Introduction

Science's Brightest Ornament

> Died, suddenly, at Philadelphia, on July 22d, by a rupture of a blood vessel, Mr. William Bartram, senior, in the 85th year of his age. By his death, science has lost one of her brightest ornaments.
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> —*Washington Quarterly Magazine of Arts, Science and Literature* (Apr. 1, 1824)

This succinct summary of William Bartram, printed nearly nine months after his death, points to his crucial role in what we now understand as modern science. Born in rural Philadelphia County in 1739, he contributed to many fields of study over the course of his long life. He collected plant and animal specimens as far north as New York and as far south as East and West Florida, colonies that encompassed parts of modern-day Florida, Alabama, Mississippi, and Louisiana. He provided some of the first published accounts of Native communities in the Southeast, wrote on the migratory patterns of swallows and other birds of passage, described the hybridization of grape vines in North America, and was an important interlocutor for many of the most noted naturalists of his day. His interests and abilities were manifold and his network of colleagues vast.

Today he is perhaps best known as the author of a travelogue describing a botanizing journey he made through the American South between March 1773 and January 1777. Published in 1791, his *Travels Through North & South Carolina, Georgia, East & West Florida, the Cherokee Country, the Extensive Territories of the Muscogulges, or Creek Confederacy, and the Country of the Chactaws;*

Containing An Account of the Soil and Natural Productions of Those Regions, Together with Observations on the Manners of the Indians has almost come to stand in for Bartram himself. The book—part natural history, part religious allegory—has been the primary lens through which we now view Bartram's contributions to science and is the starting point for biographical studies of the naturalist. In some ways, this emphasis is not surprising: soon after the book's publication in Philadelphia, it was reprinted in London and Dublin and was translated and published in Amsterdam, Berlin, and Paris. Bartram's *Travels* became an especially influential text to the Romantic poets, who were drawn to the plash and flow of his language.[1]

Writing was not, however, Bartram's only or even preferred method of recording the world around him. Drawing was by all accounts his "darling delight," even though most of his illustrations remained unpublished.[2] Because they were circulated as bespoke, semi-private renderings among a coterie of fellow naturalists, his drawings have attracted less scholarly attention than his written work. And yet, drawing was central for Bartram: it was at once a means of discovery, a form of cognition, and an act of imaginative collaboration and memory. He viewed drawing as a series of reciprocal interactions and interdependencies among the natural world, the artist naturalist, and the observer, and this understanding deeply influenced his view of a dynamic and mutable cosmos. With this book, I trace the roots of Bartram's natural history to his drawing practice.

William was raised from a young age to attend to the natural world. He was the fourth son of John Bartram, a Pennsylvania farmer, self-educated naturalist, and the most important purveyor of North American botanicals to Britain in the eighteenth century. John made numerous botanizing trips through the countryside near his home located in Kingsessing, just west of Philadelphia, and traveled throughout Britain's American colonies, collecting plants and seeds. These he sent to colleagues abroad, who distributed them among British nurseries and gardens. By his early teens William had become his father's preferred companion on such collecting expeditions, and he began making natural history drawings to accompany these shipments.[3] An early example of his work is a plan of the Bartram family's botanic garden, which identifies John's study, the garden's various plots and walkways, as well as its central pond.[4] The drawing, informative as it is, also incorporates elements of William's

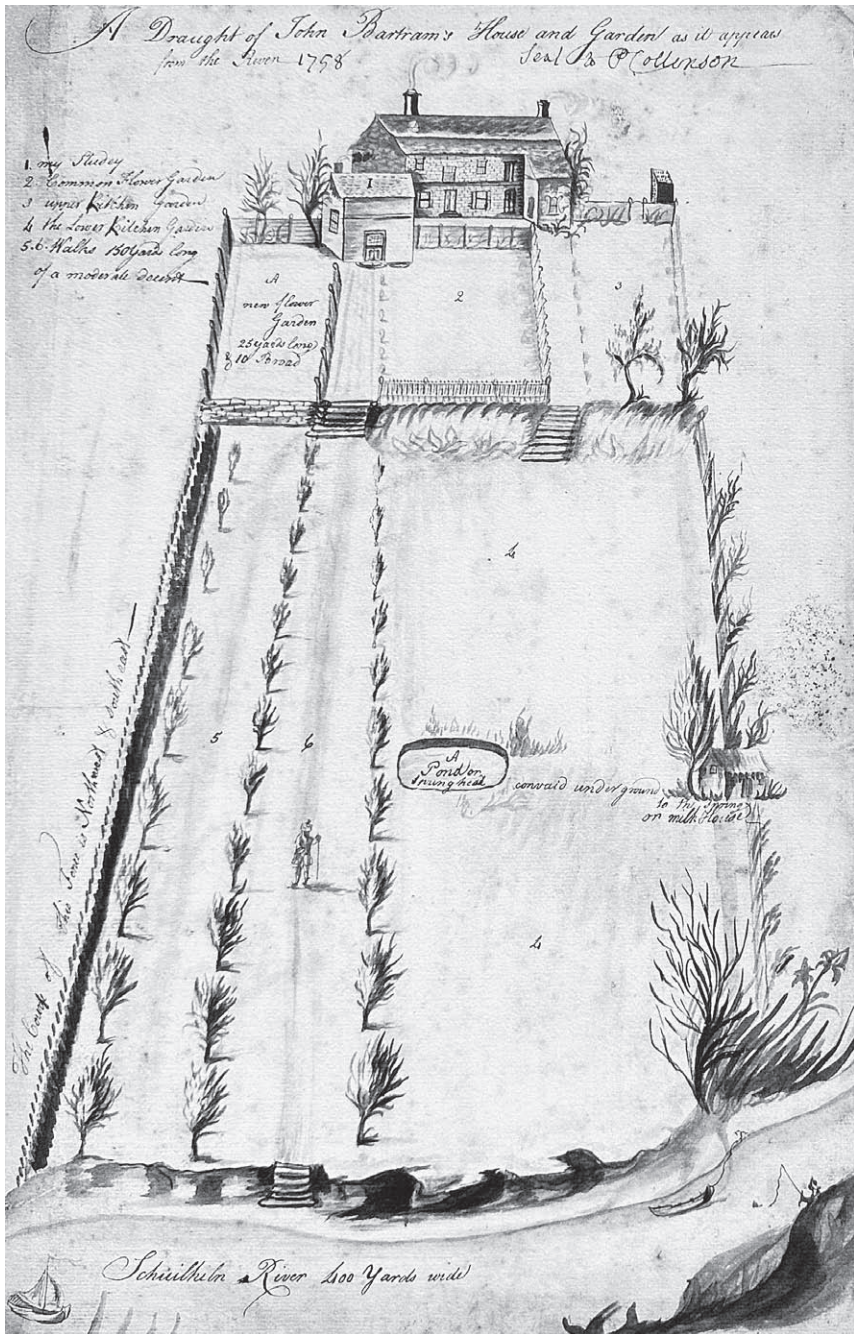

Fig. I.1. William Bartram, *A Draught of John Bartram's House and Garden as It Appears from the River*, 1758. Courtesy of Arader Galleries, New York.

telltale whimsy. The Schuylkill River, which borders the eastern edge of the garden, shown at the bottom of the drawing, is dotted with two small vessels and a fisherman. A man with a walking stick—possibly John—looks out at the riverway (fig. I.1).

John Bartram recognized his son's aptitude in botany and drawing, but he saw it as a pastime, not a profession. In 1755 he wrote of his concerns to his most important patron, the London mercer Peter Collinson, who served as a hub for the vast international exchange of natural history materials in the eighteenth century. "My son William is just turned of sixteen, [and] . . . it is now time to propose some way for him to get his liveing by," he observed. Although the younger Bartram had already been admitted to the Academy of Philadelphia, John was not keen on him becoming a "gentleman." Rather, he explained to Collinson, "I want to put him to some business by which he may with care & industry get A temperate resonable liveing I am afraid Botany & drawing will not afford him one."[5] After considering a number of steady and respectable vocations for his son, including printer and engraver, John apprenticed William to the Philadelphia merchant Captain James Child in January 1756.[6]

By all accounts, William was industrious in his apprenticeship with Captain Child, but he struggled in his subsequent attempt to establish himself as a merchant at Ashwood, North Carolina, where he lived with his uncle Colonel William Bartram and his family. Letters from that time speak to the difficulty he experienced. "I am unfortunate in ariving to a bad Markett, a wrong Season of the year, and the excessive rains has almost destroyed the Country," he informed his father in May 1761.[7] Although John often inquired after William's "success in merchandise," he also wrote with many requests for seeds, plants, and other observations of the natural world.[8] From the smattering of letters that remain it seems William devoted as much of his time to botanizing as he did to his business endeavors. He struggled to turn a profit and was plagued with debts. In 1764 he explained to his older half brother Isaac, "I would write to Father but I am afraid my Letters gives him Uneasiness." He was clearly more comfortable reflecting instead on the natural world. "When I view the eternal necessary actions and movements of the Viseble Universe," he wrote in the same letter, and "the amaising exactness and truth in the effects of every cause in the progress of Nature, I see an ab[s]alute necessity for the constant activity in every Object & part of the creation."[9] In his mature graphic work William seemed intent on forging a

connection between the operations of his pencil and the operations he observed in nature.

In 1765 John Bartram was recognized with a royal pension to explore East Florida, which had recently become part of the British imperium. Styling himself the "King's Botanist," he invited William to join him on an expedition along the St. Johns River.[10] Likely relieved to put aside his merchant business, William asked his uncle to settle his outstanding debts, and he accompanied his father in search of flora and fauna. During this trip he became so taken with the region's dramatic landscape that, much to his father's chagrin, he decided to establish an indigo and rice plantation near St. Augustine. Despite misgivings, John purchased tools, seed, and six slaves for William's plantation, which met an even more ignoble end than his merchant business. The acres William acquired were swampy and stagnant, the weather was unbearably hot, and he was plagued by illness, despair, and most likely, profound guilt for a speculation premised on slave labor. Henry Laurens, a South Carolina plantation owner and slave trader who had advised the Bartrams, visited William in the summer of 1766 and wrote to John of William's "forlorn state." Laurens suggested John send additional provisions, but John demurred, instead encouraging William to return home.[11]

Bartram's years as a merchant and planter interfered with his drawing, but by 1767 he was wholly recommitted to the practice, and he remained so until age and failing eyesight forbade it. He again made figures of biota for Collinson and also began sending drawings to the London physician John Fothergill, who agreed to underwrite a nearly four-year botanizing journey through the Carolinas, Georgia, and East and West Florida. During this 1773–1777 excursion, Bartram sent Fothergill seeds and specimens of subtropical plants, along with numerous drawings and field notes, which would later form the basis of *Travels*.[12] Yet even as Bartram dedicated himself to this writing project, one that took nearly fifteen years to complete, he continued to make visual records of the natural world for himself and for others. In 1788, for instance, he prepared a sheaf of watercolors for the London-based brewer and amateur botanist Robert Barclay, and in the 1790s he designed the illustrations for Benjamin Smith Barton's 1803 *Elements of Botany*, the first American botany textbook. From his early teenage years until deep into his sixties, Bartram turned to drawing first and foremost to understand and interpret the bewildering beauty of the organic world. The very act of drawing,

of figuring a surface, has always lain at the heart of William Bartram's understanding of nature.

To Fi'gure. v.a. [*figuro*, Latin.]

But what does it mean—or what did it mean—for William Bartram to figure the natural world? What were the historical valences of the verb *to figure*, and how might they have informed his practice? To gain a sense of how it was conceived and understood, Samuel Johnson's 1755 dictionary offers some guidance. *To figure* could mean to form something into a definitive shape, to approximate a visual or physical resemblance, to ornament, to diversify, to imagine, or to represent by metaphor or visual symbol. This semantic range seems so bewilderingly broad as to encompass opposing meanings. In its most basic, primary sense, *to figure* could mean simply to manipulate matter, to engage in some sort of direct intervention in the physical world. In a secondary, representational sense, it followed two diverging trajectories: on the one hand, it could mean the creation of an uncomplicated correspondence between a thing and its textual or visual representation, the forging of a likeness, an immediate and obvious concordance. On the other hand, it could also suggest a misalignment, a sideways step toward the object one intended to describe. Johnson cited John Locke's "On the Conduct of the Understanding" to explain this type of representation: "Figured and metaphorical expressions do well to illustrate more abstruse and unfamiliar ideas, which the mind is not yet thoroughly accustomed to."[13] In this sense, figuring is allusive or even ornamental; a figure gestures toward an object or an idea, while at the same time underscoring the fact that it remains separate and distinct from that idea, a type of representation that calls attention to its own mediation. The various definitions of figuring move by degrees away from matter toward thought and imagination.

The semantic range of *to figure* makes it an inherently unstable term. In his graphic work Bartram seemed to embrace its multiple meanings, drawing together its material, literal, and figurative connotations. He did not pit direct empirical observation against fancy, ornament, or allusion but, instead, knit them closely together. His visual representations of the natural world function as a graphic intermediary between material manipulation, sensory experience, and mental construct, delineating nature as he experienced and came to understand it.[14]

Bartram's collapse of the various meanings of *to figure* may be unusual, but it was not without precedent in the eighteenth century. The most likely influence on his conception of figuring comes from the artist and engraver William Hogarth, then one of the most celebrated artists in the English-speaking world. In his well-known treatise, *The Analysis of Beauty* (1753), Hogarth worked to dissolve the inherent opposition between the literal and the allusive by joining them together in his Lines of Beauty and Grace, which he framed as the very basis of his theory of representation. Hogarth found these serpentine and coiling lines best suited to representing the living world because of their fluidity and flexibility; such qualities, he believed, allowed them to express the greatest diversity of forms. At the same time, Hogarth also considered them to be the most beautiful and aesthetically pleasing marks because of their ornamental qualities. The way they spool across the surface of the paper leads the eye in pleasurable pursuit and suggests ongoing, unfolding transformation over time. The Lines of Beauty and Grace served in Hogarth's representational model as the bass figures for both truth and beauty, essence and ornament. Hogarth's *Analysis* was circulating in Philadelphia by the 1760s, and it seems from Bartram's compositions that he came to share the older artist's view of figuring as a process that was at once manual and intellectual, literal and allusive.

Naturalists who have engaged with Bartram's natural history, both in his day and ours, have often attempted to tease apart the literal from the metaphorical, hoping to pierce through the veil of poesis to access the truth of his observations. The title of Berta Grattan Lee's 1972 essay, "William Bartram: Naturalist or 'Poet?,'" highlights how profoundly this question has animated the study of Bartram and his work. As early as 1767, Bartram's future patron John Fothergill noted his skill in drawing but lamented his tendency to include "Imaginary Plants" in his compositions.[15] Notably, the biota Fothergill was referring to was not, in fact, imaginary; he took issue with Bartram's portrayal of a Venus flytrap (*Dionaea muscipula*), a species then little known in Europe. Although Fothergill was one of the first to question the veracity of Bartram's observations, it was not the last. Naturalists and nurserymen followed his footsteps through the American South, endeavoring to ascertain what was fact and what was fancy in Bartram's work. The urgency to parse the accurate from the imaginative is pervasive throughout the Bartram scholarship. Francis Harper—the enterprising scholar who laid the foundation for Bartram research in the twentieth and twenty-first centuries—was largely motivated by this desire. Trained as a biologist,

Harper devoted much of his career to retracing Bartram's steps and determining the chronology of his travels. His copiously annotated naturalist's edition of Bartram's *Travels*, published in 1958, represents the summa of these efforts.[16]

Yet for Bartram the literal and metaphorical, ground and figure, were always inseparable, interpenetrating fully in his work. The way he negotiated and ultimately collapsed notions of figuring reinforces the importance of drawing to his understanding of nature. As the creation of marks on a surface, drawing provided a direct manipulation of the world (figuring in its primary sense) as well as a literal and metaphorical representation of it (figuring in its secondary senses). Even so, the majority of Bartram scholars in the humanities have focused on his writings, rather than his graphic enterprise. Literary historians were the first to engage with Bartram's work, as we see in John Livingston Lowes's 1927 *The Road to Xanadu: A Study in the Ways of the Imagination*. In his analysis of Samuel Coleridge's poetry, Lowes argues that Coleridge pulled from Bartram's descriptions of the Florida landscape to create the heady, disorienting atmosphere in *Kubla Khan*. N. Bryllion Fagin, turning from *Travels* as a source of literary inspiration to a piece of literature in its own right, published *William Bartram: Interpreter of the American Landscape* in 1933. He argues that Bartram entwined accurate observation with subjective interpretation to offer a rich, multisensorial experience of nature.

Many more in-depth examinations of Bartram's writings were to follow: Thomas Hallock, Nancy Hoffmann, Christopher Looby, Pamela Regis, and others have all ably explored the literary origins and influences, style, and expressive affect of Bartram's *Travels* as a text. Scholars in other fields have used Bartram's *Travels*, correspondence, and commonplace books to examine his engagement with different social, political, and cultural questions, including the American Revolution, Native American policy in the colonial period and the early Republic, and the practice of slavery. These projects reveal the critical role he plays in different disciplines, yet they derive almost exclusively from what Bartram wrote, not from what he drew. If, as John Bartram declared, drawing and botany were William's primary interest and pleasure, then it seems apt to turn our attention to his graphic work and to what it can teach us about his approach to and understanding of the natural world.

There exists a small but important body of scholarship dedicated to his drawings, developed by historians of science Joseph Ewan and Judith Magee, as well as art historians Amy Meyers and Michael Gaudio.[17] In particular, Meyers's

1985 doctoral dissertation, "Sketches from the Wilderness: Changing Conceptions of Nature in American Natural History Illustration, 1680–1880," established the terms by which Bartram's drawings are now considered. She reads his work as part of a centuries-long shift in which nature is increasingly viewed as mutable and interdependent as opposed to hierarchically ordered. This shift, she argues, is more clearly articulated in Bartram's graphic work than in his *Travels*; through formal repetition and the use of an animated, agitated line, his images reinforce the interdependencies and dynamic relationships among organisms, even when his text adheres to a more categorical view of the cosmos.[18]

Building on Meyers's scholarship, Gaudio examines how a mutable natural world forces organisms into a continual "struggle for self-evidence." Bartram understood the new republic to work by principles similar to those in nature, Gaudio observes, and Bartram's drawings are as much about the social order of the new nation as they are about the structure of the natural world.[19] Like Gaudio, I build on Meyers's analyses, but rather than expand her discussion of Bartram's view of the cosmos into the social realm, I instead trace it back to its origins in his mental and manual acts of figuring.

This emphasis on drawing as a means of coming to know and understand nature is, I argue, what distinguishes Bartram from his colleagues. Even though other naturalists at the end of the eighteenth century had also begun to see the natural world as mutable and interdependent, this conception of nature did not necessarily align with their graphic practices. Both Erasmus Darwin and Jean-Baptiste Lamarck developed early theories of evolution, proposing the idea that all organisms were not wholly separate and distinct but, rather, emerged from a single common ancestor. Lamarck in particular identified this evolution as a response to environmental conditions, though unlike Charles Darwin (the grandson of Erasmus), he thought evolution happened within an organism's lifetime rather than over generations through natural selection. Lamarck's views regarding environmental influence were taken up in part by the enterprising explorer and naturalist Alexander von Humboldt, who introduced the concept of plant geography; that is, the natural distribution of plants according to latitude and altitude. Humboldt did make sketches during his botanizing expeditions and encouraged other artists to delineate the complexity of the material universe, yet much of his graphic work lacks the dynamic, vivifying quality of Bartram's most curious compositions.

Although my approach to Bartram's graphic practice underscores the absolute centrality of drawing to his natural history, this is not to say that *Travels* goes unaddressed in this study. The drawings serve as the main source of evidence and point of departure, but I occasionally pivot to his text to corroborate interpretations. It is essential to remain cognizant that *Travels* is a work of revision and rewriting and that Bartram's voice is at least partly shaped by editorial intervention, as Nancy Hoffmann has shown.[20] Still, it is an important component of Bartram's natural history and, more specifically, his legacy as an artist naturalist. The book has been important in shaping ideas about Bartram and his work since its publication, when it was quickly put to use as a field guide for botanizing expeditions in the American South. *Travels* ultimately aided in the process of remembering and "re-figuring" Bartram's natural history, as later generations of naturalists and nurserymen retraced his mazy path. But far before this text—before its drafting, its revisions, publication, translations, and new editions—there were Bartram's drawings.

Chapter Overview

I begin this study with an examination of how John Bartram, a farmer with no formal training, became a key figure in the transatlantic trade in plants, introducing his son to the study of nature and to the ocean-spanning coterie of virtuosi who would underwrite that study. More specifically, in chapter 1 I consider the asymmetry of access between Europeans and Americans (access to European scholarly infrastructure on one hand and the American wilderness on the other) and the role it played in the development of William's natural history. As Susan Scott Parrish points out, the relationship he and his father enjoyed with their patrons abroad was never fully equal. The Bartrams provided keenly sought specimens of an unfamiliar and otherwise inaccessible natural world, and their patrons offered access to resources and scientific communities absent in the colonies. Yet European naturalists often viewed their American correspondents as unsophisticated countryfolk, incapable of making sense of the wilderness they inhabited. Only in Europe could the natural fragments provided by colonials—roots packed in muck and moss, dried fish, bird skins preserved in tobacco or spirits, fragmented descriptions, and field sketches—be synthesized and rendered intelligible.

Both father and son bristled at the mantle of preeminence their European colleagues assumed, and they worked to establish themselves as intellectual