point that “not all cabins were built of logs, or exclusively occupied by slaves.”¹⁰ This sense of small and less substantial construction was essential to period thinking, to the relative lack of period documentation, and to the architectural and archaeological reality of most slave quarters being ephemeral structures. For example, imagine what survives archaeologically from a log and mud building that had a few stones for support.

Lounsbury defines quarter, first as “a domestic structure devoted to the accommodation of slaves,” and confirms that it developed out of the seventeenth-century “quartering house” and became “more commonly associated with slaves” over the course of the eighteenth century. As a prototype then, the typical quarters entailed “single story, one- or two-room buildings with gable end chimneys, earthen floors, unglazed, shuttered windows, and unfinished interiors.” The term “quarter” had additional meanings. While referring to an individual slave dwelling or a clustered group of houses occupied by slaves, it also could indicate a distinct residential or community area for slaves separated from masters or overseers. Finally, a quarter corresponded to “a larger holding of land devoted to agricultural production,” and these components of a larger farm or plantation usually comprised fields, woods, “domestic and agricultural structures . . .” such as “quarters, an

overseer's house, a tobacco house or other crop-related buildings, and a corn crib . . .
,,¹¹

A couple cautionary tales reside within these definitions, namely those regarding the overlap of housing and architectural formats for slaves with those for lower and middle class whites. This overlap shows up as ambiguity and omission in census and tax documents of the period that used architectural information. This problem has its archaeological parallel in that for sites of undocumented and/or lower class status, it's often difficult archaeologically to distinguish whether the residents were African-American or not.¹² Since many cabins and quarters didn't meet the critical threshold of investment in materials, these buildings did not merit detailed description or individual counting in some instances. For example, Orlando Ridout found that in the 1798 Direct Tax listing for Wye Hundred, Maryland, only 16% of the inventoried buildings were designated slave quarters, despite the fact that 50% of the population was enslaved.¹³

Census takers usually distinguished quarters and cabins from primary dwelling houses and other "outhouses" (outbuildings). Besides the factors of incomplete data and inconsistent description, at times appraisers did use "cabbins" to mean slave quarters, while in other cases the term could refer to either the homes of enslaved blacks or free whites. In the 1785 census data for Fauquier County, 39% (101/261) of the white property owners did not have a separate dwelling house, but did have one or more cabins - indicating that for many people, cabins were a primary form of residence. For the few specific cases wherein quarters' materials were noted in the 1785 census list for "Negro quarters" in Halifax County and for presumed slave "cabins" in the 1798 tax listing for Spotsylvania County, we do see real patterns: log construction with a wood roof of shingles, slabs, or boards, and common dimensions such as 14 x 14, 16 x 16, 16 x 18, and 20 x 16 feet.¹⁴

Spatial, Regional, and Temporal Patterns

Before embarking on an overview of spatial, regional, and temporal patterns for slave quarters, it's worth mentioning two common categories of slave housing not addressed. One, arranged and *ad hoc* spaces within the slave owner's house served as slaves' domestic residences, namely closets, attics, basement rooms, and spare rooms within wings and additions. Two, a plantation's outbuildings, primarily intended for other purposes, such as kitchens, stables, workshops, and storage structures, frequently housed slaves. Domestic structures specifically built for slaves took a variety of forms, but this variation occurred within meaningful and repeated categories. Moving roughly from small to large, masters employed single cell cabins, double cell quarters or duplexes, often sharing a central chimney, and then multiple room barracks and even two-story dormitories for larger groups of slaves.¹⁵

These building formats could be placed on the landscape either as individual structures, as small groups of cabins or quarters, in single file along a road or plantation "street," and in parallel rows. A larger grouping of slave houses at a greater distance from the plantation's mansion could constitute a "slave village" where African Americans found greater opportunities for privacy and self-expression. A number of these variations could occur on one plantation, depending on its physical expanse and the wealth of its owner. In much of the South, patterns of slave housing

and slave demography correlated with the planter's status. In other words, more slaves usually meant more quarters and larger plantations usually meant quarters of different kinds and qualities in different locations.

Variation in slave quarter formats and materials often reflected the plantation's spatial organization and the planter's architectural values. A common organizational scheme for the plantation landscape involved: (1) an administrative and residential core, the mansion complex in many cases; (2) a number of outlying farm units, or quarters; and, (3) further distanced agricultural or industrial operations, sometimes called satellite quarters. Quarters within the plantation core often were larger and more permanent structures, with a greater investment of materials, such as masonry, and of architectural detailing - usually to complement the formal architectural design and landscaping of the master's residence and primary outbuildings. Such quarters typically housed domestic slaves and those with trade skills. The plantation core, as an agricultural unit itself, regularly included a farming complex and slave quarters, termed the home or house farm quarters.¹⁶

Additional outlying farm quarters were established in building groups, perhaps with an overseer's house, and then relevant agricultural outbuildings. Such quarters stood within the logical divisions of the plantation's acreage, separated from one another and the plantation core by fields and woods, but connected by paths and roads. Farm quarters tended to be single and double-cell cabins, buildings with lesser materials and architectural pretensions. In the Chesapeake, log buildings with wood and mud chimneys and slab or board roofs became the prevailing model. Satellite quarters also relied on such structures given their ease and speed of construction.

Distinct patterns for arranging buildings', fields', and plantations' other structural features took place across the South's primary regions - the Upper South and Chesapeake, the Lowcountry of South Carolina, the Sea Island area of Georgia and Florida, and the Deep South of Alabama and Mississippi, amongst others.¹⁷ Naming the regions' staple crops brings forth images of typical plantation settings and slave quarter groupings - tobacco, wheat, rice, indigo, sugar, and cotton. The following examples that include archaeological findings only skim the surface of this patterned diversity and provide a backdrop for the later Chesapeake case study.

In South Carolina, Leland Ferguson, largely utilizing Wheaton et al.'s findings at Yaughan and Curriboo plantations, draws attention to the pattern of clay-walled houses built during the second half of the eighteenth century that were based on trench-set posts, wattle and daub construction, and thatched roofs.¹⁸ Ferguson views this type of construction, the narrow building widths (about 10 feet), the presence of porches, and evidence for outdoor cooking as compared to the dearth of evidence for chimneys, as indicating a stronger African and African-American type of slave quarter architecture. In the nineteenth century, log cabins and frame houses with raised floors and end wall fireplaces replaced the earlier "ground houses." At the Saragossa plantation in southwest Mississippi, Amy Young examined antebellum frame duplexes of the 1820s. These two-room structures stood on brick piers and had a central chimney, wood plank floors, and a wood shake roof. Her architectural and archaeological evidence points to the quarters' front porches or "galleries" being part of the buildings' remodeling in the 1850s that also included new windows and roofs. This manner of architectural change over time is not unusual, nor are the results of

Young's analysis of regional Works Progress Administration (WPA) oral histories, wherein former slaves' narratives overwhelmingly point to log cabins as the most common format for housing slaves. Young's study reinforces the previously mentioned bias of surviving quarters to represent later antebellum structures predominantly found on the plantations of wealthier masters.¹⁹

These more educated and worldly masters readily adopted the late eighteenth- and early nineteenth-century reforms in Southern agriculture and slavery that led to better built and more substantial quarters, including those of brick and stone. Mixing Christian duty and a new sense of paternalism, planters adopted the practices of scientific management and agricultural reform and blended it with overt racism and sharp business practices for effectively maintaining a self-reproducing labor force. Architecturally, the results included more frame structures on brick piers or masonry foundations, wood floors, brick chimneys, and family-oriented households. Yet in previous decades and still surviving on many farms and plantations, a pan-regional slave quarter format entailed: the small, single room, single story log house with a wood and clay chimney, a dirt floor, a few shuttered windows, and a sleeping loft beneath a roof of shingles or slabs.²⁰

Construction and Organizational Patterns

Slave quarter sizes produce a considerable range of variation, running from incredibly small quarters at 7 x 8 feet and 8 x 8 feet, to those 18 x 20 feet and even larger, discounting duplexes and larger dormitory arrangements.²¹ Using the amount of square feet for either single cells or rooms as the basis for comparison, most quarters range from 140 to 160 square feet to 360 to 380 square feet. Noteworthy are the trends for mean and median values for Upper South quarters to hover near 230 to 260 square feet, with spaces of 160 to 200 square feet not uncommon. This pattern was repeated in the admittedly small samples from the 1785 Halifax County and the 1798 Spotsylvania County data.²²

Temporal trends for slave housing in the Chesapeake region reflect changes in building formats, but also the amount of space available to slaves. Planters predominantly relied on earthfast construction for slave quarters from the seventeenth century to well into the eighteenth century, but in the latter period increasingly made use of log construction before shifting towards frame buildings on piers in the following antebellum era. Similarly, over time masters abandoned larger and barracks-style housing for mixed slave groupings, such as at Mount Vernon and Monticello, and adopted a modular style of smaller, family-focused log quarters.²³ For example, Chesapeake slave housing of the 1760s and 1770s was characterized by larger quarters, often with two room plans, containing roughly 215 to 260 square feet per room and about 400 square feet per structure. By the late eighteenth and early nineteenth centuries, smaller quarters, often with a single room offering 140+ square feet of interior space became common, while early to mid-nineteenth-century quarters expanded to about 230 to 250 square feet along with the greater investment of materials noted earlier.²⁴

The implications of such practices for slaves and master have been intensively studied at Monticello, Thomas Jefferson's plantation in Albemarle County, Virginia, for the period between 1770 and Jefferson's death in 1826. Archaeologists Neiman

and Sanford have remarked how earlier slave quarters at Monticello, those dating between the 1770s and about 1790, usually involved larger spaces, multiple rooms and variable materials. A log, 17 x 34-foot, “Negro Quarter,” a stone “workman’s hall” of the same dimensions, an apparent *ad hoc* barracks of frame construction on a stone foundation (building “m”, 16.5 x 44 feet), and another large log quarter, building “o” (12 x 20.5 feet), were all situated along Mulberry Row, the plantation’s main street, and exhibited these qualities.²⁵ Excavations at two structures also discovered multiple, sub-floor storage pits or “root cellars” in each building. In the period from the 1790s to about 1805, Jefferson purposely changed to smaller, single-cell quarters of log construction, such as buildings “r, s, and t” along Mulberry Row, each measuring 12 x 14 feet (168 square feet). These buildings contained only one sub-floor pit, a pattern Neiman considers meaningful and that is supported by similar findings at other, regional slave quarter sites.²⁶

In brief, Neiman interprets the lesser number of sub-floor pits and smaller slave quarter dimensions to reflect ongoing changes in African-American demography, in plantation economics, and in the master-slave dynamic as informed by these changes. In the earlier period when Chesapeake planters relied on gang labor and tobacco monoculture, masters had a greater tendency to house un-related slaves or multiple families together. Under these circumstances, while cellars served the straightforward purpose of storing root crops and personal possessions, these features also acted as “safe deposit” boxes, namely a public and visible way to make one’s or a small group’s possessions known to others in this mixed “household” where one’s co-residents were not of one’s own choice.²⁷

By the Revolutionary War period, circumstances had changed dramatically, with wheat becoming the dominant staple crop in tandem with a diversified form of agriculture involving other grains, increased livestock herds, orchards, and proto-industrial levels of iron working, cloth production, and other crafts. Virginia’s African Americans, without significant importation, had experienced remarkable and rapid population increases, resulting in a greater density of slave kin groups and more community stability. With planters seeking to efficiently manage a complex agricultural routine and provision larger slave communities, while increasingly relying on native, creole slaves to handle numerous and variably scheduled tasks, and with slaves having a degree of increased power within this new economic system, both sides had reasons to prefer smaller, family-based quarters. Log cabins with wood and mud chimneys defined the prevailing format. According to Neiman, with reduced space and co-residents of one’s choice, the need for storage cellars diminished.²⁸

Neiman’s recent survey work, on the large farm quarter that once surrounded the mansion complex at Monticello, has discovered several slave quarter sites from the key transition period of 1790 to 1805, with a lower density of slaves per site and more distance between these sites. In sum, the observed changes for the size and construction of quarters, their locations within the broader plantation landscape, the number of slaves within them, and the buildings’ interior features (sub-floor pits) all mirrored ongoing social and economic changes. The new quarters represented a negotiated arrangement in which planters demanding diverse tasks and complex labor routines had to meet slaves’ desires for more family-based housing, more privacy,

and more local autonomy. As the wheat economy took hold at Monticello, the plantation's landscape changed from fields for swidden and hoe-based tobacco cultivation, to one of deforestation and soil erosion, larger plowed fields, and more mechanized harvesting.

Slave Quarters as Creolized Spaces: Indoors and Outdoors

The concluding discussion returns to the concept of slave quarters and the immediate landscape as creolized spaces. While masters regularly determined the form, size, location, and degree of labor and materials invested in slave quarters, slaves often built and obviously maintained these structures, incorporating their own cultural sensibilities. Given quarters' variable proximity to public areas of work and/or masters' management, the yards surrounding these structures typically represented compromised spaces that differed in content and size. Still, African Americans greatly influenced the nature, use, and organization of quarters' yards.²⁹ The notion of crossing a "cultural threshold" is apt for examining slave quarters, whether archaeologically or conceptually. Historic documents and archaeological investigations indicate that masters had relatively little influence on slave quarters' interiors after the buildings' initial construction. Few furnishings and little, if any furniture were regularly provided, most likely a crude boxed bed of rags or plant material and more frequently, cast iron vessels for cooking. Significantly, period accounts underscore that masters and overseers rarely entered slaves' houses, and that many slaves had door locks for their quarters and cabins.³⁰

Archaeological data from slave quarter sites provide a significant complement and contrast to period accounts for interior furnishings and slaves' material possessions. Using evidence from Monticello again, furniture hardware, spikes, hooks, and storage containers ranging from barrels to sub-floor pits define the critical contributions slaves made to domestic spaces through their internal economy of purchase, barter, theft, and self-production. Articles of food and food-related objects, numerous types of glass, 28 different ceramic types, metal containers, and utensils attest to an African-American enterprise not found in Jefferson's meticulous and mathematical recording system for slave provisions. When repeated from site to site along Mulberry Row and at other sites, the evidence underscores a shared social practice and a condition of resource access defined by slaves themselves.³¹

Finally, the cultural threshold notion should be revised to include yards. The activities implied by foods (hunting, trapping, fishing, gathering) and food-related artifacts, as well as by documentary and archaeological evidence for yard use, confirm that slaves consistently altered their immediate landscape in functional, social, and aesthetic ways. A "laundry list" of outdoor activities includes: cooking and food processing and storage; tending small livestock; gardening; shared domestic tasks, garbage disposal; relaxation and socializing; erecting fences and digging ditches; woodworking and other crafts; music; play; and, religious practices found in yard shrines, swept yards, and bottle trees.³²

Archaeologists Barbara Heath and Amber Bennett have synthesized such evidence in advancing a model for investigating slave quarter yards. They deserve credit for promoting a comparative and analytical framework for these outdoor spaces, including as a corrective to past archaeologists' tendencies, although

understandable, to focus on quarter architecture and indications of slaves' ethnicity and material conditions. Yards enacted slaves' sense of kinship and community and contributed to their internal economy. For instance, the Jefferson family regularly made cash purchases of slave-produced poultry, eggs, vegetables, grass seed, and fodder.³³

Yards' repeated elements underscore the applicability of anthropological and ethnographic models for such spaces. Yards around quarters had discernable boundaries, mediated between African Americans' private and public worlds, and structurally corresponded to a concentric ring model of an inner, active yard of about 20 feet, an outer active yard between 20 and 60 feet, and then a peripheral yard beyond.²⁵ Regular features included fences, sheds, animal pens, trees, woodpiles, benches, cooking hearths, and activity areas. Archaeological evidence for these elements and the activities mentioned earlier include artifact distributions, soil discolorations for postholes and pits, botanical remains, and the distributions for soil chemicals. In closing, quarters and yards were connected to a much broader, slave-influenced network of woodlands, fields, other quarters, African-American cemeteries, and paths that comprised a critical component of plantation landscapes across the American South.

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Patricia A. Gibbs

“Little Spots allow’d them”: Eighteenth-Century Slave Gardens and Poultry Yards

When you see a restored plantation house with large kitchen and ornamental gardens in the Chesapeake today, it is likely that in the eighteenth century you would have found nearby – often just out of sight - a slave quarter similar to the one that the Colonial Williamsburg Foundation reconstructed in 1989 at Carter’s Grove plantation, six miles east of Williamsburg. Rebuilt on its original site to represent how it looked during the period just before the Revolution, the slave quarter represents the best guesses of archaeologists, architectural historians, historians, curators, and museum interpretive specialists.¹

The quarter located near a plantation’s great house was called the home quarter. The teenaged and adult men and women who worked the fields and tended the livestock and slave artisans lived there along with children and often an elderly slave no longer able to be very productive. In the Chesapeake, most slave gardens and poultry yards were located adjacent to or close-by the dwellings of the family members who worked these small plots. In addition, slave gardens were also cultivated at quarters on outlying parcels of land belonging to each plantation.

While some historians and other researchers cast a wide net to capture broad trends over large expanses of time and space, I prefer to narrow my view and find it useful to look closely at specific time periods and view change-over-time within particular regions. This essay focuses on the gardens and poultry yards that were common features of slave quarters in rural areas of the eighteenth-century Chesapeake. For comparison and contrast, this essay also touches on the gardens and livestock maintained by slaves in Lowcountry South Carolina and Georgia.



Figure 1. Reconstructed eighteenth-century slave quarter located near the original plantation house at Carter's Grove. Photograph courtesy of the Colonial Williamsburg Foundation, Williamsburg, VA.

The documentary evidence for these gardens in the eighteenth-century Chesapeake is slight and what little information there is, is generally biased since it reflects a white person's point of view. While a number of slave narratives survive for the nineteenth and early twentieth centuries, only a few eighteenth-century slave narratives have come to light and those that have represent atypical situations. Because of the paucity of evidence for the eighteenth-century Chesapeake, I have used several early nineteenth-century references, particularly information on slave gardens and poultry yards at Monticello and Poplar Forest, Thomas Jefferson's retreat in Bedford County, Virginia.

Observations of travelers, comments by planters and a few plantation mistresses in their diaries and letters, accounts showing purchases from slaves, a plat showing the location of a slave garden, and archaeological evidence represent the variety of sources that inform us about the gardens and poultry yards that slaves maintained for their personal use in the eighteenth-century Chesapeake.

Masters usually extended the privilege of cultivating small garden plots and raising poultry to slaves living in rural areas. When a planter set out to establish a new quarter, he selected the location and had the area cleared, ordered his slave carpenters to build the dwellings and storage buildings, and supplied the necessary agricultural tools and minimal furnishings required to make the quarter habitable. Further improvements to the quarter depended on the resourcefulness and labor of the residents to partition the quarter into work areas and to fence in garden plots and poultry yards.²

Using axes and other tools available at the quarter for chopping wood, grubbing underbrush, or cultivating the plantation's cash crops, slaves made fences from saplings, branches, and vines and from salvaged boards and nails. In March 1774, Philip Fithian, tutor to the children of Robert Carter at Nomini Hall in Westmoreland County, Virginia, visited a quarter and watched "the Negroes make a fence; they drive into the Ground Chesnut stakes about two feet apart in a straight Row, & then twist in the Boughs of Savin which grows in great plenty here." The tree Fithian called "Savin" was red cedar.³



Figure 2. Three kinds of fences (pale, wattle made with twisted boughs, and scrap lumber woven and wedged between posts) at the reconstructed slave quarter at Carter's Grove. Photograph courtesy of the Colonial Williamsburg Foundation, Williamsburg, VA.

Fences at the reconstructed quarter at Carter's Grove recreate a variety of enclosures that could have been built there over a period of years. The circular, wattle fence made with twisted boughs enclosing the garden next to the log double house is the type of fence Fithian described. The fence made from scrap lumber woven and wedged between posts also required no nails. The enclosures made with pales were held in place with reused nails. The locations of the curved fences enclosing one of the gardens and the poultry yard are based on archaeological evidence showing fragmentary posthole patterns. Other fence locations are conjectural. Curved fences similar to the enclosures at the slave quarter are still found in those parts of West Africa from which slaves were brought to the Chesapeake.⁴

Travelers consistently described these gardens as small. Hugh Grove, who arrived in Virginia from England in the summer of 1732, noted that the slaves were allowed to plant “little Plats for potatoes or [?] Indian pease and Cinnells which they do on Sundays or [at] night for they work from sunrising to setting.” Edward Kimber, another Englishman who visited the Chesapeake about ten years later, referred to these gardens as “the little Spots allow’d them.” One Sunday morning in April of 1774 Fithian rode out before breakfast and saw slaves “in several parts of the plantation ... digging up their small Lots of ground allow’d by their Master for Potatoes, peas &c.” He further commented in his journal – “All such work for themselves they constantly do on Sundays, as they are otherwise employed on every other Day.” A Polish visitor to a Mount Vernon quarter in 1797 noted that “a small vegetable garden was situated close to the hut. Five or six hens, each with ten or fifteen chickens, walked around there.” Englishman Isaac Weld, who visited Virginia at the end of the century, was favorably impressed by the quarters he observed, noting that: “Adjoining their little habitations, the slaves commonly have small gardens and yards for poultry, which are all their own property . . . their gardens are generally found well stocked, and their flocks of poultry numerous.”⁵

Slave families with able bodied members, including an adult male who could do the heaviest gardening work, could raise enough produce to supplement their diet of master-provided rations and have surplus to sell to the master, to free persons who lived nearby, or at the town market if they lived close to an urban center. On the other hand, slaves in poor health and women who lived alone with small children - the people often in most need of the nutrients provided by garden produce - often had little time or energy on moonlit nights or on Sundays to plant and cultivate a productive garden. If these unfortunate slaves managed to grow a few vegetables, it is doubtful they had surplus to sell or trade.⁶ Although we lack documentary evidence, it is likely that some quarter residents pitched in and assisted with the planting and cultivation of the gardens of fellow slaves who found themselves in adverse circumstances.

Documentary and archaeological evidence indicates that slaves in the Chesapeake grew a variety of plants in their gardens. Potatoes (sometimes identified as red or sweet), field peas (sometimes called cowpeas or black-eyed peas), beans (sometimes referred to as pole beans or snaps), cymlings, and coleworts were most commonly mentioned by travelers and planters. Vegetables for which there is less evidence include lima beans, cabbages, corn, onions, peanuts, and potato pumpkins.⁷ Several of these plants deserve further comment.

Cymlings, what Hugh Grove called “cinnells” and Anne Cary Randolph called “simelines,” are a summer squash native to the eastern United States.⁸ Today we generally call them pattypan squash.

The loosely-headed member of the cabbage family commonly grown in the gardens of black and white Virginians and eaten as a boiled green was generally called colewort in the eighteenth century. Through dialect corruptions, the name of this plant (variously called “colort,” “collart,” and “collerd”) evolved into “collard” by the early nineteenth century. While traveling through Hanover County, Virginia, in 1781, Lt. William Feltman wrote in his journal that “the negroes here raise great quantities of snaps and collerds. They have no cabbage here.”⁹

Plant remains of peanuts were recently excavated in a mid-eighteenth-century context at the quarter at Rich Neck, then located several miles from Williamsburg but now within the city limits. The earliest documentary reference to the cultivation of peanuts in Virginia that has come to light is the reference to “ground nuts (*Arachis*)” in Thomas Jefferson’s *Notes on the State of Virginia* which he finished writing in late 1781. According to his garden book, Jefferson did not grow peanuts (“peendars”) at Monticello until thirteen years later.

The only references to potato pumpkins that I have found are also in the writings of Thomas Jefferson. In 1790 Jefferson wrote Samuel Vaughan, Jr., of Jamaica, about a vegetable of unknown origin eaten by both members of his household and his slaves, noting that “We have lately had introduced a plant of the melon species which from its external resemblance to the pumpkin, we have called a pumpkin, distinguishing it specifically as the potatoe-pumpkin, on account of the extreme resemblance of its taste to that of the sweet-potatoe.” Four years later Jefferson planted potato pumpkins in his kitchen garden.¹⁰ References like this one beg the question about what additional plants were grown in slave gardens in the eighteenth-century Chesapeake that remain unnamed.

Perhaps one of the undocumented plants was okra, a plant frequently associated with African-American cookery today. Although okra was brought from Africa to the West Indies during the seventeenth century and can be documented as growing in slave gardens in the Lowcountry fairly early in the eighteenth century, this plant may have been introduced into the Chesapeake in the late eighteenth century by gentry planters and grown first in their gardens. It is quite possible that okra and some other Africa-to-the-West Indies foods came to the Chesapeake via Philadelphia. That city had extensive contacts with the Caribbean Islands in the eighteenth century when ships bringing produce and travelers arrived several times a week. Swedish traveler Peter Kalm saw okra in the gardens of white residents near Philadelphia in 1748 and noted in his journal that the “fruit, which is a long pod, is cut while it is green and boiled in soups, which thereby become as thick as porridge. This dish is reckoned a dainty by some people and especially by the negroes.” In the years leading up to the Revolution and, especially in the years immediately following, when this city served as the capital for the new federal government, many Marylanders and Virginians (accompanied by their personal slaves) visited, had business contacts, or lived temporarily in Philadelphia. Thomas Jefferson lists okra in his *Notes on the State of Virginia*, written in 1781, but gave no indication of who grew this plant or the location where it was raised. He did not grow okra at Monticello until 1809.¹¹

Charred seed remains from slave root cellars, dating to the mid-eighteenth century at Rich Neck, included grains such as barley, rye, and wheat. Remains of corn, wheat, and sunflowers were excavated at the quarter at Poplar Forest. In both cases it is likely these grains were not grown in slave gardens but were either part of the planter’s rations to his slaves, perhaps clandestinely harvested from the master’s fields, or as was possibly true of the seed remains of pearl barley found at Rich Neck – bought in small amounts at local stores.¹²

While documentary references to specific herbs being grown in early Chesapeake slave gardens are lacking, it seems appropriate that we grow some herbs at the slave quarter at Carter’s Grove. Research by Colonial Williamsburg archaeologist Ywone Edwards-Ingram on African-American medicinal rituals relating to pregnancy, childbirth,

childcare, and death shows that many black medicinal practitioners in early Virginia relied on herbal remedies. The charred seed remains of bedstraw and sedge found at the Rich Neck slave quarter and the seed remains of bedstraw, goosefoot, pokeweed, and smartweed excavated at the Poplar Forest slave quarter, may have been consumed for food or used to make herbal medicines.¹³

Fruits grown in slave gardens or near quarters included apples, cherries, peaches, muskmelons, and watermelons. Long-established quarters probably had apple, cherry, and peach trees but with plantation orchards often near the quarters, it is likely that many slaves simply helped themselves to orchard fruit when it became ripe. Planters were probably more willing to overlook the taking of plentiful fruit such as apples and peaches from their orchards than fruits and vegetables swiped from their kitchen gardens or vineyards. Jefferson, for instance, was likely displeased when his gardener Antonio Giannini wrote to him in Paris in 1786 that slaves were stealing grapes from the vineyards at Monticello.¹⁴

We also know that some slaves raised non-food plants such as gourds and hops. Prior to 1798 Thomas Jefferson allowed his slaves to cultivate small amounts of tobacco for their personal use but this privilege ceased that year when he became concerned about being unable to determine whether the stripped leaves came from his tobacco plants or theirs.¹⁵

Generally, individual gardens produced only a limited number of vegetables and fruits. When we consider the most commonly grown fruits and vegetables, we see they share several characteristics.

Potatoes, field peas, beans, cymplings, coleworts, melons, and gourds are easy to grow and generally produce high yields. Seeds for some of these plants could be sowed every couple of weeks, thus extending the harvest season. Beans, squash, and gourds could be trained to grow up and over the fences, leaving more space for plants like potatoes, cabbages, and coleworts within the enclosed areas. Some of these plants did not have to be harvested as soon as they ripened but could remain in the ground until needed or, as with potatoes, be stored in pits within the slave dwellings. Field peas and beans could either be eaten fresh or dried for use later in the year. Colewort greens could be picked throughout the winter. Thus, with careful planning, these gardens could be productive throughout the year.

None of these plants required specialized cooking equipment but could be boiled in a pot or, as with potatoes or ears of fresh corn, roasted in the coals. Except for muskmelons and watermelons, slaves consumed the foods they grew in cooked form, no doubt continuing to practice African food preparation methods. Even today, residents of traditional villages in East Africa cook all of the food they eat except for fruits that they can peel.¹⁶

The documents do not shed any light on how these gardens were planted and cultivated. Working by moonlight and on Sundays, slaves used in their gardens the same heavy hilling and broad hoes they used to cultivate their master's field crops during the rest of the week. Quite likely, many of these gardens were intensively planted in a random manner to make the best use of the small plots their masters allowed them. By early winter, after frost had killed most other plants, coleworts were probably the only plants that remained in the gardens.

While Chesapeake masters did not allow their slaves to have large provision grounds in the eighteenth century, Orange County, Virginia, planter Francis Taylor and, perhaps, some other masters provided large plots and an occasional day or half-day off so their slaves could grow potatoes. These potatoes, unlike ones raised in the slaves' personal gardens, were considered rations so the masters probably reduced the amount of corn issued when they gave potatoes to their slaves.¹⁷

It is likely that the best-tended gardens were kept by elderly slaves with few or no work assignments. Necessity, as well as a love of gardening, no doubt encouraged retired slaves to garden since superannuated slaves only received half the allotment of rations issued to working adult slaves. Examples of elderly Virginian gardeners include Landon Carter's Jack Lubbar (praised for his "pease"), Councilor Robert Carter's Dadda Gumby (who offered Fithian eggs, apples, and potatoes), Francis Taylor's Old Peter and Old Joe, and Spencer Ball's Old Dick. Interviewed by Englishman John Davis at Ball's Prince William County, Virginia, plantation about 1800, Old Dick remarked: "There is few masters like the 'Squire.' He has allowed me to build a log-house, and take in a patch of land, where I raise corn and water Melions."¹⁸

Slaves, who lived near the plantation great house and slaves who had occasion to know the masters or mistresses on neighboring plantations, often had more opportunities to sell excess produce or poultry than slaves who lived on remote rural quarters. Virginia law recognized these sales but penalized persons who bought, sold, or received any "commodity whatsoever, without the leave or consent of the master." When Martha Blodget of Cawsons in Prince George County, Virginia, "bo't of Mrs Bland's Antony 6 fine chickens," this circumspect widow qualified her action by noting: "I making it a rule never to buy of a negro without leave of their owners."¹⁹

A remarkable record of purchases from slaves survives in household accounts kept by Thomas Jefferson's granddaughter Anne Cary Randolph. Begun in 1805, when Anne was fourteen and learning the art of housewifery from her mother Martha Jefferson Randolph, they continued until Anne's marriage four years later. Monticello historian Lucia Cinder Stanton has observed that during that period, over half of the adult slaves at Monticello sold garden produce to the plantation mistress. While most of the produce purchased was similar to that grown by slaves in gardens elsewhere in Virginia, sales of cucumbers, lettuce, salad greens, and sprouts represent vegetables generally grown in the gardens of the middling sort and the gentry.²⁰

While these accounts are a wonderful resource, I believe we should view them as atypical, perhaps even for Monticello. This four-year period coincided with the years when Thomas Jefferson was president and lived in Washington, DC for most of each year. Thus family members may have been more inclined to buy common and high-status vegetables such as cucumbers, lettuce, salad greens, and sprouts from the Monticello slaves during these years than they did when Jefferson was in residence and the kitchen garden may have been planted more fully.

By the second half of the eighteenth century, a considerable amount of documentary and archaeological evidence supports the characterization of planter James Mercer that the "Negroes . . . are the general Chicken merchants" in the Chesapeake, raising and selling chickens and eggs as well as using them to supplement their diets. After Mount Vernon slaves complained when he made minor changes to their rations in 1793, including switching from issuing dried corn in the kernel to ground cornmeal,

George Washington suspected their criticism “arose as much from the want of the husks to feed their fowls, as from any other cause.” William Tatham, an English agricultural writer who visited Virginia at the end of the century, noted that masters extended the “privilege of keeping dunghill fowls [common chickens], ducks, geese, and turkies” to most of their slaves.²¹

Plantation mistresses often bought chickens and eggs from their slaves or other slaves living nearby, sometimes fattening the chickens for a period of time before having them killed, plucked, and readied for the spit or cookpot. Martha Jefferson's household accounts for the 1770s and early 1780s show that she frequently bought chickens, eggs, and occasionally ducks from Monticello slaves or from slaves belonging to her neighbors. The accounts kept by her granddaughter Anne Cary Randolph between 1805 and 1808 record purchases of eggs, chickens, and/or ducks from all but three adult slaves at Monticello. The three exceptions were house slaves - Sally Hemings and the two cooks. Old Dick boasted to his interviewer John Davis, “I keep chickens and ducks, turkeys and geese, and his lady [wife of Spencer Ball] always gives me the Alexander [Alexandria, Virginia] market [price] for my stock.”²²



Figure 3. Drawing of reconstructed slave quarter at Carter's Grove shows the poultry yard enclosed with a circular pale fence in the lower left corner. Drawing courtesy of the Colonial Williamsburg Foundation, Williamsburg, VA.

Evidence of slave gardens and poultry yards in urban settings is minimal. One reason for this may be that slaves who worked in and around the master's house as domestics had less free time than the fieldhands who, throughout the South, had evenings and Sundays off. The domestics worked at their master's beck and call and only received time off when it was convenient for the master or mistress. Some town residents, whose

property was large enough to devote limited space to small slave gardens and/or poultry yards, extended this privilege to favored slaves. A surviving 1801 garden plan for Col. Nicholas Rogers' property in Baltimore labels a space in one of the back corners of the plan "for servants vegetable patch or for other purposes." The single slave dwelling, the privy, and the hog pen back up to this space. Whether the hog pen held the master's or slave's hogs is unclear. At this period in Maryland and Virginia, slaves were forbidden from owning livestock other than poultry. While this ruling seems to have been fairly strictly enforced, we know of at least one exception. It is likely that there was a pigpen near Norfolk merchant James Maxwell's townhouse during the 1770s since, as a special privilege, he allowed Old Sarah to raise a sow and pigs on his Norfolk lot.²³

Slaves who lived near urban centers often had greater opportunities to market their excess produce than slaves living in remote rural areas. This was especially true by the end of the eighteenth century as cities like Norfolk, Richmond, Alexandria, Baltimore, and Annapolis increased in population. When the English agricultural writer Richard Parkinson settled on land near Baltimore in 1799 and established a truck farm, he was surprised to find that blacks offered stiff competition when he attempted to market his produce. Eventually Parkinson hired a free black marketman to sell his produce in Baltimore. Blacks exercised this control since they were both sellers and buyers. Free blacks marketed their own produce as well as produce raised by slaves who lived nearby. Many of their customers were slaves sent to purchase provisions by their masters who were members of the gentry and merchants. Concerned about fair treatment of a newly purchased slave, Marylander Charles Carroll of Carrollton near Baltimore advised his overseer that "Clem the blacksmith must not have more privileges than my other slaves or be better fed." But Carroll agreed that Clem's wife could live with him and that he could have a "huck patch [a small garden for raising produce for sale]; these I grant . . . as many of my slaves have that privelege."²⁴

Time, the system of labor, and region determined the size of gardens and the kinds of fowl or animals that slaves raised for their own use in early America. The gang labor system practiced in the Chesapeake during the eighteenth century, which kept slaves at work in the master's fields from sunup to sundown every day except Sunday, restricted slaves living in this area to petty trade. Before 1692 some slaves in Virginia, whose owners allowed them to raise tobacco and corn and keep horses, hogs, and cattle on their provision grounds, were able to eventually purchase their freedom. That year the General Assembly ordered slave owners to confiscate "all horses, cattle and hoggs marked of any negro or other slaves mark, or by any slave kept." For the next 100-plus years, most masters also prohibited their slaves from raising, for their own use, the staple crops grown on their plantation. As Thomas Jefferson explained, "There is no other way of drawing a line between what is theirs and mine."²⁵

The rice-dominated agriculture of Lowcountry eighteenth-century South Carolina and Georgia, based on the task system, enabled slaves in that area considerable opportunities to raise crops and domestic animals on their provision grounds. These privileges were achieved by the late 1600s when hard-pressed masters required slaves to raise their own provisions. During the eighteenth century as the rice economy took hold, masters issued rations but slaves continued to press their owners for "as much land as they could handle" and for more time to work their provision grounds. The task system allowed slaves to preserve part of the day for their own use. Thus, many able-bodied

adult slaves could leave off work for the master by early afternoon and work for themselves. Many Lowcountry slaves had both “gardens” adjoining their quarters and “fields,” sometimes called provision grounds, nearby consisting of five or six acres of ground where they grew produce and raised livestock. Although the South Carolina legislature later passed a law similar to Virginia’s 1692 law prohibiting slaves from owning cattle, horses, and hogs, plantation masters in the Lowcountry failed to enforce the law.²⁶

In part because the climate was warmer in the Lowcountry than in the Chesapeake but also because more slaves continued to be brought to South Carolina and Georgia from Africa after the mid-eighteenth century, Lowcountry slaves grew more African plants in their gardens than did Chesapeake slaves. In the 1720s Mark Catesby noted the recent introduction of a new variety of yam into South Carolina, calling it “a welcome improvement among the Negroes,” who were “delighted with all their African food, particularly this, which a great part of Africa subsists on.” Slaves in the Lowcountry also grew root crops like tania, African grains (including millet and sorghum), sesame (making cooking oil and using sesame in soups and puddings), African peppers, and okra.²⁷

While the produce and fowl raised in the “Little Spots allow’d them” added nutrients and variety to the usual one-pot meals consumed by slaves in the eighteenth-century Chesapeake, this production represents only several of the ways slaves chose to augment their master-provided rations. Hunting, fishing, trapping, poaching, foraging, bartering, and gifting - along with small quantities of purchased food and drink - offered additional food sources.

Demographic evidence, summarized by Philip Morgan in his book *Slave Counterpoint: Black Culture in the Eighteenth-Century Chesapeake and Lowcountry*, suggests that the resourcefulness of Chesapeake slaves in augmenting their diet made significant contributions to their well-being: “From about mid-century, the African American population of the Chesapeake accomplished something that its Lowcountry counterpart would not experience for at least another sixty years. It grew primarily from natural increase, and at a rapid rate.” In South Carolina the reproductive rates of slaves were similar but their mortality rates were higher – implying that rice production forced a harsher work regimen than the production of tobacco in the Chesapeake. Morgan also notes that the average height of slaves offers another rough measure of the significance of the slave diet. “On this basis,” he observes, “the North American diet appears more than adequate, for mainland slaves were generally taller than Caribbean slaves, and creoles taller than Africans. Moreover, the diet of Chesapeake slaves was apparently particularly varied and sustaining, for Virginia slaves were on the whole taller than their South Carolina counterparts.”²⁸

Thus, while the documentary evidence for slave gardens and poultry yards in the eighteenth-century Chesapeake is slight, the demographic evidence suggests that the produce grown and poultry raised by slaves for their own use made a substantial contribution to their health. This production clearly represents in no small measure one of the ways these enslaved people exercised autonomy in their otherwise highly-restricted lives.

This essay expands and revises information in my article on this subject printed in *The Colonial Williamsburg Interpreter*, 20, no. 4 (Fall 1999): 9-13. Thanks to Vanessa

Patrick and Lorena Walsh for sharing references on slave gardens and to Wesley Greene and to Terry Yemm for readers' comments.

Recently retired as a historian at Colonial Williamsburg, Patricia Gibbs volunteers nearly full-time in the department of historical research where she has resumed her long-shelved study of the slave diet in the early Chesapeake. Her interest in slave gardens is an extension of her research on the foodways of the eighteenth-century Chesapeake – spanning from what slaves ate up to the foods consumed at the Governor's table. For thirty-plus years she worked with a team of historians and other researchers to support interpretive programming at Colonial Williamsburg.

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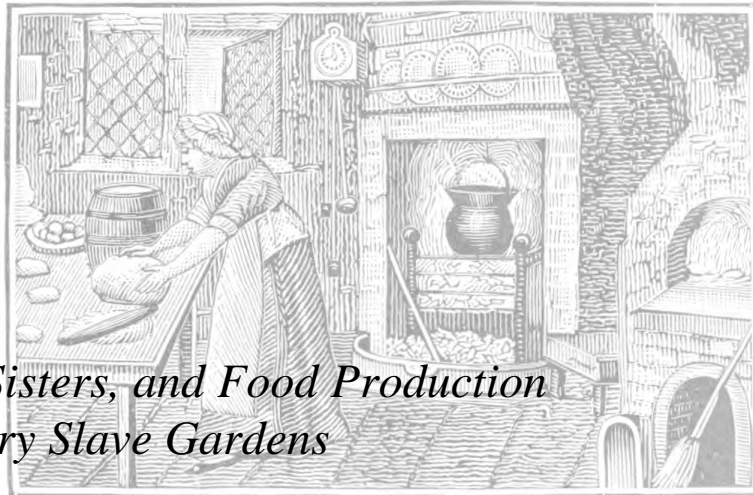
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Leni Ashmore Sorensen
Gumbo, The Three Sisters, and Food Production
in Nineteenth-Century Slave Gardens



For as long as humans have cultivated the soil, vegetable gardens and small fields of staple grain have been the mainstays of countless communities worldwide. In the first three centuries of contact between Europeans, Africans, and New World Native Americans not only people crossed and re-crossed the Atlantic; food plants, foodways, and techniques of planting mingled and evolved. Europeans gardened in a relatively cool climate and wide spacing between plants, often in straight rows, was necessary to insure the warmth of the soil and a harvest before each winter closed off food production. On the other hand, gardens in the lower temperate and tropical zones flourished best when multi-tier planting both sheltered the soil from heavy rain and erosion while offering possibilities of a continuous harvest in places where heat precluded easy storage of many foodstuffs. Two examples of ancient multi-tier planting traditions, from West Africa and among Indians in North America, became part of the gardening style and food production strategies among African-American slaves in the American South.

Throughout the antebellum South gardens for pleasure and for food production were ever present in the urban and rural landscape. The African and African-American slave labor force worked to create and maintain both pleasure and food gardens for slaveholders, following the design plans laid out by their Euro-American masters who had not only the labor force but as much land as desired to plant gardens of any size. When it came to cultivating food gardens for themselves, their families, and their communities, older and more traditional African and Native American garden ways may have stood slaves in good stead when it came to insuring enough food for the group as plots allowed were small and time to work them brief.

Recreating gardens and food production processes for the education of visitors to modern historic house museums necessitates examining the several agricultural traditions available to the enslaved populations of the American South. During the seventeenth to nineteenth centuries, ancient African gardening traditions intersected with Native American gardening traditions and, complimented by European and New World foods, ultimately resulted in productive American slave gardens.

Within a very short time of the first European contact with the New World, foodstuffs common to Mesoamerica and the Caribbean began to be introduced into West Africa. In their new places of cultivation New World foods joined foods that were indigenous to Africa and those that had been introduced there from India, Southeast Asia, and the Middle East during the period from 500 BC to the end of first millennium AD, roughly 1500 years.

These new crops changed food production styles, opened new African-European trade lines, and affected the settlement patterns of various groups along the Slave Coast. The fifteenth through early eighteenth centuries saw the introduction of New World plants, particularly maize, manioc, peanut, sweet potato, many new dry beans, chili peppers, and several new varieties of squash.

The New World crops joined domesticated African rice, millets, sorghum, and other indigenous vegetable crops that had their beginnings in the West African “cradle” particularly in the central Niger River area and Senegambia.¹ Oil palm, cowpea (Black Eye pea), and the bones of small-boned domesticated cattle have been found at dwelling sites dated to be 3,500 years old.

Starting long before the end of the first millennium AD food stuffs were being traded north to south, south to north from the savannah into the forests of Western Africa. Between the eighth and sixteenth centuries Asian imports from the far eastern shore of the continent had migrated and become staples. Banana (plantain), Asian rice, and cocoyam (taro) are major examples. The cultures of Nok, Benin, Ghana, and Mali grew and used a variety of cultivated foods and tended to include the staple crop into the societies’ ritual observances; thus rice, millet, yams, fonio, and tef have been considered sacred by these various African peoples.²

It is important to understand the vigor and long tradition of the trade routes all along the interior of the West Coast of Africa. From Mauritania to Angola the western edge of the continent would become the principal site of the Atlantic slave trade and the avenue for the importation of New World crops into the continent. Trade routes out of the inland delta of the Niger, where dried fish, fish oil, and cereals were produced, connected to the dry savannah and semi-desert areas far to the north as early as the first millennium AD. Canoes, some large enough to carry 80 men, went up the Niger to the Ibo kingdom of Aboh, to Onitsha, and even beyond, to the Igla kingdom of Idah. The Ogbia supplied mainly plantains and cocoyams (taro). From Aboh, northwards, yams were imported, together with livestock. One European observer stated that the people traded salt for the food items.³ Thus later Islamic traders traveled pre-existing trade routes just as Europeans would several hundred years later.⁴

In the twelfth century the Arabs documented many of those early African foods, particularly those known in West Africa. The peoples of West Africa grew and ate an amazing variety of plants, in equally various combinations. The basic grains of sorghum and millet were supplemented with yams, fava bean (*Vinca faba*), chickpea, and lentils. Onions, garlic, various greens, cucumbers, melons, okra, and those edible gourds of the family of *Lagenaria* originating in the Old World, grew in family gardens.⁵

The tradition of stewing vegetables in combination with spices, and with meat or fish when available, to create a rich, savory sauce to accompany a thick grain porridge is of great long standing throughout Africa. Okra is the vegetable that is most commonly

identified as an African addition to the diet of blacks in the New World and to Southern cuisine. Okra (*Abelmoschus esculentus*), called gumbo in Swahili, had its origins along the Nile River as early as the twelfth century BCE, and before 500 BCE had spread widely through North and West Africa. Okra is said to have first reached the Americas at Brazil in the mid-seventeenth century. The Swahili name for the vegetable has come to mean a spicy stew of many ingredients melded with the taste and texture of the okra itself. In Africa or the Americas gumbo-like stews are most often served with rice, whether it be one of the indigenous African varieties of rice such as *Oryza glaberrima* that has been cultivated in the Senegambian region for a thousand years, or the Asian rice grown in Africa and in the Americas.⁶

New World crops found homes among varied and widely distributed peoples all along the African West Coast, and especially in the new trading centers dedicated to gold and slaves. Very quickly the Portuguese introduced maize, manioc, peanuts, and tobacco into such cultures as the Mbundo and the Luba of Angola.⁷ Plants, seeds, and growing techniques easily passed along earlier trade routes into the interior as captors moved inland and with their slave coffles made the return trek to the coast.

New plants had to be added to the traditional gardening landscape by the gardeners to whom they were introduced. Where would the new plants fit? It helps to have some idea of how traditional garden crops were cultivated. While evidence of agricultural practices on a day-to-day basis are speculative when it comes to saying with certainty how societies in the long distant past did or did not practice specific techniques, observations of modern agricultural societies as well as ancient images do give some answers. Bent over the grain harvest, with their sickles raised high, the elongated dark brown images of women from reddish rock paintings of 4000 - 1500 BCE illustrate the essential role African women have played in the domestication and spread of the grain crops grown in fields. The earliest groups likely harvested stands of wild grain, coming slowly over the millennia to roughing up the soil and intentionally broad sowing seed saved from the previous harvest, and later to turning and preparing the soil in a more systematic way. The women also grew root vegetables and garden truck in plots nearer to the village or house compound throughout Africa's history.⁸ These small garden plots have always been far more than merely supplementary. These African gardens, which Edgar Anderson called "dawn gardens" are similar to those in other tropic climates around the world, often created using the technique of slash and burn. Such plots harken back to our most distant human past as agriculturists and such gardens are "simultaneously an orchard, a vegetable garden, a dump-and-compost heap and a medicinal garden."⁹

A description of a Kikuyu peasant's garden plot made by Leakey in 1934, gives some idea of the various layers of crops grown simultaneously. Making no attempt to create straight lines of plants but setting the seeds in a scattered pattern, after hoeing and preparing the ground, a gardener plants the maize and the pigeon peas first. When they have sprouted enough to be seen other kinds of beans are planted in the spaces, followed by sweet potato cuttings. Beans are the first foods to be eaten from the plot, followed by the maize. This leaves the soil of the plot protected from the heat or from heavy rain by the leaves of the sweet potatoes, whose vines completely cover the area. Some varieties of beans can produce over a long season, so they and the sweet potatoes provide fresh

vegetable food throughout the growing season.¹⁰ For the seventeenth-century African gardener, fitting some newly acquired plant into an already complex garden plan must have been exciting, learning how to harvest and prepare it for consumption an adventure. The American peanut resembled the Bambara groundnut enough to make the transition easy, but cassava, especially the bitter variety, had to be carefully processed before it could be eaten. How such techniques were passed on along with the foods themselves is not so clear at this distance in time.

New World foods added complex new flavors and, rich in protein and vitamins, also raised levels of nutrition and population growth across the African continent where they were introduced. Throughout the seventeenth and eighteenth centuries there were gains in African population, which were in good measure due to improved agricultural techniques and new foodstuffs. These gains were balanced by the losses in population from the constant European desire for slaves for the New World.

All along the entire coast of West Africa some combination of Old and New World crops provisioned and sustained both the slavers and the slaves in the Middle Passage across the Atlantic.¹¹ Thus, according to Alagoa, societies already long established along the Niger Delta not only sold slaves to the Europeans, but also sold the very food that would be needed to get the slaves to the coast and across the Atlantic. These slaves and foodstuffs were exchanged for European trade goods that included not only manufactured items but some foreign foods as well. Some of these interior markets were Aboh at the head of the Niger Delta, the Oguta Lake region, the Ndoki, Ibo, and Ibibio country.¹²

The trade negotiations with the representatives of the various African rulers were intense and often the Europeans, especially before the eighteenth century, were hardly in a position to best the experienced African traders and merchants when it came to deal making. In 1699 James Barbot reported that for the 50,000 yams he needed for his Caribbean slaving venture he had to pay “. . . one standard-sized bar for 60 ‘king’s yam’ - first quality - and one bar for 150 ‘slave’s’ yams.”¹³ As early as 1659 the French traders at St. Louis in Senegal were purchasing food from the local farmers to feed slaves on the voyage to the New World as well as trade items such as ivory, ostrich feathers, hides, and gold. Deals had to be struck over ‘taxes’ or ‘customs’ with various rulers before trade could be successful.¹⁴

Once loaded on ship, cooks, whether sailors or slaves, had to prepare the yams or horsebeans or corn mush in large quantities daily and in such a manner that those chained below in the holds of the ships would eat it and not sicken and die. By 1705 English slavers began describing the proper diet to use on their ships, a diet that was a combination of Old and New World foods. Maize was always high on the list. In 1707 the Royal African Company advised its agents at Cape Coast Castle that along with the supply of beans they had loaded in England, in Africa they should buy fifty chests of corn, forty pounds of malagueta pepper, twenty gallons of palm oil, two bushels of salt, and twenty gallons of rum for each hundred slaves. When maize was not available, the factors had to buy substitutes, filling the need with millet, yams, or rice. On the African coast, in exchange for a cargo of European goods, the ship *Carteret* took in 320 chests of corn, 200 pounds of malagueta pepper, 16 bushels of salt, and 80 gallons of palm oil; all for the 400 slaves the ship was to take across the Atlantic.¹⁵

To the several hundred thousand Africans brought to Virginia or New York or South Carolina during the seventeenth and eighteenth centuries, the North American Three Sisters planting style, including many of the vegetables, looked much like the gardens and fields they left behind. The English may have been used to seeing their vegetables planted in neat rows, but to people born in Africa, the style and sheer overlapping abundance of the Indians' gardens would have been a reminder of the gardens of their homelands.

Corn, beans, and squash were the centerpiece vegetables of all the crops grown by Native Americans in Mexico. One woodland nation tells of the origin of the Three Sisters this way:

Pushed through the sky-hole into the green void below by her husband, the Ancient One, the woman being was rescued by the Turtle. As she floated downward the Fire-dragon gave her an ear of corn, a mortar and pestle, a small pot, and a bone representing the things she would eat. Landing upon the Turtle's back she created the earth, the plants and the animals for the human beings that would follow.

This is a very brief retelling of the story of the She Master, the Ancient One of the Seneca.¹⁶ In another myth, a mother makes the ultimate sacrifice when she gives her body to feed her children in a story explaining the origin of corn and tobacco from the Penobscot people. First Mother directed her husband to kill her, and for her sons to pass her body over the fields and to bury her bones in a special place. Her flesh became the corn and her sweet breath became the tobacco.¹⁷

The division of labor between women and men in many Native American cultures was complimentary, balanced by and interwoven with the needs of the tribal group and the resources available. Hunting, warfare, and political negotiations between different tribes and eventually between the Indians and the Europeans, were the province of men. The long-term sustenance of the people through the seasons, in their daily diet, housing, clothing, and child rearing practices were the province of women. Within the traditional system there was both variation and flexibility; both men and women hunted small game such as raccoon, opossum, beaver, and turkey, while men usually participated in the initial preparation of the fields. The fields and gardens belonged to the women and they had ultimate say over the dispersal of the crops produced.

In 1624 William Wood described the work of the Indian women he encountered in southern New England. He praised the women for their fields that appeared to him as a "garden rather than a corne-field." The Indian women, Wood told an English lady correspondent, built the houses, arranged the winter storage of crops, fished, wove mats and "curious baskets," and sewed clothing for their husbands, their children, and themselves.

While decrying the supposed laziness of the men, and the burden of work they imposed on their wives, Wood was none the less favorably impressed with the industry and skill of the women as well as the beauty of the garden landscape.¹⁸

The great gifts given to the women in so many Native American myths center on corn (*Zea mays* or maize), beans (*Phaseolus vulgaris* & *lunatis*), and squash (*Cucurbita*

pepo), a relationship known to the Iroquois and many other groups as the Three Sisters. Cultivated for at least 7,000 years by Mesoamerican farmers in Mexico, Indian corn was grown in at least 21 varieties by differing groups of North American Indians for, in some cases, 5,000 years prior to the coming of the first Europeans.

One can imagine how, over the millennia, women of many Indian societies would have exchanged, traded, cross-bred, and carefully saved the seeds of the life-giving corn, the over one hundred varieties of beans, and the squashes, of which the huge orange pumpkin is just one impressive example. Just as did the African women, the Indian women used their labor efficiently, for after the men cleared the forest trees, burning the trunks and undergrowth, the women planted not just a single crop, but over several weeks interplanted climbing beans which used the corn as a natural trellis and the ground-hugging squash whose large leaves shaded the soil, reducing weeds and erosion.¹⁹

Such planting methods produced a more than adequate harvest in most years and large surpluses in others. Fields of corn, always inter-planted with the other two sister crops, surrounded Indian villages and were documented by explorers such as Jacques Cartier and Henry Hudson in the sixteenth century. Soil scientists at Cornell have calculated the caloric productivity of the land using the practices of inter-planting followed by the Indian women. The corn harvest by itself likely ran 25-40 bushels per acre, not high when compared to today's 100-bushel yields. However, when one counts in the caloric value of the three crops, corn, beans, and squash, that were planted together on the same ground the numbers are impressive - "4.02 million calories per acre versus 3.44 million calories per acre for corn grown alone."²⁰

In August 1779, an American army general submitted lists of plantings and foodstuffs he had destroyed in his attacks upon the Seneca. He says that the tribe possessed, along with their stored corn, at least "1,500 orchard trees and 2,000 to 3,000 bushels of beans, cucumbers, watermelons and pumpkins."²¹ Gardens and fields, cultivated by the women of the tribe, produced the majority of the food eaten by the group and the women also had the responsibility of processing and distributing meat and fish from the hunt. Venison was high status meat, and took perseverance and great skill to obtain. The difficulties of hunting successfully can be seen by the faunal remains found in just one Huron village: "Fish bone outnumbered all other classes of bone by at least 5:1, while domesticated dogs outnumbered all other mammal species by 10:1 at one historic site." In Huron society, at least, fully 65 percent of the dietary nutrients were obtained from the bounty of the Three Sisters; corn, beans, and squash.²² The sustaining and productive Three Sisters planting was the predominant style of agriculture practiced by Native American women planters throughout North America. From Maine to Florida, from Virginia to the deserts of the Southwest it was, in its many variants, observed and adapted by both European and African newcomers to the Americas.

We know from the cookbooks and housekeeping books of the Anglo-European planters' wives of the American South that Old World and New World foods such as okra, peanuts, lima beans, and tomatoes were becoming common items on Southern tables by the end of the eighteenth century. When combined with wheat flour, eggs, and milk, simple cornmeal became spoonbread. The African dish of rice and black-eyed peas became familiarly known as Hoppin' John. Smoked pork enriched the flavor of traditional Native American succotash made with fresh corn, lima beans, and onions. And

we know that in many, if not most, of those households it was the black cooks, primarily women, who prepared these dishes. In 1813 Mrs. Read's recipe "To Make Tomatoe & Ochre Soup" called for one pound of beef, one dozen okra, and a dozen tomatoes in a soup flavored with onion and half a green pepper. African-American Southern cooking traditions indicate that variants on the food prepared for the white household were also culinary mainstays in the black community; corn bread in its many guises, stewed greens or green beans with smoked pork as flavoring, smothered chicken or cuts of pork in a rich gravy, candied sweet potatoes, stewed tomatoes, and white flour biscuits. In the gardens and the poultry yards of the slave quarters African Americans produced the ingredients for these traditional dishes.

How did the "little spots allowed them", the gardens cultivated by enslaved African Americans, fit into the long tradition of Old and New World peasant gardening and husbandry? I believe that the pressures of needing to supplement the rations doled out by masters, the small areas of ground allowed on which to grow personal provisions, and the limited time in which to work the soil, all speak to the likelihood that slave gardens in the American South resembled, and were in part derived from, African and Native American Three Sisters planting styles.

A good place to examine African-American slave gardenways and food production is in the five-year record of vegetables, eggs, and chickens sold to the Jefferson household at Monticello, kept by Anne Cary Randolph, the granddaughter of Thomas Jefferson, beginning when she was 14 years old.²³ During the time young Miss Randolph kept the purchase book 71 people were listed as having sold items to the Jefferson household.

Without a map showing where the Monticello slaves' gardens were located and what else was grown in each plot one can only guess at the range of plants each gardener grew. Using the Monticello records, what follows are the totals for the vegetables listed from Sunday, August 25 through Sunday, September 29, 1805. In those five weeks Anne noted 9 watermelons, 36 cabbages, three quarters of a bushel of potatoes, 138 cucumbers, and 24 cymling squashes. No one person sold all of any one item listed. In addition, and even more impressive, were the 47 dozen eggs and 117 chickens on the list. Miscellaneous items that stand out are the fish supplied by Bartlet (amount, type, and pay unspecified) and the six pounds of hops from Squire. As any one who has raised hops can attest, six pounds of the light, papery blossoms would be quite a large volume and take considerable time to pick. The hops plant is a strong and vigorous climber, so Squire must have trained his vines to climb something sturdy and permanent.

Each of the other years in the accounting are as full of eggs, chickens, and vegetables but although there are years that skip individual months, no entries at all were made during the months of November to March in any year. From this I have concluded that extra produce, eggs, and chickens were available only during the long spring and summer months, the amounts dwindling down by fall and after that time people stored whatever food they harvested to see themselves through the winter till spring came again.

After examining the entries there are several questions to be asked.

One - How much of the food produced was sold or bartered to folks other than the Jefferson household? Was this practice discouraged? Did the black residents of Monticello do it anyway? Did they sell produce, chickens, or eggs just down the

mountain in Charlottesville where a number of Monticello slaves had both enslaved and free kinfolk?

Two – How much food was not offered for sale at all, but used for feeding the slaves’ own families? Pat Gibbs speculated, “It is likely that the best tended gardens were kept by elderly persons with few or no work assignments.” Given the common practice wherein slaves no longer able to perform a full day’s work only received half rations, gardening would have been of particular importance to older people.²⁴ So “best tended” may be a relative term of comparison – all the gardens were well tended but some even more than others - because more than half the black adults at Monticello sold produce to the Jefferson household and all but three adults among them sold chickens, while it is probable all adults slaves at Monticello actually kept gardens but only those individuals who sold produce had occasion to appear in the records. The records only chronicle three years of purchases. The same rates of production must have been the case in the years preceding 1805 and following 1808. These were prolific gardens and the Monticello community contained skilled gardeners, gardeners who also had the task of producing dried peas and shell beans, winter squashes, sweet potatoes, cabbages, snap beans, and turnips for their own households. I would argue that the individuals on the list represent only those people who chose to dispose of some part of their garden truck or eggs or chickens rather than feed the produce to family, eat it themselves, or sell it or barter it elsewhere.

Three - Did selling the produce, eggs, and chicken reduce the overall nutrition available to the black community? “Jefferson’s records indicate that a Monticello slave could expect to receive each week a peck of cornmeal, a pound of meat, some salted herring, and, occasionally, salt and milk.”²⁵ These amounts were for working adults. Children and young adolescents – quarter, half and three quarter hands - received correspondingly less. Bagwell and Minerva with their family of five children received 16 dried herring, seven pecks of cornmeal and 2 pounds of beef during the month of October 1799.²⁶ A peck is equivalent to a 1-gallon glass jar full of ground meal. Quite clearly a garden was an absolute necessity if this family of seven was to be adequately nourished year round. This would have been true for all the Monticello slaves. Thus each decision to sell produce and poultry had potentially serious health ramifications.

Four – How much garden space was used to produce corn or other fodder for the many chickens? At this point in my ongoing research I have no answer to this question.

Five – How many hen houses, nest boxes, and brooding cages were necessary to raise the number of chickens owned by the community and who built them?

Peter Hemmings was paid 12 shillings for 11 pullets one April day in 1807.²⁷ In order to insure a steady supply the chicken raisers among the slave community had to build and maintain nest boxes, food and water containers, brooding cages, and fenced chicken yards. Did they do this as a group? Were there experts among them who bartered their services in exchange for other desired items?

To address just one of the logistical problems that chicken raisers had to deal with on a daily basis, I will briefly discuss the management of broody hens. Once one has collected 12 to 15 eggs for hatching, and that means turning the collected eggs daily and keeping them cool, a likely hen must be chosen or a broody hen found, to be put into a special small cage on her nest of eggs. This type of brooding cage leaves the hen only

enough room to tend her eggs with no room to leave the nest. Even today it is often a homemade affair, a rough a-framed shape with slabs tacked together into a peaked roof and laths or woven branches for the floor and front and back walls. In front there is a gap for the hen to stick her head out to eat and drink. This means she must be fed and watered daily while also being protected from predators such as black snakes, opossums, raccoons, dogs, or cats. Once the eggs hatch, the hen and her chicks must continue to be protected while running in the chicken yard. In addition, all through the season young garden seedlings had to be protected from flocks of scratching hens and chicks.

Six – And finally, the question remains. How did the individuals and the larger slave community allocate time to achieve all this production? Was the labor of children and adolescents incorporated into the food production process by the adults in the community?

In the various written references to slave gardens by white observers, it seems that little attention was paid to the design of the plantings, although sometimes fences are briefly mentioned. Individual gardeners at Monticello likely raised the plants that interested each of them the most, or were the most profitable. Clearly many of the Monticello entrepreneurs must have allotted some significant part of their garden spaces to fodder for chickens. Others likely focused on winter storage vegetables or on summer crops. Most of the adults at Monticello, and I would argue by extension, most bondpeople working on mixed-farm plantations in the Upper South, were expert gardeners as well as raisers of fowl and hunters of small game, and quite capable of planning ahead for the coming seasons.

Raising cattle and swine, butchering, salting and smoking meat, planting, harvesting, drying and preserving grain and vegetable foods for winter, making butter and cheeses, bread baking, processing corn into hominy using wood ash, and brewing both beer and distilled liquor were all part of the knowledge black people used in their daily work in white plantation and farm households. The demands of the master and the master's household necessitated that blacks knew a good deal about many things, particularly farming. Certainly such a wealth of skills flew in the face of Thomas Jefferson's opinion that a major impediment to freeing the slaves was that "For men probably of any color, but of this color we know, brought from their infancy without necessity for thought or forecast, are by their habits rendered as incapable as children of taking care of themselves, and are extinguished promptly wherever industry is necessary for raising young."²⁸

The celebrated chef Edna Lewis' reminiscences of her nineteenth-century Piedmont ancestors further reinforce how important agricultural traditions continued to be for rural African Americans. "The spirit of pride in community and of cooperation in the work of farming is what made Freetown [the all black village founded by freedmen in the Piedmont of Virginia where Lewis was raised] a very wonderful place to grow up in."²⁹ Oral traditions passed down through black families memorialized the long traditions of farming by the African ancestors even if many of the foods were different and times and circumstances had changed.

So now remembering again the term "dawn garden" - a plot simultaneously an orchard, a vegetable garden, a dump-and-compost heap, and a medicinal garden - leads me to the conclusion that when we come to reproduce the African-American garden space

in the reconstructed slave quarters of our historic house museums – we must plant them densely. Sunflowers and chicory should grow among the beans and the cabbages and the sweet potato vines. Overlapping pigeon peas and turnip greens or mustards, all should bump up against the collards, the tomatoes, the white potatoes, the cymplings, and the cucumbers. There should be the odd eggplant, a watermelon trailing among the corn hills, an okra plant or two. If today those of us with green thumbs beg, borrow, and even steal seeds and cuttings, surely people in the past did so as well. Given the demands on their time bondpeople must have had to learn to be content with limits on what they might want to plant and to share their space with weeds. But with dedication, forethought and great personal sacrifice a great bounty of food was brought forth from the soil.

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 28. In a letter to Edward Coles, dated August 25, 1814, and despite the evidence of his long life as a slave master or from the records kept by his grand-daughter testifying to the contrary, Jefferson wrote the following concerning a possible method of gradually ending slavery, "I have seen no proposition so expedient on the whole, as the emancipation of those born after a certain day, and of their education and expatriation after a certain age. This would give time for a gradual extinction of that species of labour & substitution of another, and lessen the severity of the shock which an operation so fundamental cannot fail to produce. For men probably of any color, but of this color we know, brought from their infancy without necessity for thought or forecast, are by their habits rendered as incapable as children of taking care of themselves, and are extinguished promptly wherever industry is necessary for raising young." *Thomas Jefferson: Writings*, (The Library of America, 1984), 1345.
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Sally K. Reeves

Rediscovering Gardening by the Moon

Introduction

Jared Eliot, Connecticut minister, Yale and Harvard graduate, and pioneer of scientific agriculture wrote in 1754 that one should cut brush in “June, July, and August; in the old moon, that day the sign is in the heart.”¹ What did this mean? One also wonders what those astrological symbols in the *Farmer’s Almanac* stand for. Do they look Greek? Did old Cal, the deaf butler and gardener who always had the day off on Good Friday to go fishing and plant seeds, know things we children did not?

Perhaps they all knew something about what was once nearly universal practice, gardening by the moon. Many people today have never even heard of this. They wonder whether some gardeners are stepping out of late to work by the night light. But at one time, nearly everyone who farmed or gardened consulted the forces of the cosmos in advance of plowing, sowing seed, weeding, trimming, or harvesting. This was as normal as considering the day of the week before making red beans in New Orleans. Today, those who still practice the art of gardening by the moon delight in it because they find it effective. To them, “people who put the moon and stars in the same basket with a crystal ball are voluntarily living in a cocoon of ignorance.”²

Gardening By the Moon

There is much more to “moon gardening” than stepping out at night with the hoe; or even watching for the full moon in order to plant seeds. The art of gardening by the moon considers the phase of the moon and relates that to its position in the Zodiac. It also considers the moon’s altitude and distance from Earth. Only then does the gardener know whether the time is propitious to deal with the root, the seed and fruit, the flower, or the leaf.

Even skeptics admit that the moon can pull oceans. Surely it can entice the germ of seeds or the stem and leaf to grow. Lunar gardeners say this happens each month between the new and full moons, when the moon is waxing. Those would seem to be good days to sow seeds. Conversely, when the moon is waning, they say, growth is discouraged. These are days to weed and prune, to graft, or to work with root crops. In between there are days when they advise us not to garden at all.

By convention, the lunar month begins at the new moon, when our satellite passes between Earth and the sun. The sun shines directly on its far side, leaving the part facing Earth in the dark. As the moon progresses, earthly viewers see a thin crescent in the sky. The moon is waxing, its crescent horns pointed left. When the moon is on the increase, we are told, plants are more resistant to diseases, cut flowers have more moisture and keep longer, and similarly fruits and vegetables store longer after harvest.³

When the moon has completed a fourth of its orbit, we see the “first quarter moon,” which is half of the moon’s face toward earth, and one-quarter of the entire sphere. Next comes the “waxing gibbous moon,” about three quarters of a disk.

When the moon reaches the opposite side of Earth from the sun, we see a full round disk. The full moon of September 2001 was such a moon, and the *harvest moon* to boot. The term refers to the full moon occurring nearest to the autumnal equinox at or near September 23rd each year. On several nights in succession at this time, the lunar disk rises just as the sun sets. An optical illusion makes it appear enormous as it ascends the horizon. The full moon remains visible from sunset to sunrise if the sky is clear. This is when to harvest root crops intended for seed.⁴

For the remainder of the month, the moon will be waning. If you like to grow garlic, plant it now, particularly under the Signs Taurus, Virgo, or Capricorn. One may also work the soil, provide enrichment, or harvest vegetables at this time. Along the way, the gibbous waning moon will reveal a three-quarters disk, followed by the last quarter moon, again showing half, not a quarter of the surface. At last, the crescent moon appears again, horns to the right. Under the decreasing moon, we are told, plant vitality wanes. While color, sweetness, and aroma are superior, edibles store with greater difficulty.⁵

As noted earlier, lunar disciples also time their activities according to the placement of the moon and to some extent planets within the twelve signs of the *Zodiac*.⁶ Do people know that a bull and bear, giraffe and lion, lizard and swan, horse and dog, eagles and fish, serpents and crabs, a dragon, a pig, a hare, a goat, and a scorpion are swirling over their heads? Our ancestors knew it - knew it so well that nearly everyone

could find Aries the Ram φ , Taurus the Bull, β , Scorpio’s tail, η , Leo the Lion ϵ , Castor and Pollux, seven maids called the Pleiades, Orion’s belt, the Great Bear with its Dipper, a chariot, a virgin, and many other configurations of stars. At least four thousand years ago, ancient Chaldeans in the Valley of the Euphrates River began to identify these constellations by linking up the stars with lines - kind of like imaginary connect-the-dots. From the “meditations of generations following” came the observation that certain patterns of stars, which they named for animals, occupied a band of the sky only eighteen degrees wide. In this band, the sun, the moon, and the planets happen to travel across the heavens on a celestial highway that the Babylonians later called the *path of the ecliptic*.⁷ We can trace out the animals of the Zodiac in this path any clear night, for while the stars may rise and set, they never change in relation to one another. Moon gardeners say that the moon absorbs the rays of these constellations and reflects them back to earth. By taking into consideration the radiating influence of these constellations upon your garden, *you* can be a plant astrologer.

There are three kinds of astrology: judicial, which attempts to predict the fortunes of men and nations; medicinal, which relates the signs of the Zodiac to diseases, cures, and the parts of the body; and natural, which attempts to predict the weather and regulate

animal and plant husbandry according to the relationship between the moon and the Zodiac. In natural astrology, each sign of the Zodiac relates to a basic element of ancient philosophy - earth, water, air, or fire. Then the elements in turn influence the root, fruit, leaf, or flower. The moon, passing in front of a sign, captures and blends the light with its own forces, and reflects it to earth. When gardeners work the soil, they open it up to the stellar influence on certain parts of the plant.⁸

To consider this more specifically, the signs Capricorn, Taurus, and Virgo are in affinity with the element *earth*. Since earth is associated with the underground part of the plant or the root, the gardener should work the surface, prepare the soil, sow, hoe, and weed when the moon is aligned with one of these constellations. This timing will produce root vegetables of good quality that are resistant to parasites.⁹

The perfume, beauty, and lightness of flowers are associated with *air*, the element aligned with Gemini, Libra, and Aquarius. One should care for roses and lilacs, artichoke, cauliflower, and broccoli under these moon-sign combinations.

One should harvest when the moon is under Leo, Aries, or Sagittarius, the *fiery* signs. They bring the plant the heat necessary to mature the fruit and the seed so as to assure reproduction. This is also a good time to prune.

And finally, Cancer, Scorpio, and Pisces, the *watery* signs, relate to the aqueous parts of the plant, the leaves and stem. These signs are considered the most fertile for tending foliage plants or leafy vegetables such as lettuce, spinach, or chard. The moon's passage through these signs is favorable for grafting, and for transplanting.¹⁰

Skilled lunar gardeners also time their chores with regard to the moon's altitude. For about thirteen days of its orbit, our satellite is said to be *ascendant*, rising each evening to a higher point in the sky. Then for another thirteen days it is *descendant*, rising to a lower point in the sky.¹¹

Under the ascendant moon, the sap of plants rises in their foliage. Salad greens, grasses, tulips, and trees sprout to advantage. This is a good time to graft or to harvest juicy fruits, we are told. When the moon is descendant, direct your efforts to the underground parts of the plant. Transplant seedlings, plant trees and shrubs, fertilize, and harvest root crops like radish and carrots.¹²

Finally, there is the issue of distance. Since the moon's orbit is elliptical, it swings closer to Earth at some points more than others. The closest point is called the *perigee*, and the farthest the *apogee*, 12% further out. Both of these moments in the lunar month have negative importance to moon gardeners, who warn that it is not a good idea to garden at these times. At the perigee, the moon's influence is too strong for young plants. Sowing done at this time will yield leggy seedlings; weaklings, susceptible to parasites. On the other hand, seedlings raised at the apogee will yield plants that are stunted in growth; short, stocky, and even abnormal. In other words, we are to avoid the long and thin as well as the short and fat. Two other points to avoid are the nodes—points where the moon's orbit crosses the *ecliptic*, or the path of the earth's rotation about the sun, one ascending, and one descending. These points produce eclipses, blackouts, and other occult moments that overshadow the normal course of growth. By experience, gardeners know that seeds sprout poorly, and plants fail to develop or yield to disease at these times. Avoid them! Get some rest.¹³

Facts About the Moon

What do science and history say about the theories of moon gardening? To help consider this subject, we will now look at some facts about the moon, and then discuss briefly the twin sciences of astrology and astronomy.

As satellites go, the moon is relatively large, about a fourth the size of Earth itself. It is so large compared to Earth that astronomers study the two as a double planet. Some miles within Earth lies the common center of mass and thus gravity for both bodies. It is this point, rather than the actual center of the earth 3,000 miles deeper, that marks the common path of their orbit about the sun. The relatively large mass of this, our nearest companion, gives the moon significant gravitational influence over Earth.¹⁴

It takes 27.3 Earth days for the moon to orbit our planet, the *side's real month*. Thus it progresses about 1/27th around the earth every day, or 13.2°. By the time it completes a cycle, however, Earth itself has moved about 27° along its own orbit. Thus, the new moon falls under a different constellation each month, as the earth moves its satellite along. Meanwhile, the moon takes the same time to rotate on its axis as it does to orbit Earth, so we always see the same side of it.¹⁵

As the moon orbits, of course, Earth rotates. A truism today, but as this paper will argue, the consequences of the resulting relationships are significant to moon gardening. The effects to remember are as follows: the new moon rises at dawn; the first quarter moon rises at noon; the full moon rises at sunset; and the last quarter moon rises at midnight. We will return to this later.

As for the moon's origin, centuries of speculation now center on a collision-with-earth-theory. Many scientists now believe that the event produced a giant cloud of debris, from which our satellite in time coalesced. But this kind of reasoned approach to a cosmic question has been possible only since the rise of Early Modern science, earlier thinkers having been caught up in astrology and personalities, all of which clouded their approach to the cosmos.

Astrology

Astrology was born among the ancients of the Near East, who noticed that the constellations rotated predictably around the earth's polar axis each night, remaining fixed forever in their relationships with one another. This behavior was in stark contrast to the sometimes puzzling behavior of the moon, sun, and planets, which always seemed to *change their* relations to earth and to one another. The moon went from non-existent to a huge yellow disk, while traveling clear through the Zodiac every month. The sun also navigated the zodiacal constellations, but over a year's time and at a changing angle. As for the planets, these wanderers lurched forward, looped backward, lined up with other bodies, and in general behaved capriciously. Their *occult* or hidden activities prompted stories and myths to develop around their mysterious movements, easily connected with the activities of gods. People came to believe that the changing relations of the moon, sun, stars and planets at any given time *had* to be the ultimate cause of the inconstant fortunes of men and nations.¹⁶

From its Near Eastern sources, the science of predictions based on the lineup of celestial bodies spread farther east to India and China and west to Greece, Egypt, and Rome. Astrological belief soon shaped civilization, art, philosophy, and even architecture, as seen in the pyramids. Hippocrates, Pythagorus, Ptolemy, Cicero, Ovid,

Virgil – all wrote about and promoted the art of divination. The division of the zodiac according to its medical effect also appeared. It painted Aries the Ram, the first sign, as ruling the head, followed by Taurus, which rules the neck and throat. The influences continued down the body to the last sign, Pisces, or the fishes, which control the health of the feet.¹⁷

To be an astrologer, one had to know cosmology. Aristotle taught that the cosmos consisted of a geocentric universe in which celestial bodies were attached to a series of interconnected spheres. These spheres had contact with earth, giving effect to their influences. Better astronomers were Hipparchus, Anaxagoras, and Aristarchus, who among them catalogued the stars, explained eclipses, and even proposed that the earth orbits the sun. But in the second century after Christ, Claudius Ptolemy (85 - c 165) collected the star charts of his predecessors and offered the world a convincing, mathematically based, geocentric theory of the motions of the sun, moon, and planets. Ptolemy published his findings in an enduring book that Arabs in later centuries would call “The Almagest,” meaning “the greatest book.” Although Aristarchus had realized earlier that the earth orbited the sun, Ptolemy’s earth-centered view of the universe became the standard belief for 1400 years.¹⁸

A zealous astrologer as well, Ptolemy related an account of its workings in another classic, *Opus Quadripartitum*. Here he first laid out the theory of astrological gardening. An “ethereal power” permeates the cosmos and affects the elements fire and air, he wrote. These elements change everything else - earth and water, plants and animals. Although the sun affects seasons, animals, and plants - the moon does so “most abundantly.” Animate or inanimate, “mundane things are sympathetic to her, and change in company with her. The rivers increase and diminish . . . with her light, the seas turn their tides with her rising and setting, and plants and animals in whole or in part wax and wane with her.” “Moreover,” wrote Ptolemy, “the passages of the fixed stars and planets through the sky” commingle and cause other changes. The moon aids or opposes the sun “more obviously” when it is new, at quarter, or full. In the final analysis, the heavenly “quality” affects “the germination and fruition of the seed.” Farmers and herdsmen observe this, and are able to assess the quality of the results from the winds prevailing “at the time of . . . sowing . . . seed.”¹⁹

Although in Ptolemy’s own time, sober-minded Roman intellectuals began to be dissatisfied with the doctrines of stargazing, they were powerless to limit its enormous influence on society. In this their views were nevertheless in league with those of the early Church, which opposed astrology as preserving heathen beliefs and working against the concept of free will. As early as St. Paul’s letter to the Colossians, the apostle urged his flock to trust the power of Jesus rather than to rely on “cosmic powers.” In time, as Christianity spread, astrology lost its influence. The conversion of Constantine in 321 put an end to its dominance of public life after a half millenium of influence, as Constantine soon issued an edict threatening all Chaldean priests and magicians with death. The cult of astrology now disappeared for centuries from the Christian parts of Western Europe, to take up residence again near the place of its birth among Jews and Arabs living under the patronage of the caliphs of Baghdad.²⁰

During the later Middle Ages, however, both East and West co-opted the teachings of antiquity for their own uses. Jewish and Arabian astrologers overlaid Ptolemy’s books with “rules of divination, subtleties, and allegory” drawn from the

Talmud and other eastern works. Meanwhile, although both astrology and astronomy were officially out of favor in Christian Europe, some understanding of the heavens was needed to calculate the date of Easter. The celestial sciences retreated to the intellectual centers of Europe, where the work of monasteries kept alive the wisdom of the ages. Meanwhile the Church, as was its wont, co-opted pagan symbolism with emblems of its own. On the charts of the months an apostle appeared for each sign of the Zodiac, while illiterate peasants made use of saints' days to determine calendar items and the timing of sowing and harvesting. In the Great Chain of Being, each person and month had its precise duties, depicted in art within a benign and pastoral world over which the seasons gently ruled.²¹

The Renaissance and the Rise of Modern Science

By the close of the Middle Ages (400 –1400), the Church had all but lost its battle against “pagan fatalism.” Astrology was still part of the culture; in fact every prince of Europe had a court diviner. To make matters considerably worse for orthodoxy, the Renaissance revived interest in the sciences of the ancients along with their arts and architecture. Emperors, popes, kings, and even university teachers consulted astrologers to guide both science and affairs of state.²² It was in this context that Catherine de Medicis had an observatory built near Paris in the middle of the sixteenth century where she maintained the celebrated Michel de Notredame as her court astrologer. In 1558 “Nostradamus” republished his principal work *Centuries*, a book of rhymed prophecies that believers still regard as authoritative.²³ Classical literature of the period also reflects the hold that “astronomical lore” had on society. Scholars of Dante, Boethius, Chaucer, and Spenser have examined the considerable role they play in such works as *The Divine Comedy*, *The Canterbury Tales*, *The Shepherdes Calender*, and *The Fairie Queen*.²⁴

The general belief in the influence of the Zodiac, in celestial spheres, and in the geocentric universe lasted well into the seventeenth century. When in 1513 Nicolas Copernicus proposed that the sun rather than Earth was at the center of the universe, he had few converts. His model, indeed, was less convincing than was Ptolemy's, in part because scientists could not explain why people would not simply fly off the earth if it were spinning and its rotation was the real cause of the sun's apparent movements.²⁵ In December 1609, however, the Italian astronomer Galileo Galilei looked into the sky with a telescope invented the previous year, changing forever the hold that the stars had on the poetic imagination of man. Galileo held the chair of mathematics at the University of Padua, and from this base he experimented with mechanics, built a thermometer, assembled a compass, invented the microscope, built a telescope, discovered the satellites of Jupiter, observed Saturn, studied the phases of Venus, observed sunspots, studied terrestrial magnetism, and taught the heliocentric Copernican theory. In 1614, the Church began to denounce and would later exile him, but before his death in 1642, Galileo had published his findings in cosmology.²⁶ Science would never be the same.

In the same period the astronomer Tycho Brahe and his brilliant assistant Johannes Kepler (1571-1630), both working in Prague, demonstrated the true movements of the planets. These “wanderers,” as the ancients had called them, did not loop back on themselves, but behaved like the moons orbiting Jupiter that Galileo had seen with his telescope. Along with Earth, they orbited the sun at different speeds, based chiefly on the size of their orbits. (This causes them to pass and repass one another, like cars on a

speedway.) As for the moon, which Kepler called a “satellite,” or attendant, it simply waited on the earth. In 1596 Kepler’s *Mystery of the Cosmos* demonstrated its first mathematically-derived model. The stars were a huge distance away from the earth and sun. They were not physically connected by interlocking celestial spheres. The planets were not capricious wanderers, but minded their orbits. How could these bodies affect life on earth?²⁷

It was at this juncture in the history of science that Isaac Newton, a moody, troubled college student who had shown little promise in school and had threatened to burn his mother’s house down as a child, attended the 1663 town fair in Cambridge. There he picked up a book on astrology and discovered that *he could not follow its math*. Newton immediately went out and read every mathematical book he could get his hands on, beginning with Euclid. The making of history followed. Within two years Newton had advanced the world sciences of mathematics, optics, physics, and astronomy. By 1666 he had figured out that every mass attracts every other mass in the universe, generating gravity. He realized that the gravity of the earth counter-balances the centrifugal force of the moon traveling in its orbit. Because of gravity, neither the moon nor the people and animals on earth fly out on a tangent to their orbits into space, and the earth can be proved a spinning planet after all. Moreover, he realized, if gravity keeps the moon from flying out of its orbit, gravity also provides the needed acceleration within its orbit that keeps the moon from crashing into Earth.²⁸

The following year, 1667, Newton published the *Principia*, considered the “greatest scientific book ever written.” In this work he enunciated the law of universal gravitation: “all matter attracts all other matter with a force proportional to the product of their masses . . .”²⁹

In a brief explosion of creative genius, Newton also explained the orbits of comets, tides and their variations, the precession of the equinoxes owing to the wobbling of the earth’s axis, and the effect of the sun’s gravity on the moon, as well as laying the foundations of calculus. He retired from research in 1693 and died in 1727.³⁰ By that time heliocentric cosmology and the law of gravitation were known—if not always supported—by every almanac maker in Europe.

The Rise of Almanacs

It is one of the beautiful ironies of scientific and cultural history that the rise of modern scientific method coincided with the rise of the printed almanac.³¹ A “vernacular genre,”³² aimed chiefly at the common folk and peppered with epithets and prognostications, the almanac contained charts of saints’ days, pointers to astronomical events for the year, and a great deal of astrology. Used by the ancients, the almanac was published in Western Europe on wood blocks before the era of printing. From simple beginnings, it rose in popularity after the spread of presses until, in the experience of the English, publishing an almanac became a privilege granted by Elizabeth I (1561-1603) to the Company of Stationers.³³

Throughout the rest of Europe and America, the almanac soon became a publishing engine of remarkable power. As Peter Eisenstadt has noted, the first almanac of the New World appeared at Harvard in 1639, and a century later the American colonies were supporting over fifty titles a year. By 1750 the almanacs of Bostoner Nathaniel Ames were appearing in annual runs of fifty to sixty thousand copies. By 1800

a half-million almanacs were printed each year in this country, a figure that Eisenstadt estimated to approach “one per household.”³⁴ The most famous publishers were Benjamin Franklin, who began publishing *Poor Richard’s Almanac* in 1732, and Robert Bailey Thomas, who founded the *Old Farmer’s Almanac* in 1792. This book still carries his name.³⁵

Early on, almanacs took their place as the chief proponents and disseminators of astrological beliefs in America. Though full of general information on farming, roads, coinage, postage, safety, and cooking – and all spiced with humor, wisdom, and moral commendations – the almanacs’ stock-in-trade was celestial. No issue was without its report on the planets, its weather prophesies, its lunar and tidal charts, its signs of the Zodiac, and the indispensable Man of Signs surrounded by his zodiacal beasts governing each part of the body. The calendars and essays on farming, husbandry, and science also drew on astrology for their underpinnings. For each day of the month a moon or planet symbol appeared on the charts to tell farmers which seeds to plant, what crops to harvest, whether to work the soil, or if he should weed and cut brush. Weather predictions were based not on statistics and past performance, as we were led to believe as children, but on combinations of sun, moon, and planet positions with guesses. To this day the *Old Farmer’s Almanac* purports to be able to predict the weather with “eighty per cent accuracy” (considerably better than the Weather Service in our town). “Caleb Weatherbee,” its “chief prognosticator,” was quoted in the papers this past August saying “long-term predictions (are) based on a secret formula involving sunspots, positions of the planets and tidal actions.”³⁶

Amongst the thicket of almanac makers, an important early figure was John Foster, an astronomer, engraver, musician, and the first printer of Boston. In his 1680 almanac, Foster printed what is considered to be the first guide to weather astrology in America. Into it he plugged the old Ptolemaic principals of the “four elements and humors,” describing planets with “qualities” like “hot and dry,” “cold and wet,” “hot and moist,” or “cold and dry.” The signs of the Zodiac had likewise these features, combined with the four elements of earth, air, water, fire, and even gender. Signs could be barren and dry, or moist and fruitful in various recombinations such as moist and barren. Aquarius was airy and masculine, barren and dry. Seeds planted in this sign would rot, but it was good for cultivating, harvesting, and weeding. Taurus, on the other hand, was feminine, moist and earthy, good for planting root crops and transplanting. Since Gemini was barren and dry again, it was a good sign for plowing, harvesting, weeding, mowing, and killing insects. Cancer was a watery, fruitful sign in which everything would quickly sprout. Then there was Leo, a dry sign, the most barren. This was not the time to plant seeds or transplant, but a good time to weed. Overall the best planting signs were Cancer, Taurus, Scorpio, and Capricorn. Aries, which the sun enters in early spring and which usually includes Easter and Good Friday, was a movable fire sign. This was the time to plant seeds for vines, stalks, or aboveground crops, always in the increasing light of the moon.³⁷

John Foster died at the age of thirty-three, but in his short life he had a profound influence on astrological gardening. To this day, publications on moon gardening quote his couplets about the paired qualities of signs, not necessarily aware that their source was filtered from the ancients through Foster and other almanackers.³⁸

The Precession of the Equinoxes

Now here's where it gets tricky: it is one thing to think of the signs as spans of the calendar year, for example Aries as being equivalent to the stretch from March 21 to April 19, or Libra being in early October. It is true that this is how they began. Astrological signs were originally associated with the correct days and months in which the sun seemed to journey through the Zodiac, giving people an accurate way to measure time and the seasons. The sun's apparent journey began on the day of the vernal equinox in early spring (March 21), on which day in ages past the viewer on earth observed the sun in front of Aries, the first sign of the Zodiac. The sun stayed with Aries for the first thirty degrees of its apparent orbit; then some weeks later, earth moved along its real orbit and people observed the sun against Taurus. It continued so through the year.

Today, however, things just "ain't what they used to be," even among the stars. The sun and earth no longer line up with Aries at the vernal equinox, on that first day of the year. Because Earth's axis wobbles as it spins, our planet is slowly inscribing a circle in the sky every 26,000 years. This rocking motion causes mankind every 2000 years to observe the sun in line with a new part of the Zodiac on that first day. Twenty-five hundred years ago, when the Near Eastern sages first identified the Zodiac, the earth and sun used indeed to line up with Aries on that day, but they have moved from facing Aries on the first day to facing Pisces, and are about to line up with Aquarius on the first day. This is why we are entering the "Age of Aquarius," as the song goes. This phenomenon, which scientists call "the precession of the equinoxes" because the day of the equinox is rocking around the clock, so to speak, is indeed how we know how long ago it was that the sages first noticed the Zodiac. They gave away their period because, when they did their calculations, Earth and the sun *were* lined up with Aries at the vernal equinox.³⁹

Although knowledge of this change goes back to ancient times, astrologers for millennia have refused to get with the program. Thus their signs no longer line up with the correct constellations. The first thirty degrees of Earth's orbit, which today look out over the late stages of Pisces, are still called Aries in astrology. That goat has long since escaped.⁴⁰

It is another thing to understand the Zodiacal signs in relation to the moon. Regardless of the *sun's* position vis-à-vis the stars, the moon passes in front of each constellation every month. Owing to movement in its orbit, each evening our satellite rises, in a certain phase, with a certain constellation over it. Because of the earth's rotation, the moon and the constellation appear to travel across the entire sky (together) before setting. Gardeners can therefore correctly identify a sign with a constellation in relation to the moon (and the moon's presence in a constellation, charted in an almanac, is an easy way to identify a constellation for a beginning star-gazer.) People need to understand, however, that the real constellations are no longer linked to the signs that astrologers use to cast horoscopes. Today, astrological signs are nothing but arcs on paper.

For centuries the remedy for the difficulty of following all these variables has been the astronomical chart of the almanac. But the need to accommodate a month of sign combinations and weather on each page has left little room for text. Hence the symbols. Scholars believe that they probably derive from Babylonian ideographs, which is why they look strange. Almanacs also print two kinds of charts today - an accurate one for astronomy, and one for the old, rigid astrology.

The Decline of Superstition

Faced with the contradictions that modern science has demonstrated about astrology, almanac makers long ago began to abandon the supernatural to hang their hats on new theories. Heliocentric cosmology, the telescope, and Newtonian physics may have removed astrology's occult underpinnings, but as Nathaniel Ames realized in the eighteenth century, they had provided a new theory for celestial influence, *terrestrial magnetism*. If, as Newton had shown, the moon and other celestial bodies had gravitational pull on the tides of the earth, certainly these qualities could work on animals, plants, and the weather. As Ames wrote in his 1747 edition, "The Full Moon faces the World with so grand and serious Look, that even Shepherds, and Plowmen, old Women, etc. are not Ignorant of its Effects."⁴¹

It was precisely at this moment in American history that Jared Eliot, the Connecticut minister and agricultural pioneer noted earlier, began to embark on the task of "scientific farming (and) communicating the results of his experiments and trials to fellow farmers." From 1749 to 1759, Eliot published six *Essays on Field Husbandry*, which were so popular that a compilation followed in 1760.⁴² Among his many experiments, Eliot sought to test the validity of some of the old practices based on lunar influences. In his *Fourth Essay* of 1753 he noted that "Some Trials I made last Year, gives me Reason to hope, that I have found out certain Seasons for cutting bushes, by which they will be . . . effectively destroyed by once cutting . . ." ⁴³ In the *Fifth Essay* the following year, Eliot was glad to report that he had indeed found the times for cutting bushes. "The Times," he reported, "are in the Months of June, July and August; in the old Moon that Day the Sign is in the Heart: It will not happen every Month; it happens so but once this Year, and that proves to be on a Sunday." (In other words, the moon was in Leo only once that year when it was waning.) Eliot then described how he sent a man to cut at the proper time; the neighbors followed suit; and "in every Place it killed so universally, that there is not left alive, scarce one in a hundred."⁴⁴ Eliot's findings were disseminated in a number of almanacs published after his time, including the *Farmer's Almanac*, as late as 1806. They provided another new basis for moon gardening - demonstrated practice.

Eliot's reports notwithstanding, the eighteenth century was after all the Age of Enlightenment. Rising literacy, the implications of modern science, Enlightenment beliefs among the skeptical, and the continued pounding on astrology by religious leaders among believers, began to have profound effects on society. There is a prodigious amount of scholarship on the subject of the gradual, uneven decline in this period of belief in magic, witches, astrology, and the occult in general. Some scholars call this *disenchantment*.⁴⁵ Almanacs obligingly reflected the complexities of the period by continuing to carry astrological images and charts, but with increasing skepticism and eventual ridicule.

Some almanacs eschewed astrology altogether. Benjamin Franklin founded *Poor Richard's Almanack* in a spirit of frugality, common sense, and reliance on personal industry rather than the intervention of the stars to find success.⁴⁶ He also reported on the findings of Early Modern science. *Poor Richard's Almanac* for 1753 contained what was probably the clearest and most concise popular summary of modern cosmology printed to that day, one entirely free of occult belief.⁴⁷

After 1750, except for the content of occasional almanacs, eighteenth- and nineteenth-century horticultural writings display little evidence of lunar gardening. For example, Thomas Jefferson, who applied himself to astronomy, did not include a single reference to the moon – even to its phases -- in his garden and farm books.⁴⁸ One will be hard put to find moon signs in the writings of either Bartram or in the works of William Dunbar and Bernard M'Mahan. Nor in the encyclopedic *Bon Jardinier* of France, which has appeared continuously since 1755. André Chaptal, whose *Chymistry Applied to Agriculture* was an early nineteenth-century standard, also did his part in demystifying the growth of plants, in part by explaining the chemistry of germination.⁴⁹ By 1820 even agricultural publications such as *The American Farmer* and *New England Farmer* were expressing their doubts about lunar meteorology. The practical manuals we have all consulted as students of garden history, Buist's *American Flower-Garden Directory*, for example, are deep into techniques for individual vegetables and flowers, real plants, not occult speculation about timing. In short, direct references to gardening by the moon, always scarce in the printed word, became practically non-existent as the educated writer found it beneath his dignity to exhibit any reliance on superstition or unscientific thinking.

As for the almanacs, the most longstanding is of course the *Old Farmer's Almanac*, although there are others. Scholarship on this periodical is united that it helped “to create a generalized notion of weather patterns and practical farming based on close observation . . . It supported the image of the “sagacious New England farmer, mistrustful of book learning and abstractions, who grounded his wisdom in hard-earned empirical . . . knowledge.” As Harvard's George Lyman Kittredge has emphasized, Robert Bailey Thomas was one almanacker whose pages were relatively free of superstition. Kittredge's 1904 *Old Farmer and His Almanack*, still considered the definitive work on the subject, pointed out that Thomas declined to print the Man of the Signs and made fun of astrology in such passages as the 1827 entry “Away with sauperstitious nonsense, and let us be cutting scions for grafting; or watching our fields, or cutting wood, or making maple sugar, and other matters.”⁵⁰

As trust in astrological farming waned in the popular mind, its adherents went covert. Almanacs continued to print charts of the moon's phases and position among the stars, but without explanation. This writer sees part of Jacques-Felix Lelièvre's 1838 *Nouveau Jardinier de la Louisiane* in this context. The book contains some fairly sophisticated lessons on finding the phases of the moon through the “Golden Number,” the “Epact,” and the “Dominical Letter,” without much explanation as to how, when, or why a gardener should use this information. Lelièvre remarks only that the phases of the moon bring “changes in the state of the atmosphere which are good to foresee to arrange the work schedule,” a comment both telling and clandestine.⁵¹ The *Old Farmer's Almanac* offers more of this obscurity. Kitty of Harvard notwithstanding, to this day it has continued to print astrological charts in addition to accurate astronomical charts. One is entitled the “Moon's Place in the Astrological Zodiac,” and is set beneath the following caveat: “the placement of the planets through the signs of the zodiac is not the same in astronomy and astrology. See page so-and-so.”

Other published references to moon gardening from the twentieth century are scarce, but they exist and are growing, so to speak. They reappeared after the liberating 1960s normalized relativist beliefs and morés in the West, while promoting Eastern

mysticism and the occult as one substitute for the authoritative Judeo-Christian tradition. This is not to say that moon gardeners are not believers; simply that astrology is back. In 1975 Simon and Schuster published Louise Riotte's *Planetary Planting: A Guide to Organic Gardening by the Signs of the Zodiac*.⁵² I also found two more recent books on the subject in France--*Jardinez avec la Lune*, and *Bien Jardinier Avec la Lune*. There are several Web sites on the subject, and a new book out of Scotland called *Zodiac Garden*. A recent issue of *Fine Gardening* magazine had a good piece on the subject, adeptly summarized by editor Steve Silk:⁵³

. . . there are optimal times in the lunar cycle to sow seeds, transplant, fertilize, take cuttings, and pull weeds. At the simplest level, the idea is to use the waxing moon . . . to put in plants with lots of aboveground growth, fruits and flowers. Increasing gravitational forces are believed to draw nutrients upward, like a rising tide.

As the moon wanes . . . plant anything that requires a large root network . . . bulbs, tubers, biennials . . . As the gravitational forces decline, liquids are said to retreat to the lower parts of plants. During the last phase of the moon . . . don't plant anything. . .

Serious adherents of moon gardening also factor the passage of the moon through the Zodiac into their planting schedule . . . The best conditions occur when the moon is in an appropriate phase and in a [fruitful] sign, [such as] Cancer, Scorpio, Pisces, Taurus, Capricorn, or Virgo.

[And finally, writes Silk] . . . there is no conclusive scientific evidence that gardening . . . by astronomical phases is any more or less effective than random planting. But it's hard to dismiss techniques developed long, long ago . . . and passed down from generation to generation.⁵⁴

In this writer's view, Mr. Silk has it exactly right. *There is no real scientific evidence that it works, but it is hard to dismiss.* Does it work?

In the final analysis, experiential evidence is the chief support for the principles of gardening by the moon. That this evidence is widespread and persistent over time is undeniable. Among practitioners today, the faith is strong. Many seem to have stupendous plants to show for it, as did a West Bank New Orleans gardener on a tour of homes a few years ago. When asked how he managed to produce what garden club members called "mondo" nasturtiums, he replied that he planted the seeds by the light of the full moon.

Experience notwithstanding, lunar gardening seems to be a practice without a demonstrated theory. It may work for some, but assigning influence to gravitational forces based on the phases of the moon fails the theoretical test. We speak of the moon as exerting increased magnetic pull when waxing, but truth to tell it is *not* getting larger--or closer--to Earth, as it waxes. It may appear to, but it is *not increasing in mass or weight*, the two measures of gravitational force. It is simply reflecting more sunlight back to earth. We *see* more of it.

But what about the tides? Is there not some effect from the pull of the moon on the earth and its contents? It is true that the moon exerts magnetic pull on the oceans and even land, causing tides. Tides, however, are not a function of the moon's phases, but of

the earth's rotation and progress in its orbit, which cause the moon to pass over a body of water one hour later each day. Lunar magnetism attracts the water near it - and the earth away from the water on the far side of it - causing four tides each day. This *is* an example of terrestrial magnetism. But if lunar magnetism were an influence on plants, would we not have to vary our gardening chores at least twice a day in concert with the hourly tides?

Perhaps the key here is that not enough is known about the properties of reflected sunlight on plants, especially at night, when their photosynthetic clocks may behave in peculiar ways. We reemphasize here some basic and very important facts about the moon's monthly orbit, noted earlier:

1. The new moon rises at dawn.
2. The first quarter moon rises at noon.
3. The full moon rises at sunset.
4. The last quarter moon rises at midnight.

Thus, although we automatically think of the moon as a phenomenon of the night sky, it is really in the sky *at night* only part of the month. The moon is above the horizon at night chiefly during that part of its orbit when it is waxing gibbous - nearly full, with its light coming on strong; when it is full and, having risen at sunset, in the sky all night long; and when it is waning gibbous - still bright and fulsome, but on the way down. In short, the full moon and its surrounding phases shed eminently more light on earth than do the new moon and its surrounding phases *not only* because the disk is fuller at those times, but also because the moon's light is not wasted on daylight hours at those times. Conversely, the new moon is not only a mere sliver of light as it courses through the sky, but it is also *not in the sky at night*. By the time night falls at any given point on Earth, the new moon, *having risen at dawn*, is setting. On the other hand the full and gibbous moons, rising closer to the hour of sunset, are in the sky most of the night, shedding their bountiful light on plants.

As any good text book on plant pathology will point out, botanists have conducted an enormous amount of research and experiment over the years on the behavior of plants and plant cells in response to photo stimuli. Their goals have been primarily to find chemical or genetic keys that explain the response of plants to light. Although few scientists have focused on moonlight stimuli, they have shown that plants kept in cellars are sensitive to small fractions of light, responding even when a caretaker visits with a red-covered flashlight. It seems obvious then that plants can also respond to the increasing and decreasing light in the sky at night.⁵⁵ Anyone who has grown a plant as ordinary as the chrysanthemum knows that plants respond to increasing and decreasing light duration, and can time the lengthening and shortening of daytime. Surely, they can time the lengthening and shortening of night light as well, and respond accordingly.

Is moon gardening science or superstition? In this writer's view, lunar timing, especially relating to nocturnal light and less so with regard to constellations, has the potential for scientific application. While the practice has not to this writer's knowledge been subjected to controlled and published experimentation, it is nevertheless a deserving candidate. This would be particularly appropriate for an interpretive program focusing on the seventeenth or early eighteenth centuries. Most museum programs are careful to use correct cultivars, seeds, soil, tools, grafting techniques, and even watering practices, but

this writer is not aware of an interpretive program in America that observes lunar timing in respect for the practices of its ancestors.

For the rest of us, would it not be foolishly ahistorical to remain ignorant of the enormous role that the contemplation of the sky has played in the course of human history? This holds true for agriculture in particular. What our ancestors did not explain must lie beneath their every act. Their greater familiarity with the workings of the heavens than ours today reminds us that people used the sky's patterns as a calendar, a clock, and a weather service. Twenty thousand years ago Cro-Magnon man sketched the moon's phases on the walls of his caves; and five hundred years ago a saint's day was more important than a date on a calendar. For fourteen hundred years, people thought they knew everything about the cosmos, until the Copernican Revolution fundamentally changed both cosmology and our concepts of ourselves. In the last century, Einstein turned science on its head anew, and today we may be entering the era of Chaos Theory. In the final analysis, as any gardener will attest, something about our relentless pursuit of nature is unattainable, and marvelously so.

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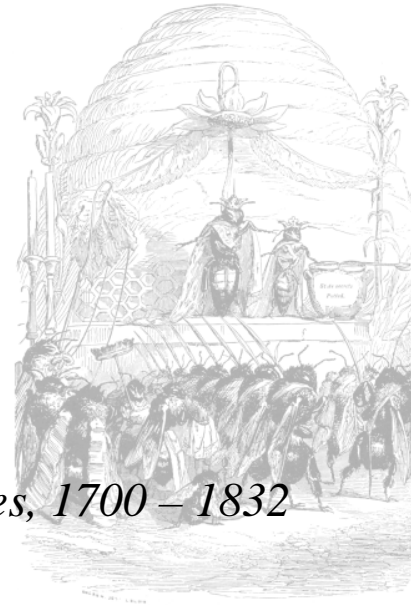
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Peter Hatch

“*Ecological Imperialism?*”

Southern Garden Pests and Pesticides, 1700 – 1832

Neil Crosby’s provocative thesis in *Ecological Imperialism: The Biological Expansion of Europe, 900 – 1900*, suggests that North America was not conquered by military technology, social-economic systems, or human enterprise, but by European biology: its diseases (smallpox, malaria), weeds (Kentucky bluegrass, white clover), and domestic animals (horses, hogs, sheep). Crosby’s argument provides a tantalizing perspective upon which to analyze early North American garden pests – insects, disease, and weeds – in terms of their native domicile: Europe, Asia, or indigenous American. As well, the topic of exotic invasives is poignantly appropriate today because of the insidious threat alien pests pose to both our cultivated and natural resources. An analysis of the introduction and early evolution of horticultural insects, fungus diseases, and garden weeds from a geographical perspective may provide some insight into the horticultural problems we encounter today in 2001.

As a curious exercise, the following lists document the worst garden pests found in the Monticello landscape in 2001, and whether they are native to eastern North America or introduced. The lists are purely subjective and are based on my own biases as a landscape manager for 25 years.

20 Worst Insect/Animal Pests at Monticello Today

- | | |
|---|-------------------|
| 1. Eastern White-tailed Deer (<i>Odocoileus virginianus</i>) | Native |
| 2. Groundhogs (<i>Marmota marmax</i>) | Native |
| 3. Spider Mites | Native/Introduced |
| 4. Thrips (<i>Sericothrips variabilis</i> , <i>Frankliniella tritici</i>) | Native/Introduced |
| 5. Leafhoppers (<i>Typhlocyba pomaria</i> ?) | Native/Introduced |
| 6. Peach-tree Borers (<i>Sanninoidea exitiosa</i>) | Native |
| 7. Woolly Adelgid (<i>Adelges tsugae</i>) | Introduced |
| 8. Mealybugs (Citrus, <i>Planococcus citris</i> etc.) | Native/Introduced |
| 9. Squash Vine Borers (<i>Melitta cucurbitae</i>) | Native |
| 10. Grape phylloxera (<i>Daktulosphaira vitifoliae</i>) | Native |

11. Striped Cucumber Beetles (<i>Acalymma vittata</i>)	Native
12. Harlequin Bugs (<i>Murgantia histrionica</i>)	Introduced
13. Squash Bugs (<i>Anasa tristis</i>)	Native
14. Mexican Bean Beetles (<i>Epilachna varivestis</i>)	Introduced
15. Voles (<i>Microtus</i> sp.)	Native
16. Rose Chafer (<i>Macrodactylus subspinosus</i>)	Native
17. Plum Curculio (<i>Conotrachelus nenuphar</i>)	Native
18. Cabbage Loopers (<i>Trichoplusia ni</i>)	Native
19. Colorado Potato Beetles (<i>Leptinotarsa decemlineata</i>)	Introduced
20. Eggplant Flea Beetle (<i>Epitrix fuscula</i>)	?

A majority of our worst insect pests, surprisingly, are native to eastern North America, somewhat dispelling Crosby's thesis. The issue is complicated, however, because their hosts – cultivated garden plants – are generally introductions from other continents: in other words, our indigenous insects are well armed to battle foreign invasives. A further complication resulted because these indigenous pests only became a problem, they were only unleashed, with the advance of western culture. For example, native populations of the eastern white tail deer exploded in the second half of the twentieth century in the wake of suburban sprawl, which has altered forest ecology and driven deer populations into wooded housing developments. Similar man-made changes in the landscape create attractive garden banquets for native voles and groundhogs. Phylloxera, an aphid-like louse that lives on but does not destroy the roots of native grapes, devastates the more delicate roots of the European grape, *Vitis vinifera*. Similarly, the plum curculio exists gently with our native *Prunus* species, yet devastates cultivated peach, plum, and even apple fruit. Our typical exotic insect pests are non-European, and include the hemlock woolly adelgid, harlequin bug (central America), Colorado potato beetle, and Mexican bean beetle: introduced and soon plague-like because of the absence of natural predators.

Worst Diseases at Monticello Today

1. Phytophthora root rot (<i>Phytophthora</i> sp.)	
2. Pythium, Rhizoctonia (soil borne diseases)	
3. Fire blight (<i>Erwinia amylovora</i>)	Native
4. Dogwood anthracnose (<i>Discula destructiva</i>)	Introduced
5. Brown rot on peaches (<i>Monilinia fructicola</i>)	Native
6. Cedar Apple Rust (<i>Gymnosporanium juniperi-virginianae</i>)	Native
7. Black rot on grapes (<i>Guignardia bidwellii</i>)	Native
8. Powdery Mildew on grapes (<i>Uncinula necator</i>)	Native
9. Downy Mildew on grapes (<i>Plasmopara viticola</i>)	Native
10. Damp off of seedlings (<i>Pythium</i> sp.)	
11. Early and Late Blight of Tomatoes (<i>Phytophthora infestans</i> , <i>Alteraria solani</i>)	Introduced/Native
12. Cherry shot-hole fungus (<i>Blumeriella jaapii</i>)	Native
13. Bitter rot on apples (<i>Glomerella cingulata</i>)	
14. Redbud canker (<i>Botryosphaeria dothidea</i>)	

15. Black Spot on roses (*Diplocarpon rosae*)
 16. Bacterial Wilt on Cucurbits (*Erwinia tracheiphila*) Native

Again, the surprisingly large proportion of native versus introduced diseases suggests how North America is armed defensively with native pathogens to ward off the introduction of exotic horticultural fruits, ornamentals, and vegetables. Brown rot on the peach and powdery and downy mildew on grapes wreak unusual havoc on cultivated fruits, yet co-exist placidly with their native hosts. Cedar apple rust, dependent on a symbiotic relationship between apple species and the red cedar tree, *Juniperus virginiana*, is a notable historical exception, at least in Albemarle County. Although ubiquitous today in abandoned pastures and along fence rows as a nurse species in forest succession, Thomas Jefferson observed that the *Juniperus virginiana* was not native, and that by 1820 all the trees in the county had evolved from a planting by his brother-in-law in 1755. Cedar trees became a serious pomological scourge only after the indigenous forests were cleared and opened the land to this sun-loving species' proliferation.¹

20 Worst Weeds at Monticello Today

- | | |
|--|------------|
| 1. Johnson Grass (<i>Sorghum halpense</i>) | introduced |
| 2. Japanese Honeysuckle (<i>Lonicera japonica</i>) | introduced |
| 3. Nutsedge (<i>Cyperus esculentus</i>) | native |
| 4. Japanese Stilt Grass (<i>Microstegium vimineum</i>) | introduced |
| 5. Winged Stem (<i>Verbesina alternifolia</i>) | native |
| 6. Crabgrass (<i>Digitaria</i> sp.) | introduced |
| 7. Bindweed (<i>Convolvulus arvensis</i>) | introduced |
| 8. Wild Onion (<i>Allium vineale</i>) | introduced |
| 9. Russian Olive (<i>Eleagnus</i> sp.) | introduced |
| 10. Wineberry (<i>Rubus occidentalis</i>) | introduced |
| 11. Akebia Vine (<i>Akebia bipinnata</i>) | introduced |
| 12. Silver Goosegrass (<i>Eleusine indica</i>) | introduced |
| 13. Ailanthus (<i>Ailanthus altissima</i>) | introduced |
| 14. Chrysanthemum Weed (<i>Artemisia vulgaris</i>) | introduced |
| 15. Chickweed (<i>Cerastium vulgatum</i>) | introduced |
| 16. Poison Ivy (<i>Rhus radicans</i>) | native |
| 17. Bermuda Grass (<i>Cynodon dactylon</i>) | introduced |
| 18. Dandelion (<i>Taraxacum officinale</i>) | introduced |
| 19. Nimblewill (<i>Muhlenbergia schreberi</i>) | introduced |
| 20. Princess Tree (<i>Paulownia tomentosa</i>) | introduced |

Only fifteen percent of our worst weeds are North American natives, while the majority are mostly of European or Asian origin, suggesting possibly that exotic weeds might be more promiscuous and aggressive than other garden pests. Curiously, Johnson grass, winged stem, Japanese stilt grass, and silver goosegrass have only appeared at Monticello over the last ten years.

Early Garden Pests

The conventional wisdom suggests that gardens and plants enjoyed a virgin age of innocence, free from pestilence, in early American horticulture. Eighteenth-century natural historians – from Robert Beverley and William Byrd in Virginia to John Lawson and William Bartram in the Carolinas – described a New World Eden of deep virgin soils, pest-free airs, and the bountiful luxury of both wild and cultivated flowers and fruit. Monticello’s current Vegetable Gardener, Rob Brown, an old salt with twenty-five years of farming experience, crows daily to his young apprentices, “Gardening would be easy, if it weren’t for the weeds, the bugs, and the diseases.” Yet, a sampling of early American garden literature before 1820, from Charlestonian Robert Squibb’s *The Gardener’s Calendar* to Williamsburg’s John Randolph’s *A Treatise on Gardening* to Gardiner and Hepburn’s *The American Gardener* (1804) and Bernard McMahon’s *American Gardener’s Calendar* (1806), finds few references to pest problems in either ornamental or functional gardens. William Cobbett, the most forthright, outspoken, and entertaining nineteenth-century American garden writer, wrote in *The American Gardener*, 1821: “Fine trees, fine fruit, and large crops may be had in a country where blights are almost unknown.”²

Many modern garden historians concurred about the absence of horticultural pestilence, at least before 1800. U. P. Hedrick, perhaps the first twentieth-century garden historian, said, “There were far fewer pests in the 18th century than there are now.” Contemporary Liberty Hyde Bailey, author of *The Standard Cyclopaedia of Horticulture* and the founder of twentieth-century scientific horticulture, agreed: “For generations insect pests were not common.” S. W. Fletcher, a Virginia pomologist and historian, wrote, “There were no serious insect or fungus pests in 18th-century Virginia orchards.”³

Others, particularly as you moved into the nineteenth century, disagreed. The eloquent, eighteenth-century New York farmer, Hector St. John Crèvecoeur, said, “Our country teems with more destructive insects and animals than Europe.” New York Governor Dewitt Clinton wrote in 1819, “Greater attention ought to be paid to the . . . destruction of these noxious insects and worms which have injured [our gardens and orchards] beyond measure. The grazing of cattle, the rooting of swine, the plough, and other implements of agriculture, has entirely destroyed a great number of annual grasses and plants which formerly flourished in this country.” In 1823, James Worth, a frequent contributor to the Baltimore agricultural periodical, *American Farmer*, predicted a famine because of the pervasive spread of destructive insects in fruit and forest trees, agricultural crops, and gardens: “All the evils that are upon us are of our own doing, and the moment we turn from the error of our own ways, we shall be blessed with the proper remedy.” By 1820, the yellows, a virulent virus of the peach tree, had spread through the mid-Atlantic states of the young republic. In 1824 a writer in the *American Farmer* observed, “You could not have found a [live] peach in a day’s drive” across central Pennsylvania; “the dry dead skeletons presented a most dismal aspect.”⁴

Across the Atlantic, English horticulturist J. C. Loudon, wrote in his *Encyclopaedia of Gardening*, 1825, “The insects which infest plants are almost as numerous as the plants themselves.” American garden books of the 1830s and 1840s began to include chapters on “vermin,” “insects,” and “diseases.” By 1859, William White, author of *Gardening for the South*, described twenty-five garden pests and concluded in despair: “Insects are much more destructive to the vegetable kingdom in

warm climates. These minute destroyers attack almost every cultivated plant, of which no portion escapes their ravages.” William Coxe, author of the first original and distinctively American horticultural work in 1817, *A View Toward the Cultivation of Fruit Trees*, mentioned only one major apple insect pest in 1817, A. J. Downing, pomologist and landscape architect, listed seven in his 1848 edition of the definitive *The Fruits and Fruit Trees of America*, and Liberty Hyde Bailey catalogued thirty-four insects specific to the apple in his *Standard Cyclopedia of Horticulture*, 1914. Comparatively, not to be outdone, *The Ortho Problem Solver*, an illustrated compendium of garden problems published in 1984, identifies some sixty apple pests, and discusses over 4,000 horticultural maladies, a statement not only about the chemical industry today, but a tribute to the evolution of horticultural science and a gauge to the spread of native and the invasion of foreign pests from around the world.⁵

Nostalgia for a virgin past in which soils were more fertile and pests non-existent is a persistent theme that continues to the present day. Richard Peters, a Philadelphia judge described by Jefferson as an “excellent farmer,” prepared a dirge in 1808 about the explosion of pest problems in his lifetime. “In my youth, excellent plumbs grew here; now we can obtain none. Our apple trees do not produce as they did in early times. There must be some change in our climate; and new races of vermin not known to our ancestors. . . .They compel us to wage against them a perpetual warfare.” In 1821, an anonymous author, “Veritas,” wrote in the *American Farmer*: “In the early years of our country the earth needed only the seed to be sown to produce a rich harvest, for its bosom was softened and enriched by natural manure. The case is now different – it has been skimmed by grandfather, father, and son, twice or thrice repeated until its face is sadly wasted.” One early twentieth-century Virginia pomologist invoked a grieving nostalgia for the past as he described the apple tree’s fall from innocence. “In the early days, when the country was new and the soil in its virgin condition, it was full of available plant food and there were almost no insects, or fungus and bacterial diseases to affect the apple tree or its fruit. Now it is a hand to hand fight with impoverished soil, insects by the billion, and sporadic diseases that attack all parts of the tree.”⁶

It is difficult to empirically prove or disprove this notion about the early American garden’s fall from paradisiacal innocence into a battlefield of man against nature. One barometer, its gauge dangerously suspect to hyperbole and exaggeration, is the declining size of champion peaches from the early 1700s to 1845. Historian Robert Beverley and John Banister, Virginia’s first botanist, described wild peaches in the early eighteenth century the size of grapefruits, thirteen inches in circumference. By 1819, one avid peach connoisseur, bragged that an eleven inch, ten ounce peach was a world record of museum quality. By 1845, William Kenrick, Massachusetts author of *The New American Orchardist*, described an eight ounce, eight to nine inch fruit as memorable. Perhaps a more objective view may be gleaned from a look at early American botanical illustration, and the possibility that many gardeners felt that spotted, fungus-infested fruit and vegetables were an innate, and unremarkable, part of the particular variety or species. William Coxe’s daughters, who illustrated and water-colored American fruit for an intended second edition of their father’s *A View Toward the Cultivation of Fruit Trees* around 1820, made no effort to hide the various smuts, mildews, and rusts inevitably found on cultivated peaches, apples, and pears. This enabled a twentieth-century

pathologist, P. L. Richter, to identify early American fruit diseases in 1916. Richter found such maladies as codling moth, apple scab, flyspeck, leaf blight, and peach scab.⁷

Another means by which to objectify the issue with empirical data is to review two important agricultural journals and compile a listing of garden pests found within. The *American Farmer*, an agricultural journal of progressive farming, was first published in 1819 under the editorial direction of Baltimore's Postmaster General, John Skinner. The focus of the *American Farmer* was on reviving the country's depressed farming economy with new technology, crops, and agricultural methods; and typical articles included reprints of speeches on plows, gypsum, model farms, harrows, the Hessian Fly, and crop rotation from the burgeoning regional agricultural societies that were emerging across the country. Skinner, however, was a keen gardener, and he included reprints of horticultural publications from both Europe and the United States. As well, rural well-being required some self-sufficient expertise in gardening, and correspondents throughout the country contributed letters acknowledging issues and successes with their fruit, flower, and vegetable gardens. Many described, and asked assistance for, pest problems. Charleston's *The Southern Agriculturist* was a sister publication, first issued in 1828, that dealt with specific regional farming issues. Editor J. D. Legare, like Skinner, had an interest in horticulture and authored a monthly kitchen garden calendar that appeared beginning in 1829. Both publications devoted space to editorial letters, a "chat" page in which correspondents alerted fellow readers to their specific problems with weeds, insects, and diseases.

The following lists document the mention of horticultural pests in the *American Farmer*, 1819 – 1829, and *The Southern Agriculturist*, 1828 – 1832. Included, however, are other documented records of garden pests that appeared in eighteenth- and nineteenth-century American publications, a few between 1832 and 1850. The lists compiled below also provide the number of references found for each pest, as well as an indication of whether it is native to eastern North America, or introduced from other places.

Fruit Pests Before 1832

1. Peach-tree Borer (<i>Sanninoidea exitiosa</i>)	Native	34
2. Plum Curculio (<i>Conotrachelus nenuphar</i>)	Native	20
3. Fire Blight (<i>Erwina amylovora</i>)	Native	11
4. Tent Caterpillars (<i>Malacosoma americanum</i>)	Native	9
5. Peach Yellows	Native	7
6. Black Rot on grapes (<i>Guignardia bidwellii</i>)	Native	6
7. Aphids on apples (<i>Disaphis pantaginea</i> , <i>Aphis pomi</i>)	Intro/Native	5
8. Human thieves	Introduced	4
9. Woolly Aphid (<i>Eriosoma lanigerum</i>)	Native	4
10. Apple Borer (<i>Chrisobothris femorata?</i>)	Native	4
11. Powdery or (Downy) Mildew on grapes (<i>Unvinula necator</i>)	Native	3
12. Spider mites (<i>Tetranychus urticae</i>)	Native	3
13. 17-year Locust (<i>Magicalcada</i> sp.)	Native	3

Although the cultivated fruits grown in eastern North American orchards, with the exception of strawberries and perhaps some grape varieties, are native to either Europe or Asia, the dearth of introduced pomological pests before 1832 is a curious, and somewhat shocking, contrast. It reinforces the theory that indigenous diseases and insects on our native *Prunus* (peach tree borer, plum curculio, tent caterpillar), *Vitis* (black rot, powdery mildew, downy mildew), and *Malus* (borers, aphids, possibly fire blight) species were well armed to defend against the invasion of European-introduced apples, peaches, plums, and grapes. Although native grape diseases such as black rot and powdery and downy mildew, and North American insects such as phylloxera, were not commonly discussed by early wine growers, these pests actually forbid the successful cultivation of *Vitis vinifera*, the European wine grape, until the use of native rootstocks controlled phylloxera in the late nineteenth century and highly engineered systemic fungicides combated the indigenous diseases in the 1970s. A notable example of a native pest that is now extinct is the Carolina parakeet, which devastated North Carolina apple orchards in the eighteenth century by destroying the fruit in order to consume the apple seeds found within. The species was hunted as a pest and disappeared by the 1920s.⁸

Although the distinctions between “horticulture” and “agriculture” are murky and based on custom, horticulture has traditionally been defined as the growing of fruits, flowers, and vegetables within a confined space, or garden, while agriculture, etymologically the culture of fields, suggests a more extensive operation. Fruit growing, or pomology, has always been considered a horticultural art despite its sprawling scale: eighteenth-century Virginia orchards averaged 1,000 trees. The quantity of allusions to fruit pests reflects both the importance of fruit growing relative to other forms of horticulture, flower or vegetable gardening for example, and the economic significance of some of these pest problems. The peach-tree borer, the most commonly mentioned horticultural pest at the time, rivaled the worst, and most intensively discussed agricultural pest, the Hessian fly, which ravaged early nineteenth-century wheat crops. The peach borer, even the plum curculio, received more documentary references in these periodicals than the second most mentioned farming malaise, wheat rust.

The peach tree borer - its destructive capabilities, life cycle, and remedies for its control - was consistently discussed in both the *American Farmer* and *The Southern Agriculturist* by writers and growers from Pennsylvania to Alabama. Initial solutions often involved exposing the tree’s roots during the winter months, when boiling water would be poured around them, or basins would be formed to create small frozen ponds. John Hartwell Cocke of Fluvanna County, Virginia, proposed a simple pesticide based on his experiments at his estate, Bremo, in 1820: wrapping moistened tobacco leaves around the tree’s trunk as a basic prophylactic. By the mid-1820s, growers began expressing more and more despair about remedies and began resorting to more direct techniques involving the simple extraction of the borer’s larvae with a knife or bricklayer’s trowel. Other tonics ranged from the use of charcoal to fill borer holes to common pesticides like tanbark, ashes, soap brine, and lime: no other horticultural species or garden pest inspired such a diversity of remedial tonics.⁹

The plum curculio was mentioned by John Bartram in Philadelphia in 1746; this insect was a serious problem to Southern peach growers in the mid-nineteenth century, and continues to plague fruit cultivators today. Dr. James Tilton of Wilmington, Delaware, popularized a clever biological control by grazing his peach orchard with

larvae-destroying hogs during and after harvest season. His experiments were included in numerous publications, including McMahon's *American Gardener's Calendar* (1806), and the *American Farmer*. Other recommendations stressed the need to subvert the insect's life cycle by paving the ground around the tree or encouraging the development of hard pan soils, or by manually shaking the insects into sheets at night.¹⁰

Fire blight, the "terror and despair of pear [and apple] growers" according to A. J. Downing, was first described in the Hudson Valley by William Denning in 1794. William Peters attributed the disease to "atmospheric electricity" in 1808, and William Coxe felt pear growing in the mid-Atlantic states in 1817 was "doubtful." He described how this disease "arises from the rays of the sun operating on the clouds floating in the atmosphere." Two writers in the *American Farmer*, "Silvanus" in 1821 from Elmwood, Maryland, and Daniel Smith, who assumed management of William Coxe's New Jersey orchard in 1826, recommended the most sensible cultural techniques to lower fire blight damage, which is especially lethal to quick, succulent new growth: they suggested letting weeds and grass grow around trees and that growers avoid manuring or cultivating orchards in order to retard vegetative vigor. By 1837 the Philadelphia Horticultural Society was offering a \$500 bounty for a fire blight cure, which has not yet been found today.¹¹

The tent caterpillar's elevated ranking among fruit pests is due not so much to the lasting damage of the insect itself, but to the alarming omnipresence of its threatening nests that appear in spring on wild cherry trees and cultivated apples. The peach yellows, a virus, was a far more destructive epidemic, and was first observed by Richard Peters at his Pennsylvania farm in 1790 when his entire 150-tree orchard suddenly died after the leaves turned yellow and the "bodies blackened in spots." Travelers in western Virginia and Pennsylvania described how "you could not have found a live peach tree in a day's ride" through the countryside by 1824. Although confined to the mid-Atlantic states, no cure was found for the yellows until the development of virus-free rootstocks in the twentieth century.¹²

Fruit orchards were considered part of the common domain around 1800, and wayside travelers were generally allowed to help themselves to ripening produce. Thomas Anburey, a chronicler of the Virginia landscape late in the 1700s, was surprised by the large number of peach orchards near Richmond. He observed, "It is deemed no trespass to stop and refresh yourself and your horse with them." Peter Kalm noted that the practice was just as pervasive in Pennsylvania: "All travelers are allowed to pluck ripe fruit in any garden which they pass by . . . It was a common custom, and any countryman knew that if the farmer tried to prevent it, he would be abused in return. For Richard Parkinson, who owned a six-acre apple and peach orchard near Baltimore around 1800, such a custom was the image of American republicanism fallen to anarchy: "The idea of liberty and equality destroys all the rights of the master, and every man does as he likes. Even taking fruit out of your garden is not looked upon as theft." Parkinson defied the tradition by vigilantly guarding his fruit against the plague of local fruit snatchers. "But what was the consequence? I received such abuse from the lower sort of people; they called me a mean English rascal . . . and it was frequently hinted that I must take care, or I should be shot." William Cobbett of Long Island, another transplanted Englishman, was perhaps more forgiving: "Gardeners may scold as long as they please, and lawmakers may enact as long as they please, mankind never will look upon taking fruit in an orchard

as felony or even as trespass. Besides, there are in all countries, such things as boys and every man remembers, if he be not very forgetful, that he himself was once a boy.”¹³

Vegetable Garden Insect Pests Before 1832

1. Turnip Fly (flea beetle?) (<i>Phylloptreta striolata</i>)	Introduced	14
2. Corn Cutworm (<i>Agrostis ipsilon</i>)	Native	9
3. General Squash/melon (Vine borers? <i>Melitta</i> sp.)	Native	9
4. Cucumber Beetle (<i>Acalymma vittata</i>)	Native	6
5. Cabbage Looper (<i>Trichoplusia ni</i>)	Native	6
6. “Pea Fly”	?	5
7. Squash Bug (<i>Anasa tristis</i>)	Native	4
8. Cabbage Cutworm (<i>Peridroma saucia</i>)	Native	4
9. Moles (<i>Scalopus aquaticus</i>)	Native	4
10. Aphids on Cabbage (<i>Brevicoryne brassicae</i>)	Native	2

Not nearly as common as fruit pests, the relative paucity of introduced vegetable garden pests is somewhat surprising, particularly when considering their ubiquity today. In addition, the two most commonly mentioned insect problems before 1832, the turnip “fly,” or flea beetle, and corn cutworm, could be considered agricultural rather than horticultural enemies. The “turnip fly,” however, was mentioned by distinctly horticultural authors, from John Randolph of Williamsburg to Bernard McMahon to William White of Athens, Georgia. McMahon was perhaps responsible for popularizing the technique of rolling the garden soil in order to eliminate clods and clumps of earth, the reputed hiding place of this flea beetle. Other commonly discussed pesticides included steeping the seed in boiling water or oil, early plantings to thwart the insect’s adult stage, and the use of popular insecticides like ashes, lime, and tobacco. The damage wrought by the corn cutworm was, as described by some authors, so universal as to move from the field to the garden. Dabney Minor of Orange, Virginia, complained in 1824, “I have never seen of so entire and complete devastation of every species of vegetation.” Many writers in the *American Farmer* felt the best solutions for cutworm control involved timely plowings to disrupt its life cycle; for example, turning the earth in the fall to expose the insects to winter cold.¹⁴

The grim trio of cucurbit pests - the squash vine borer, cucumber beetle, and squash bug - are especially relevant to modern gardeners, who often fail at combating them today. The sneakiest, most insidious, and best camouflaged of the three, the squash vine borer, was not precisely or scientifically described in the early nineteenth century; however, the damage described by correspondents to the *American Farmer* suggest the vine borer was universal. One writer recommended covering young melons with muslin-roofed boxes to isolate the plants from “the Depredations of the Bugs,” a popular technique used currently by organic gardeners. The squash bug and striped cucumber beetle were clearly described by numerous *American Farmer* contributors, including James Worth of Bucks County, Pennsylvania, who in 1823 catalogued fourteen garden insect pests and suggested protective measures for their control. The squash vine borer, cucumber beetle, and squash bug were sometimes picked off the plants, three times a day was best according to one author, or treated with the familiar pesticides: soot, unslaked lime, soap suds, ashes, or tobacco dust.¹⁵

Allusions to pests on ornamental plants were infrequent in the early nineteenth century. The “rose bug,” probably the rose chafer, was mentioned a few times. John Hartwell Cocke of Bremsa described it as a westward-moving denizen of the eastern shore of Virginia, and he queried *American Farmer* readers about ideas for an effective control, occasionally recommended in the form of molasses or honey traps. Bernard McMahon’s *Calendar* included a description of destructive pests in hothouses, which were unusual even on gentlemen’s estates in 1806, but he also noted that spider mites and thrips were common on garden plants. He remarked upon “small, green, winged insects,” possibly leafhoppers, on carnations. A Worcester, Massachusetts, writer complained to the *American Farmer* in 1824 of the “unmolested reign” of tent caterpillars on New England street trees, and chided his fellow citizens for not being more vigilant in removing them. Another conspicuous problem in forest trees, the 17-year locust, was also alarming.¹⁶

Weeds

The American literature on weeds, “plants out of place,” was more extensive before 1832 than for other pests. Although he failed to identify the species, John Smith noted the appearance of “all manner of herbs and roots we have in England” in the fields about Jamestown in 1629. John Josslyn, who visited New England in 1638 and 1663, compiled a list “Of such Plants as have sprung up since the English Planted and kept Cattle in New-England.” Among the twenty-one escaped plants, he included the earliest European exotic invasives, such as broad-leaved plantain, dandelion, dock, chickweed, and mullein. Peter Kalm, the Swedish botanist and natural historian who journeyed through the mid-Atlantic colonies from 1748 to 1750, identified the native pokeweed, *Phytolacca americana*, and the European jimsonweed, *Datura stramonium*, as the “worst weeds,” but he also included wild onions, mullein, native brambles, yarrow, and dandelions among the “weeds that are everywhere in fallow land.”¹⁷

In a letter to Philip Miller in 1759 John Bartram described thirty-five “troublesome” plants, both native and introduced, growing wild in the fields and coming up in the gardens of eastern Pennsylvania. The “most mischievous” were the butter and eggs, *Linaria vulgaris*, and the St. John’s wort, *Hypericum perforatum*. The “stinking” *Linaria*, according to Bartram, was impossible to eliminate: “Some have rolled great heaps of logs upon it, and burnt them to ashes, whereby the earth was burnt half a foot deep, yet it put up again, as fresh as ever.” The “pernicious” *Hypericum*, however, could be destroyed with a hoe and plough. Richard Parkinson observed crabgrass and foxtail, both European introductions, as problematic around Baltimore in 1800. The anonymous farmer “W. D.” published a list of twenty-seven “pernicious and unprofitable” plants in the *American Farmer* in 1827, although many were wetland native plants, like skunk cabbage, certifying how the weed designation is a personal and subjective choice. Finally, Lewis D. de Schweinitz, a prominent Salem, North Carolina-born botanist who moved to Pennsylvania, published a compilation of European naturalized plants in 1832. Interestingly, de Schweinitz expressed surprise at the domination of true native North American plants, 4,000 species, over escaped Old World species, 119. Again, the success of indigenous American pests provides a simplistic means of dampening the force of Mr. Crosby’s arguments.¹⁸

Weeds before 1832

1. Wild Onion (<i>Allium vineale</i>)	introduced
2. Bermuda Grass (<i>Cynodon dactylon</i>)	introduced
3. Canadian Thistle (<i>Cirsium arvense</i>)	native
4. Burdock (<i>Arctium minus</i>)	introduced
5. Dandelion (<i>Taraxacum officinale</i>)	introduced
6. Narrow-leaf Plantain (<i>Plantago minor</i>)	introduced
7. Briars (<i>Rubus</i> sp.)	native
8. Crabgrass (<i>Digitaria</i> sp.)	introduced
9. Horse Nettle (<i>Solanum carolinense</i>)	native
10. Elderberry (<i>Sambucus canadense</i>)	native
11. Jimson Weed (<i>Datura stramonium</i>)	introduced
12. Poke Salad (<i>Phytolacca americana</i>)	native
13. Foxtail (<i>Setaria glauca</i>)	introduced
14. Broom Sedge (<i>Andropogon virginicus</i>)	native
15. Lamb's Quarter (<i>Chenopodium album</i>)	native
16. Plantain (<i>Plantago major</i>)	introduced
17. Mullein (<i>Verbascum thapsis</i>)	introduced
18. Star of Bethlehem (<i>Ornithogallum</i> sp.)	introduced
19. Chickweed (<i>Cerastium vulgatum</i>)	introduced
20. Queen Anne's Lace (<i>Daucus carota</i>)	introduced

The compilation above suggests that European weeds (none of the above are from Asia) adapted more quickly than exotic garden insect or disease pests. Wild onions and Canadian thistles were most commonly complained about in the *American Farmer*, while Bermuda grass, reputedly introduced into North America in the bedding of slave ships, was mentioned most frequently in *The Southern Agriculturist*. Some of the most dreaded agricultural weeds, like Bermuda grass, narrow-leaved plantain (called “ribbon grass” in the 1820s), and crabgrass, were initially described with alarm, but eventually began to be accepted by some writers as desirable pasture and forage plants for livestock. The laissez-faire approach to weed control was also expressed by William Byars of Virginia in the *American Farmer*: he recommended leaving burdock plants uncontrolled, and after three years they would be covered by “fine grass.” Another essay praised the ability of weeds to shade and cover the ground, and to provide food for insects: the author concluded, “Weeds are good servants, but like fire, bad masters,” in urging a benign neglect approach to their management. Many theories were postulated on the most effective way to rid fields of wild onion or Canada thistle, “like a pert clown, sure to intrude where it is least wanted.” Progressive farmers often recommended a strategic and timely system of plowing, or sometimes the use of salt; one writer was pleased to kill his thistles by dumping the salty brine from meat tubs upon them. William Cobbett complained about the “twin vegetable devils,” burdock and dandelions: “nothing but absolute burning . . . will kill their roots.”¹⁹

Cobbett also condemned golden rod, or “plain weed, the torment of the neighboring farmer,” presumably on Long Island. Cleverly, he noted how this North American native was adopted by London gardeners, and described a flower border of *Solidago* at Hampton Court that was thirty feet wide and a half-mile long: “the most

magnificent walk in Europe.” Cobbett was also peeved that mountain laurel (*Kalmia latifolia*), “little dwarf brush stuff,” was selling in London nurseries for \$1 a plant, which “was no bigger than a handful of thyme.” Jeremiah Simple’s analogy in the *American Farmer* also captures the inevitable nomenclatural issues that arise when trying to differentiate between weeds and ornamental flowers: “Thus it is that what we most despise here as more than useless, is cultivated with care in Europe, and our most noxious plants are returned to us as treasures, and perhaps too in a degenerated state. Something like some of our dashing young bucks who visit Europe to be refined, and return to us greater fools than they were before.”²⁰

Pesticides

Pest control is presently the most expensive and complex horticultural task facing both home and commercial gardeners and, like today, philosophies varied in the early nineteenth century. Thomas Jefferson, for example, believed in a holistic approach toward the tension that inevitably exists between weeds, destructive insects, diseases, and the cultivated garden. As the Hessian fly was devastating his wheat crop Jefferson seemed more concerned about the life cycle of this pernicious pest than about the fate of cash crops at Monticello. He wrote to Charles Willson Peale that, for gardeners, “the failure of one thing is repaired by the success of another.” When his daughter, Martha, complained of insect-riddled plants in the Monticello vegetable garden, Jefferson responded, “We will try this winter to cover our garden with a heavy coating of manure. When earth is rich it bids defiance to droughts, yields in abundance, and of the best quality. I suspect that the insects which have harassed you have been encouraged by the feebleness of your plants; and that has been produced by the lean state of the soil.”²¹

Benjamin Smith Barton, the country’s most respected botanist around 1800, wrote an influential essay on pest control, “Of the Usefulness of Birds.” Barton insisted on the need to study the life cycle of destructive insects and celebrated the effectiveness of insect-devouring birds: wrens, bluebirds, wood peckers, even vultures. He urged gardeners to procure ten to fifteen pair of the smaller avian species, who could perform the service of “a whole plantation of Negroes, men, women, and children” in removing pestilential garden insects. “Moreover,” added Barton, “they are a very agreeable companion to man, for their notes are pleasing.” In 1819, many years after the first publication of the essay, Barton’s pioneering ideas were hailed by New York Governor Dewitt Clinton, and by editor John Skinner in the *American Farmer*. In 1823, James Worth, like earlier writers such as Peter Kalm, bemoaned dwindling bird populations, and added, “This increase [in insect pests] has come upon us in consequence of our wanton destruction of the feathered tribe, which is that link in creation that seems intended to keep the insect race within bounds.”²²

Pest Control Measures and Pesticides in the Early Nineteenth Century

- | | |
|---|----|
| 1. Ashes, wood ashes, soot | 29 |
| 2. Manual removal (shake trees, beat w/shovel, pick off etc.) | 26 |
| 3. Soap suds or soft soap | 23 |
| 4. Tobacco leaves, tobacco dust | 22 |
| 5. Lime | 19 |
| 6. Sulfur | 11 |

7. Timing & crop rotation	11
8. Birds	10
9. Fish oil, whale oil	10
10. Physical barrier (bags, straw around trunk, boxes, fences)	8
11. Grazing hogs	7
12. Chinaberry leaves, fruit	6
13. Plant in hardpan	6
14. Honey or molasses traps	5
15. Start over	5
16. Elderberry leaves	5
17. Cow dung	5
18. Mercury, quicksilver	4
19. Forsyth's Composition	4
20. Grazing turkeys, fowl	4
21. Expose to winter cold, frosts	4
22. Fires	4
23. Tan Bark	4
24. Turpentine	4
25. Oyster & clam shell mulch	3
26. Salt	3
27. Companion planting	3
28. Water blasts	3
29. Beef brine	2
30. Charcoal	2
31. Lye	2
32. Urine	2
33. Healthy plants	2
34. Onion leaves	2
35. Roll soil clods	2
36. Aloe	2
37. Gin	2
38. Tar	2
39. Castor beans	2
40. Arsenic	2
41. Wool fleece over corn kernels	1
42. Potash	1
43. Camphor	1
44. Red pepper	1
45. Potato leaves	1
46. Pine trash	1
47. Gum Arabic	1
48. Walnut shells	1

Gardeners in the early nineteenth century creatively used whatever household materials were available to combat garden pests. Biological control was often the first line of defense. Of course, weeds are usually easily pulled up or hoed down, larger

insects are simply picked off leaves, and disease can sometimes be isolated by cutting it away from the main body of a plant. The popular technique of grazing bearing peach orchards with hogs – the animals fertilizing the trees and devouring the destructive plum curculios, the peaches fattening the hogs – is a grand example of biological harmony. This same insect was controlled by John Bartram, who purposefully planted his plum trees near his house in order to systematically shake the curculios off the branches. When John Custis complained to his English pen pal and garden mentor Peter Collinson about mole damage in his Williamsburg garden, Collinson, the gentle Quaker, replied brutally, “We have a variety of traps for them in England. Butt patience and the spade are mine, for in the morning and evening I wait until I see the Earth Move. Att that Instant I strike in the spade behind Him and so turn the mole out, who then is Easily kill’d; Many a One has Met with its fate this way.” In a speech before the Albemarle Agricultural Society in 1824, Thomas Mann Randolph, Thomas Jefferson’s agriculturally astute son-in-law, discussed how he rid a 100-acre pasture of horse nettle by timing the grazing of his sheep to coincide with the flowering of this pasture weed: although the leaves and stems are inedible, the flowers essential to the plant’s reproduction were eagerly consumed, and the pasture became nettle free.²³

Various concoctions, usually referred to as “washes” and often containing effective insect and disease repellents such as soap, lime, sulfur, wood ashes, and tobacco, were extolled by the most serious early nineteenth-century horticulturists. William Forsyth, an English pomological writer, set the pesticide standard with his controversial Forsyth’s Composition: one bushel of fresh cow dung, half a bushel of lime rubbish, half a bushel of wood ashes, and a sixteenth bushel of river sand. Although promoted by Forsyth as a wound treatment as well as a pesticide, writers often reacted, positively or negatively, to its effectiveness. Soap suds, which “softens bark, opens pores, and helps to eradicate insects,” were also a common fruit tree “wash,” applied to the branches and trunks of dormant trees.²⁴

Tobacco was a popular and effective pesticide for numerous problems, and was often soaked in water for days, then applied to the effected plants with a watering can. Desperate measures, particularly in vineyards and greenhouses, included the use of burning tobacco leaves as a fumigant. Tobacco dust, as well as sulfur, wood ashes, and soot, were more easily applied to vegetable crops to control insects such as aphids, cucumber beetles, squash bugs, “pea flies,” and flea beetles. The use of chinaberry leaves in Southern gardens anticipated the use of the currently popular insecticide, Neem, by 200 years, and tan bark mulch was another surprisingly clever recycled deterrent. Physical barriers, such as muslin-covered boxes around young melon plants or paper bags that were placed around ripening grapes to block black rot invasions, although labor-intensive, provided ultimate solutions to very difficult problems. Mercury, an extremely popular pesticide in the early twentieth century, was recognized and heralded by a few writers for its control of insidious insects such as the peach tree borer. Although on the one hand William Cobbett acclaimed the New World’s pest-free gardens in *The American Gardener*, he also sarcastically conceded that pests and pesticides were an inherent part of early nineteenth-century horticulture: “As there are persons who have a delight in quackery, who are never so happy as when they have some specific to apply, and to whom rose cheeks and ruby lips are eye sore, it is perhaps fortunate, the vegetable world presents so many patients.”²⁵

As director of gardens and grounds, Peter Hatch has been responsible for the maintenance, interpretation, and restoration of the landscape at Monticello since 1977. Mr. Hatch has managed important restoration projects such as the eight-acre vegetable and fruit garden; the Grove, an ornamental forest of eighteen acres; and the establishment of the Thomas Jefferson Center for Historic Plants. He also oversees numerous educational programs and serves as project manager for the Thomas Jefferson Parkway, a \$6.5 million federally and privately funded highway project to create a park along the entrance corridor to Monticello.

A native of Michigan, Peter Hatch previously served as horticulturist at Old Salem in Winston-Salem, North Carolina. He has an English degree from the University of North Carolina and an A.A. in Landscape Gardening from Sandhills Community College in Southern Pines, North Carolina.

He is the author of The Gardens of Monticello, the editor of Thomas Jefferson's Flower Garden at Monticello (University Press of Virginia), and has written numerous articles and lectured in 30 states on Jefferson and the history of garden plants. His scholarly study of early American pomology, The Fruits and Fruit Trees of Monticello, Thomas Jefferson and the Origins of American Horticulture, was recently published by the University Press of Virginia. It is a Selection of the Garden Book Club.

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