Reading And Writing A Garden, Materials Of A Garden Made In Germantown, Pennsylvania (1683–1719)

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Reading And Writing A Garden, Materials Of A Garden Made In Germantown, Pennsylvania (1683–1719)

Abstract
This dissertation describes and interprets an example of a relationship between belief, imagination, reading, writing, and the art of gardening in colonial Pennsylvania. The chapters analyze and interpret the role and influence of Francis Daniel Pastorius’ art of gardening in early American garden culture as it was based on his own Christian Humanist and polyglot demeanor, German Pietism, early modern natural science, and the multilingual culture of the newly forming Quaker colony. The garden in question was made behind his home at, what is now, 6019 Germantown Avenue, between 1683 and 1719. His garden and garden art are reconstructed based on a close reading of his own plant prints, botanical and devotional poetry, literal descriptions, and didactic writing about plants and horticulture. This writing is found in several of his notebooks that survive at the Historical Society of Pennsylvania, The German Society of Pennsylvania, and the Kislak Center at the University of Pennsylvania. His writing documents a garden of over two hundred and twenty species of exotic, ornamental, culinary, and medicinal plants that he cultivated in his garden, orchard, vineyard, and fields and a productive apiary of four to five hives. It also reveals his deeply felt, mystical intimacy with bees and plants. He celebrated this intimacy in his writing, and in the manner that he arranged, cultivated, and propagated plants in his garden beds. His art was a lyrical and didactic, multilingual hortenses poesis: a garden poem that celebrated the creative act of making a garden in a Pennsylvania woods.

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READING AND WRITING A GARDEN

MATERIALS OF A GARDEN MADE IN GERMANTOWN, PENNSYLVANIA
(1683–1719)

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Miranda Elizabeth Mote
DEDICATION

for Tennessee Capron and Ruth Elizabeth
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The garden, which is the subject of this dissertation, was made on traditional territory of the Lenni-Lenape, called “Lenapehoking.” The Lenape People lived in harmony with one another upon Pennsylvania territory for thousands of years. During the colonial era and early federal period, many were removed west and north, but some also remain among the continuing historical tribal communities of the region. I honor the Lenni-Lenape as the original people of Germantown and Pennsylvania, their continuing relationship with their territory, and everlasting presence and influence in the making of gardens in North America.
This dissertation describes and interprets an example of a relationship between belief, imagination, reading, writing, and the art of gardening in colonial Pennsylvania. The chapters analyze and interpret the role and influence of Francis Daniel Pastorius’ art of gardening in early American garden culture as it was based on his own Christian Humanist and polyglot demeanor, German Pietism, early modern natural science, and the multilingual culture of the newly forming Quaker colony. The garden in question was made behind his home at, what is now, 6019 Germantown Avenue, between 1683 and 1719. His garden and garden art are reconstructed based on a close reading of his own plant prints, botanical and devotional poetry, literal descriptions, and didactic writing about plants and horticulture. This writing is found in several of his notebooks that survive at the Historical Society of Pennsylvania, The German Society of Pennsylvania, and the Kislak Center at the University of Pennsylvania. His writing documents a garden of over two hundred and twenty species of exotic, ornamental, culinary, and medicinal plants that he cultivated in his garden, orchard, vineyard, and fields and a productive apiary of four to five hives. It also reveals his deeply felt, mystical intimacy with bees and plants. He celebrated this intimacy in his writing, and in the manner that he arranged, cultivated, and propagated plants in his garden beds. His art was a lyrical and didactic,
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Introduction

This dissertation is about the art of gardening in Germantown, Pennsylvania before 1719. It analyzes the meaning of a garden as it was designed, made, and experienced by Francis D. Pastorius. While living and gardening in Germantown, he wrote poems, lists, aphorisms, and didactic narratives about his garden and gardening, many of which survive in Philadelphia rare book archives. All of his writing drew on his interest in and mastery of seven languages, European natural philosophy and science, classical and early modern poetry, almanacs, the Bible, astrology, mystical theology, and his direct experience with people and plants in Pennsylvania. A close reading of his writing reveals that he believed that gardening was a scholarly and imaginative reading and writing of the natural world and that gardens were made as a result of rational, creative, and mystical ideas. This belief was based on his Christian Humanist imagination and all of its allegorical cosmologies and his deeply felt German Pietist beliefs. He situated and remade these European cosmologies as a part of the making of a garden in the native wooded home of Leni Lenape Native Americans in a newly forming English Quaker colony.

As a part of his writing about his garden, he carefully composed “Literal Plays” (poetic compositions) of plant prints in his letters and notebooks. These prints offer clues as to how he designed his garden. He used plants as letters in a botanical language that he wrote as allegorical lyrics about his own life and the natural world. His art of gardening

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1 Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or, Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696.” (Philadelphia, PA, 1865 1696), 75 (V. 1), Upenn Ms. Codex 726.
was a sister art to poetry, language, and botany—I have named it his *hortenses poesis*. *Hortenses* is ‘of the garden.’ *Poesis* translates as a poem or collection of poems. It is also the process of making or creative production like gardening, printing and writing. *Hortenses poesis* is a garden poem or poetry and Pastorius’ gardening as it was a creative process of making.

Pastorius was a founder of Germantown in 1683, a colonizer of Leni Lenapi land, served citizens of Pennsylvania as a lawyer, judge, and politician, and for many years taught young children at Philadelphia and Germantown’s first schools. He was an influential intellectual and political figure well known in American history, but his role and influence in the formation of an early modern culture of botany and garden theory in colonial Pennsylvania remains understudied. Evidence of this influence can be found in his *Monthly Monitor* (garden journal), *Deliciæ Hortenses or Garden—Recreations and Voluptates Apianæ* (garden and bee poems), *Artzney und Kunst* (medicinal notebook), encyclopedic commonplace book titled *Beehive*, and the devotional poems of his *Ship-mate ship*. This writing documents his garden and an exchange of ideas with formative figures in the culture of gardens and botany in Philadelphia, including James Logan, Lloyd Zachary, Christopher Witt, and Peter Collinson and John Bartram by way of Christopher Witt.

The structure of this dissertation is designed to first offer context for the meaning of plants, bees, reading and writing in Pastorius’ garden (Chapters one, two, and three), then describes the material aspects of his garden (Chapter four), the nature of his garden work as it was regulated by common measures of time and duration (Chapter five), and
Lastly, envisions Pastorius’ garden in four drawings and suggests a method by which historians and designers can create images of gardens that are true to their maker’s intentions and world-view (Chapter six). Ever important to all these chapters are the details of Pastorius’ life and own writing. Therefore, a five-part appendix is dedicated to selective translations and transcriptions of his writing, documentation of his manuscripts, catalogues of his books, travel, writing, and drawings of his garden. Each chapter refers to material documented in this appendix.

Chapter one analyzes Pastorius’ relationship with gardens, plants, books, Christian Humanism, and German Pietism of his European life. His exposure to gardens and plants can be explained by his privileged childhood, education, travel throughout German speaking territories, his two year ‘Grand Tour’ throughout Europe, and his eventual religious transformation and connections with German Pietists in Frankfurt am Main (Appendix B). “Pastorius’ Labyrinth, Gardens of his European Life (1651–1683)” introduces the influence of all of these cultural forces on his own ideas about the natural world and making of his garden in Pennsylvania.

Evidence of this influence and documentation of his garden is found in his own notebooks that survive at the Historical Society of Pennsylvania, The German Society of Pennsylvania, and the Kislak Center at the University of Pennsylvania. The second chapter, “Pastorius’ Reading and Writing as Gardening,” introduces each of these manuscripts and analyzes the culture of their writing and making, and explains Pastorius’ engagement with the commonplace tradition, his scholarly and literary habits as they relate to his garden in Germantown (Appendices A, B, C, and D).
Pastorius’ garden was made in dialogue with other gardens and gardeners in colonial Pennsylvania. Chapter three, “Pastorius’ Garden Recreations: Gardens of his American Life (1683–1719)” analyzes three important American influences in the making of his garden: seventeenth-century English botany and garden theory, his association with a hermetic group of German Pietists, *The Society of the Women in the Wilderness*, and his proximity to and relationship with Delaware Native American ideas about plants and the natural world (Appendix C and D).

Chapter four, “Pastorius’ Garden as a Commonplace Book,” describes what and where he gardened and revisits his continual reinvention of the commonplace tradition as a model for making a garden (Appendix C). It examines material aspects and geography of his town and side lots in Germantown as he designed them to be gardens, vineyards, orchards, an apiary, and fields. It imagines his land as he did—as a commonplace book where he situated and arranged plants and bees to be beautiful and useful.

Chapter five, “Keeping Time with a Garden,” considers his garden as he designed it to predict and take advantage of the timing and duration of ecological and environmental phenomena (Appendix C). He gardened according to ‘common time,’ a measure of duration as it related to his environment and himself. It is in this chapter where Pastorius’ ecological reading of his garden shows itself to be an important aspect of his garden art.

The last chapter, “Drawing Francis Pastorius’ Garden” suggests three methods by which images of Pastorius’ garden can be drawn as it was read and written by him.
(Appendix E). It considers early modern traditions of writing and drawing familiar to him in the design of four conjectural drawings of his garden. All of these drawings envision images of Pastorius’ *hortenses poesis*.

Pastorius’ *hortenses poesis* was a kind of botanical orthography that was based on rational, imaginative, and mystical relationships with the plants and bees of his garden. This claim requires that history of early American gardens acknowledge the significance of belief and imagination in his reading, writing, and making of his garden, as well as others like that of Christopher Witt. His art of gardening was distinct from common tropes of colonial gardens as only places of subsistence living or simple transpositions of European style. Pastorius’ *hortenses poesis* was an art that transcended a single language, nationality, and style. Its meaning was an inventive translation of European garden, horticulture, and literary theory, German Pietist theology and a result of his own maniacal curiosity and spirited love of plants, bees and the Pennsylvania woods.

All of this analysis and documentation is built upon the scholarship of others, including published translations of his poetry and writing and early American histories. Marion Dexter Learned’s *The Life of Francis Daniel Pastorius* (1908) is the critical biography. Pastorius’ *Deliciae Hortenses* poems were published and partially translated by Christoph E. Schweitzer in 1982. Peter Stallybrass continues to study the literary contexts and meaning of Pastorius’ scholarly habits and book making. James Duffin’s translations and analysis of *Germantown’s Records of the Corporation of Germantown Pennsylvania 1691–1707* and “The First Map of Germantown” are invaluable sources that make clear details important to understanding the nature of Pastorius’ garden and
influence in the making of a ‘German town.’ Stephanie Grauman Wolf’s *Urban Village: Population, Community, and Family Structure in Germantown, Pennsylvania 1683–1800* affirms that Pastorius and his garden were part of a healthy, multilingual, semi-urban economy. Patrick Erben, Alfred Brophy, and Margo Lambert’s recent translations of a large portion of Pastorius’ writing published in *The Francis Daniel Pastorius Reader, Writings by an Early American Polymath* (2019) are invaluable to this project. Their translations of Pastorius’ early modern German and Latin are important to understanding Pastorius’ theories of garden art. This dissertation brings together all of their contributions and analyzes Pastorius’ writing with a fresh perspective in order to reconstruct the material making and meaning of his garden.
CHAPTER 1: Pastorius’ Labyrinth, Gardens of his European Life (ca. 1651–1683)

I loved Luxury, & Gold, & Honour once, 
but now I do to them with all my ♥ renounce.  
but now I love the Lord, & do to them renounce.²

Prologue
Pastorius was born into, lived, studied, and worked in a labyrinth of intellectual and religious debates, political institutions, and physical landscapes of the fragmented geography of early modern Germany. As a child and young adult in Franconia, Pastorius navigated religious, economic, and cultural conflict and tension, economic and cultural recovery from three decades of war. He participated in the Humanist intellectual traditions of the Renaissance and cultural movements defined by intense creativity and innovation that were a consequence of the Thirty Years War (1618–1648). He brought European ideas about politics, religion, science, and poetry with him to the wilderness of colonial Pennsylvania, where they expanded, evolved, and eventually took the form of his own town and garden in what he called Germanopolis in Pennsylvania.

This chapter will explain the influence of German culture of gardens and botany, Lutheran Humanism, and Pietism prevalent in the Franconia region of Germany during the seventeenth-century and at particular places that he visited on his Grand Tour between 1680 and 1682 as a part of a cumulative life experience that led him to emigrate to and garden in Pennsylvania. I will first address the traditions and philosophy of Lutheran Humanism that defined his domestic life and education. Second, I will analyze

the influence of German Pietism on his world view, poetry and other forms of writing, garden, and decision to emigrate to Pennsylvania which occurred soon after he returned to Frankfurt from his Grand Tour. The latter sections of this chapter will be focused on four gardens in Franconia. I will analyze the influence of a botanical garden at Altdorf University (otherwise known as Altdorf Academy) and a literary garden in Altdorf’s patron city, Nuremberg. Both were important in the development of German language poetry and modern development of natural sciences and medicine in central Europe. Second, I will describe and analyze the culture of botany and gardens at University of Jena. Here, as with Altdorf, pleasure and study were intertwined. Lastly, I will discuss Pastorius’ father Melchior Adam Pastorius’ town garden in Windsheim (now Bad Windsheim) as an urban garden type and Pastorius’ life experience in this garden because he associated a tree planted in this garden with his decision to emigrate to Pennsylvania.

In all cases, these gardens were places where Pastorius was exposed to and participated in advancements in natural science, modernization of German literary culture and language, and the privilege of his childhood and university education.

Pastorius was born in Sommerhausen in 1651, educated at a humanist Lutheran gymnasium in Windsheim, an imperial city in the Franconia region of German territories, and eventually continued his education at three universities; Altdorf University, University of Strassburg, and University of Jena. After he completed his law degree at Altdorf University, he dutifully returned to Windsheim to practice law. As a first-born son of Melchior Adam Pastorius (1624–1702), a Bürgermeister, he had familial and societal obligations to serve the ruling class of Franconia. His decision to return to
Windsheim had everything to do with his obligation to his father and family rank. He rejected this life two years later and moved to Frankfurt to live and be close to a group of radical Lutherans, the Frankfurt Pietists. The Frankfurt Pietists, led by Philipp J. Spener (1636–1705), and Pastorius were actively rebelling against the norms of both the Lutheran and Roman Catholic religious and political institutions. During his last two years in Europe, he guided a young Catholic German nobleman, Johann Bonaventura von Bodeck, on a two-year ‘Grand Tour’ of central Europe, Italy, and England (see Appendix B, 2.0). At the age of thirty-two, he again openly rebelled against the norms of Franconian culture and his family and emigrated to Pennsylvania in 1683.
Throughout his young adult life in Windsheim, Frankfurt, Altdorf, Strassburg, Jena, and the various cities he visited while a student and on his Grand Tour, he recorded citations, verse, observations, and epigrams about nature, buildings, cities, and books in his notebooks. Over time, in these same notebooks and letters to his father, he explained why he emigrated to America and expressed his deep-seated need to live a pious life away from European culture and his familial and political obligations in Franconia.\(^3\)

Pastorius was an unusually observant and sensitive person who lived in and was deeply affected by the tension between early modern and modern ideas about science, politics, and the idea of America. He benefitted from his privileged station in society (wealth, opportunity, and education), but in the end, rejected its Lutheran and Roman Catholic politics and ethics, for what he would call the true Christian life\(^4\), that he believed could only be found in America. He would have described himself as modern, and I am prepared to do the same, and even argue that his all-encompassing Christian

\(^3\) He continued to critique European culture throughout his life in Pennsylvania as well, but I am primarily interested in his European experience in this chapter. I will address his observations in America in Chapter 3.

\(^4\) Pastorius even goes so far to say that he was not a Christian until he found the Frankfurt Pietists when he was 18. He says so in a letter to his father. He says this despite the fact that he was baptized in a Lutheran church in Sommerhausen the day after he was born. See Weaver, Franz Daniel Pastorius (1651-c. 1720): Early Life in Germany with Glimpses of his Removal to Pennsylvania, p. 34.
world view was progressive, and egalitarian with respect to his views towards women, Native Americans, and African slaves.

His Pietist consciousness embraced nature as a precious resource, that was not to be exploited. In his mind, nature did not serve humanity, but humanity was intimately interconnected with nature’s metaphysical and physical being. He saw nature as a divine ecology of interconnected and corresponding living beings. His beliefs were especially progressive compared to his English Quaker friends in Pennsylvania. He was modern in this regard although he still believed in and considered humanist ideas about the divinity of nature and the benefits and applications of early modern chemistry and alchemy. The tension between early modern magical thinking and modern rational science and culture is apparent in his nature poetry and his ideas about what a garden is and how it should be ordered.

His garden as he made and imagined it in Pennsylvania, was a place to study, think, cultivate plants, reflect on his life in Europe, and get lost in his own imaginary worlds. It was a place for the sustained study of plants, not unlike what he saw and experienced in Altdorf’s botanical garden and a place where he wrote a lifetime of original poetry about his garden, plants, bees, and neighbors, similar to the *Blumenorden* poets in their garden in Nuremberg. It was also a collection of plants that nourished and entertained his family and neighbors like his father’s garden in Windsheim and the orchards and vineyards of Franconia Germany. He was not preoccupied with style or nationality. Instead he invented his own art of gardening. What makes his garden so
interesting to American garden history are these qualities as they mirrored his European and American intellectual and physical experience.

Pastorius’ art of gardening was as much about Christian belief as it was about his belief in freedom and liberty of conscious. It was related to but not the same as university botanical gardens or his father’s ideas about the making of a town garden in Windsheim in that it transposed European ideas about gardens into Pennsylvania all the while adapting to Pennsylvania’s cultural and physical geography. He had declared that he had renounced the luxury, gold and honor of his European life, and the type and style of his father’s town garden, Altdorf’s botanical garden, and any German imperial garden in Franconia. This said, in 1695, he assembled his Arzney und Kunst (see Chapter two) based on a bibliography of twenty-four European herbals, medicine, and home economic books, including first on his list, a book written by his father Melchior. Although he relied on these European sources, he declared that it was a Pennsylvania medicinal and included mostly plants grown in their own gardens or found in the Pennsylvania woods. His medicinal book modeled the authority of gardens like his father’s garden and the botanical gardens of Altdorf and Jena, but declared that the good things of their Pennsylvania garden liberated them. He did not simply transplant the type and style that he found in all of his European sources. He transposed and translated aspects of the German gardens that I will discuss later in this chapter.

Pastorius’ garden was a place where he imagined and re-imagined his life in Europe, read, and talk with his plants and bees. Entry 322 in his Beehive, is a long poem where he imagines himself on an eagle’s wings, flying through his life in Europe, and
then returns to his garden in Germantown with a book. It is too long to quote in its entirety. Here is an excerpt of this long poem.

How Thoughts wander, I must wonder; / And for shame exclaim, & own, / Mine are ranging up & down. / Now on Eagle's Wings ascending…../ Fore- & back-ward in the World. / Thro' Great Britain, France & Holland, / Denmark, Moscovy, Spain, Poland, / Portugal and Italy, / Oft'ner yet thro Germany……/ Home to Pennsylvania. / Here I bid them to be quiet, …/ To and fro, from place to place, / Stir their Stumps, & run a Race. / Sometimes in the Garden ramble / From the Tulip to the Bramble, / From the Rose and Eglantine / To the Nep or Columbine. / Then retiring leave these Flowers, / Sit a while in shady Bowers, / With a Book to meditate.5

His garden was a place where he continued to contemplate the labyrinth of his European life, although he did not want to make a ‘German’ garden like his father’s. He was not interested in replicating the style and privilege of the European pleasure or the botanical gardens he visited and admired throughout his young adult life, but his exposure to German gardens and culture of botany in Europe, influenced the garden he made for himself in Germantown.

Early modern Europe, particularly the German territories of Pastorius’ life, was fragmented, strained, and polarized in many respects. These physical and cultural conditions were a result of political and religious conflicts between the Holy Roman Empire and the free territories that were established by the Treaty of Westphalia in 1648, the resolution of the Thirty Years War (1618-1648), and the Protestant Reformation of the sixteenth-century. Within this fragmented and tense geography, Pastorius lived,

worked, traveled and studied philosophy, law, Italian, and French. He believed that the Germany he knew, was morally corrupt. This said, he selectively embraced the science, poetry, history, languages, and theologies of his European life.⁶

Pastorius’ Grand Tour was the last phase of his European life. He was traveling with Johann Bonaventura von Bodeck as his tutor between June 26, 1680 and November 18, 1682.⁷ Their status in society meant that they would have been entertained at private homes, palaces and at court. This is confirmed with Pastorius’ account of visiting the former Papal residence in Avignon, France. Below is a transcription from Pastorius’ Beehive that catalogues the kinds of things that he was interested in while traveling.

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⁶ Marion Dexter Learned detailed many aspects his life as a student and young professional in his comprehensive biography, The life of Francis Daniel Pastorius, published in 1908. Although this biography is fairly comprehensive, it does not delve into the geography of his European life as it relates to his ideas about gardens, botany, and the making of Germantown. Instead it analyzes his intellectual, political, and familial relationships in his German geographic localities and outlines the geography of his Grand Tour. Related to this biography are two dissertations that analyze Pastorius’ European life from an intellectual and cultural point of view. Della Victoria Tom’s dissertation, titled The Intellectual and Literary Background of Francis Daniel Pastorius, studies and translates many entries in Pastorius’ Beehive and other manuscripts and describes aspects of Pastorius’ intellectual and literary life. Tom calls attention to Pastorius’ nature poetry and how it resembles the poetry of Nurnberg’s mid-seventeenth-century influential literary society, Pegnitzschäfer, also known as the Blumenorden. The second dissertation, Franz Daniel Pastorius (1651-c. 1720): Early Life in Germany With Glimpses of His Removal to Pennsylvania by John Weaver, details many aspects of seventeenth-century culture in Franconia. Weaver analyzes Pastorius’ conflicted relationship with Franconian traditions, institutions, and his family. He summarized and translated many of Pastorius observations of Windsheim, Altdorf and Jena.

⁷ Marion Dexter Learned 1857-1917, The Life of Francis Daniel Pastorius, the Founder of Germantown, Illustrated with Ninety Photographic Reproductions (Philadelphia: W. J. Campbell, 1908), 82.
Although Pastorius and Bodek would have visited palaces and imperial gardens throughout their trip and would have found the ruins of Rome interesting, Pastorius was also very interested in cities, their infrastructure and institutions like hospitals, prisons, and monasteries (he visited several Capuchian Monasteries). "In essence, whereas the traveller's fascination with Italy was fixated upon the past, travel culture to northern Europe[ans] was an overwhelming, enthusiastic engagement with contemporary power, society and culture in its multiple forms."9 This is consistent with Pastorius’s account of sites that he visited and recorded in his *Beehive*.

Records of his travel are piecemeal, because Pastorius’ *Itinerary*, a notebook that he referenced often in his *Beehive* is lost, but I have used Learned’s accounting, pieces of what Pastorius recorded in his *Beehive* and letters to reconstruct his travels throughout Western Europe. He visited Ghent, Antwerp, Oxford, London, Cambridge, Lyons, Paris, Orleans, Bordeaux, Marseille, Würzburg, Ulm, Munich, Rome, Naples, Bologna, Padua, Ravenna, Mantua, Venice, Delft, Haarlem, The Hague, Amsterdam, Basel, and Geneva.10

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8 Learned, 94.


10 This is not a complete list. See Appendix B, 2.0.
In these cities he would have seen the emergence of modern ideas about cities and rebuilding of medieval cities, including urban tree planting, hospitals and asylums and their physic gardens, global collections of plants, and the extravagance and ‘frivolity’ of aristocratic life in pleasure gardens. This detailed itinerary, described in Appendix B, 2.0, is useful here as a cross-reference with his experiences in Franconia and universities, to emphasize the worldly breadth of Pastorius’ awareness of and access to the medicinal and pleasure gardens of universities and the aristocracy of France, England, Italy, and Central Europe.

I will only focus on four gardens in this chapter, botanical gardens at Altdorf University and University of Jena, the Pegnitzschäfer Blumenorden’s Irrgarten, and his father’s garden in Windsheim. Two of these gardens are botanical gardens. One a poet’s garden. Lastly I will analyze one experience in Pastorius’ father’s garden in Windsheim. My analysis will call attention to their related intellectual and religious contexts of Pastorius’ young adulthood in Europe that influenced his own ideas about garden culture, including, horticulture, gardens as places, botany, medicinal plants, gardens and culture of plants.

The botanical gardens at Altdorf and Jena were part of medical faculties, and dedicated to local and global collections of plants and their medicinal value. These gardens were a part of the emergence of modern botany as a natural science in Germany. Altdorf University, a university in the ‘country’ had a large botanical garden that was the center of university life. In the seventeenth-century, it was considered the most important botanical garden in central Europe, second only to Leiden. Pastorius attended Altdorf
University between 1688 and 1670 and again in 1673–1674 and 1675. Altdorf was a small satellite country town of Nuremberg. Nuremberg’s literary society, Pegnitzschafter Blumenorden, hosted poetry reading and writing events in the city and later in their Irrgarten north of the city. Altdorf was immersed in Nuremberg’s literary and painting culture and directly benefited from Nuremberg’s wealth and global trade networks.

While a young student at Altdorf University, he was exposed to the literary culture of Nuremberg. The seventeenth-century poetry of Nuremberg has been described by literary scholars as part of a ‘literary field of forces’ that was working to elevate and refine the German language as the language of German poetry situated in a German landscape. This is significant in that Latin was considered the language of Baroque and classical poetry until Martin Opitz (1597–1639) and the poets of Nuremberg theorized German poetry. These poets experimented with inventive modes of writing and forms of poetry that emulated and transformed classical poetic forms, and wrote about Franconian culture and geography in German, not Latin. In particular, an influential literary group, Pegnesischen Blumenorden (also known as, ‘Laudable Order of Shepherds and Flowers or Pegnitz Shepherds, from the river Pegnitz which flows through Nuremberg’), collectively composed colloquies, pastoral and botanical poetry in a garden.

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13 DeElla Victoria Tom calls attention to Pastorius’ notes about Nuremberg poet, Hanns Sachs (1494-1576) in his Beehive. She also suggests that Pastorius would have recorded quotations of Pegnitzschafter poets in his Poetica Pastoriana, a manuscript that is now lost. See Tom, p. 32.
He also studied law at University of Jena between 1673–1674. The botanical garden in Jena, although smaller, was no less important. University of Jena was progressive in its theories about the natural world. Here botany as a modern natural science was taking shape as an empirical discipline and Jena was known in Germany for its progressive ideas about natural science and theology. They were both places of scientific study but also beautiful gardens and were modeled after the Italian botanical gardens of Pisa and Padua. Both Altdorf and Jena’s faculty tested the limits of Aristotelian natural science and were actively writing their own cultures of modern botany, and, no doubt, influenced Pastorius’ ideas about botany, medicine, and gardens.

Similarly, Melchior’s town garden in Windsheim was participating in this same culture of botany, plant collecting and was influenced by Italian gardens and culture of botany. Pastorius planted a tree in his father’s garden in 1679, on the occasion of him leaving home for Frankfurt, the beginning of his active rebellion against his privileged life as a Bürgermeister’s son.

It is important to note that Pastorius would have not seen these gardens as isolated or exceptional endeavors. He knew that these gardens were part of an interconnected political, economic, and scholarly network that was related to and a part of an early modern culture of gardens in England, France, Italy and the Netherlands.

**Lutheran Humanism and German Pietism**

This section will analyze Pastorius scholarly habits as they were based in the traditions of Lutheran Humanism and the progressive ideas of German Pietism that challenged Lutheran religious and secular traditions. The fundamentals of Pastorius as a
reader and writer were based in his education at the Gymnasium in Windsheim (now Bad Windsheim) where he attended school as a young boy, the traditions of Lutheran Humanism that defined the pedagogy of his university education, and the mystical theologies of German Pietism.

Lutheran Humanism was concerned with advancing Lutheran ethics, the German language, and sustaining the Humanist attentiveness to classical culture and literature. Students, like Pastorius, were educated in Latin and German. There are three important aspects of the pedagogy of Lutheran Humanism to consider here: first is the authority of classical sources and Latin as the language of learning; second is that Pastorius’ family demanded that he conform to the Lutheran political, intellectual and religious project that sustained an authoritarian hierarchy in social classes and between women and men; and third, the importance of the Renaissance commonplace tradition in his education and throughout his life. I will address the first and second in this chapter and the third, in Chapter two.

It is at the end of his university education that he began to openly question the authority of Lutheran Humanism and was participating in the scholarly and religious culture of German Pietism shaped by Böhme and Spener. Pastorius’ connections with Spener and the Frankfurt Pietists collectively challenged Lutheran traditions, proposed.

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15 This is directly related to Pastorius’ relationship with his family and obligations as a lawyer in Windsheim.
and modeled a more egalitarian and pan-Christian religious and social dynamic in Germany and Pennsylvania, new interpretations of gender in the Old and New Testaments, in addition to a mystical engagement with the natural world.

Pastorius learned to read and write at Windsheim’s Gymnasium because he was a child of a wealthy burgher, Melchior Adam Pastorius. His primary and secondary education was likely pedantic and defined by severe discipline: “essentially joyless enslavement to the pursuit of knowledge all too typical of Gymnasium and university training in the seventeenth century.” Pastorius’ early education emphasized literacy, rhetorical skill, and strict obedience to Lutheran moral codes, as mandated by Windsheim’s Lutheran senate. During the first level of his education, he was taught to read and write German. The second level, what we would consider secondary education, like his later university courses, was taught only in Latin. During these years he learned Latin by repeating, memorizing, reading, and analyzing short Latin phrases from Classical and Renaissance authors. He was taught Classical and Renaissance authors on Lutheran Humanist terms, pagan aspects of Greek and Roman culture would have been censored or Christianized. This learning took place in a notebook where Pastorius would

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16 Melchior Adam Pastorius as a child, was a Roman Catholic, educated at Jesuit university in Rome, but converted to Lutheranism as a young adult. His conversion was likely political as it secured appointments in the town senates of Sommerhausen and Windsheim and a wealthy livelihood for himself and family.


18 Weaver, “Franz Daniel Pastorius (1651-c. 1720): Early Life in Germany with Glimpses of His Removal to Pennsylvania (Colonial, Seventeenth-Century, German-American Pietism, Authoritarianism).”
have recorded proverbs, aphorisms, and Bible verse—these notebooks modeled the habit that would eventually become his commonplace book, and ultimately his *Beehive*. Pastorius reflected on his primary and secondary education and his teacher at the Gymnasium, Rector Schumberg, in his *Beehive*.

Although Pastorius remembered his childhood education with affection, his teacher’s (Rector Schumberg’s) published writings about educating children demonstrate a commitment to “a love of learning and a deep authoritarianism typical of the age” that only privileged the Bible, and a selection of Classical authors in Latin and Greek. Out of this experience, came a mastery of rhetoric and skills that Pastorius would use in his obsessive translations and citations in his commonplace books, garden notebooks, and *Beehive*.

Both Pastorius’ school and home lives were defined by Lutheran attitudes towards children and pedagogy that were theorized through allegorical interpretations of Biblical verse. These kinds of allegories were accepted as a kind of moral truth that informed a Lutheran *oeconomia*, of which the garden was a part, metaphorically and practically. Luther and other Lutheran educators used allegories of the garden and trees derived from Biblical verse to emphasize the importance of pious morality in children and pedagogy.

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19 Weaver, 126. Here I rely on Weaver’s conclusions about Pastorius’ transformation from a strict Lutheran education to his Pietist sensibilities.

20 Pastorius owned and cited *Oeconomia ruralis et domestica : darin das gantz Ampt aller trewer Hauss- Väter und Hauss-Mütter beständiges und allgemeines Hauss-Buch vom Hausshalten, Wein- Acker- Gärten- Blumen- und Feld-Bau begriffen*, by Johann Coler, published in 1665. This is an example of a Lutheran morality applied in the maintenance of a household and community. *Oeconomia* here refers to household management. See Strauss, *Luther’s House of Learning, Indoctration of the Young in the German Reformation*, p. 118.
for educating children and adults. The following examples are what we as moderns would describe as two extreme ideas, one is a loving and instructive letter written by Martin Luther to his four-year old son in 1530, and the second is found in a treatise on education written by Christoph Vischer and assumes that children are sinful weeds. But to the Pastorius’ household in Sommerhausen and Windsheim, they would have both been viewed as instructive models.

I know where there is a lovely pretty garden. Many many children go to play there. They wear golden doublets and gather sweet apples from beneath the trees, also pears, cherries, and yellow and red plums. Thy sing, run about, and couldn't be happier. ... When I first saw this garden I asked the man who owns it, 'whose children are these that play here?' He answered, 'They are pious children who like to pray and learn.' Then I said, 'Good sire, I too have a little child. His name is Hans Luther. May he also come to play in your beautiful garden? I know he would enjoy the taste of your delicious apples and pears and he would like to ride the little horses and play with the other children.' And the man said, 'If he prays gladly and learns well, and is pious, he can come and play in my garden.'

[Martin Luther, c. 1530]

A child is like a wild tree standing alone in a field....Unless you graft a good nature onto its rude and wild stock it will bear you sour fruit all its life. To gather sweet fruit from a tree, you must first trim off all the wild branches and then insert into the cuttings buds of a sweeter kind. Treat the young in the same way. Their nature is wild, they are children of wrath, conceived and born in sin; their instincts and drives are unfailingly wicked. Into this rude stock you must implant a better nature. Suppress their rebellious impulses. Use the knife of God's word to cut off the branches of their contumacious will. Raise them in the fear of God. And when their wild nature comes up again—as weeds always will—and the Old Adam stirs in them again, kill it and bury it deep in the ground, lest the newly grown good nature once more revert to its wild state.

[Christoph Vischer, ca.1586]

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21 Christoph Vischer was a Lutheran ecclesiastic and published several education treatises. He believed that children in their natural state were wild and undisciplined and that Lutheran parents had a duty to mold and educate their children as pious Christians. See Strauss, pp. 62 and 96.


23 Strauss, 96.
In both of these allegories are themes common in Pastorius own writing, but also cultural attitudes that defined his childhood and education: gardens were places for piety and pleasure; and plants and humans were living beings that required grafting, pruning, and cultivating. Pastorius borrowed from these allegories in his own poetic allegories about his own garden, almost always referencing Biblical verse when describing his garden as a sacred place to read and write. But he transformed the severe Lutheran garden of his childhood into an egalitarian, redemptive place, a rebellious act, encouraged by his own mystical conscious and influence of his own readings of Paracelsus, Böhme, and Spener.

Philipp Jakob Spener interpreted these Lutheran allegories of piety and gardens, plants, grafting, and planting in his *Pia Desideria*, published in Frankfurt in 1675. Spener’s theology described piety as love expressed through actions of *Einpflanzen* (implanting) and *Eindrücken* (imprinting) God’s work in one’s daily life. Pastorius owned this book, referred to it often, adapted and developed its theology in the manual and intellectual labor of writing about his garden, printing plants, and tending his garden. Related to this is Pastorius’ mystical intimacy with plants and his garden.

A mystical consciousness is one that is pre-occupied with and seeks encounters with metaphysical dimensions of the world through prayer and contemplation. For believers, it was a source of power in that it was concerned with interpreting the world

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24 Redemptive in that it healed his original sinful condition that Lutheran theology assumes in all people (the fall of Adam) and freed him from his ‘sinful’ life of privilege and wealth in Franconia.
and “making oneself heard.” Michel de Certeau theorizes the mystical consciousness of the sixteenth and seventeenth centuries Europe and its roots in medieval theology, fables and commonplaces. John Stoudt did the same with respect to the development of Pennsylvania German folk art that fully formed in Pennsylvania after Pastorius’ lifetime. Both scholars identify sources for the universal and particular mystical beliefs of German pietism: medieval theology, mythology of fables, art, and the natural sciences. What stands out in both European and German American mysticism? There is a reverence for the commonplace of the minute details of the sensations and tasks of daily life.

[The mystics] Interspersed in their writings ... the ‘almost nothing’ of sensations, of meetings or daily tasks. What is of fundamental importance is inseparable from the insignificant. The mystic discourse transforms the detail into myth; it catches hold of it, blows it out of proportion, multiplies it, divinizes it. ....Thus, little by little, common everyday life begins to seethe with a disturbing familiarity—a frequentation of the Other.

Inscribed on the title page of Pastorius’ Deliciae hortenses, is an aphorism that he repeats throughout his poetry: “Exteriora patent, Interiora latent. You see the Superficies;/mine aim is at the inwardness.” Later in this volume he celebrates “A mouthful of fresh Air


among my bees,”30 and declares that “There is no grass so insignificant that it does not prove the existence of God.”31 These are written expressions of his mystical consciousness. Pastorius’ poetry celebrated the disturbing familiarity of plants and bees in his everyday life in his garden.

Pastorius was fully engaged with the radical community of Pietists while practicing law in Frankfurt—participating in conventicles and in 1683, agreed to the position of agent for the Frankfurt Land Company to found a utopian community of Pietists in Pennsylvania. It is likely that his allegiance to their progressive ideas began while he was a university student in Altdorf. Pastorius’ own catalogue of books included Böhme’s *Aurora*, Spener’s *Pia Desideria* and *Responsa Theologia*, Antrobus’ *Buds and Blossoms of Piety*, letters and pamphlets published by August Hermann Franke of the Halle community (Pastorius referred to this community as Glaucha), Paracelsus natural theologies and *materia medicas*, and several publications by Jane Lead, leader of the Philadelphia Society (see Appendix B, 1.0). All of these writers visualized their own mystical engagement with the natural world. The principals of Pietism and natural philosophies valued most by Pastorius were encouraged by Paracelsian natural philosophy, the botanical imagery of Böhme’s theologies, and Spener’s theologies. Of interest here are his belief in a personal connection with God, an egalitarian cosmology of


31 Pastorius and Schweitzer, 91. Schweitzer translation of: « Non levis est Cespes, quin probet esse Deum. » found on page 58.
people and nature, botanical language as a divine secret code of God’s creation, and a mystical engagement with and reverence for nature.

Paracelsus’ natural philosophy encouraged the reading of nature at many scales—its micro and macro cosmos—because each element of nature, however small had a divine world within its world. The ‘light of nature’ could reveal these worlds and divine truths. Related to this, figures of plants were naturally encoded with a ‘doctrine of signatures.’\(^{32}\) Pastorius referred to this ‘doctrine of signatures’ and concept of ‘quint-essence’ of plants in his poetry and entries in his Monthly Monitor: “Extract the Quint Essence Of Time and Patience, Which grows here in my Garden.”\(^{33}\) Pastorius’ entry in his Beehive, “Signature, physic” reads: “that the virtue of an herb may be known by its S [Signature] Parac. fol. 332.”\(^{34}\) These are both direct references to Paracelsian concepts and sources. He also referenced Paracelsus throughout his Artzney und Kunst. In some regards, Paracelsus’ and consequently Pastorius’ ideas about disease, nature, and human engagement with the natural world, as complete rejections of Aristotelian and Galenic\(^{35}\) authority, were modern, but they did rely on magical thinking of early modern chemistry, astrology, and alchemy.


\(^{33}\) Pastorius and Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae, 51.

\(^{34}\) Pastorius, “Beehive, Bee-Stock,” 558 V. 2.

\(^{35}\) Pastorius does not completely discount Galen. His Monthly Monitor references Galen’s humor in some entries.
The 'highest religion' of medicine required the intensive investigation of stones, roots, plants and seeds, in order to reveal their powers. Paracelsus appealed for diseases to be treated as species with distinguishing characteristics, just as other natural species. Species of disease were to be identified and given an appropriate name. Each disease was then capable of being combated by a specific cure or arcanum.  

What is also important to note is that Pastorius, like Paracelsus, privileged sensory experience and empirical observation with respect to gardening and use of plants as medicine. Paracelsus’ natural philosophy merged medicine, Christian theology, and proposed an ethic of social obligation to health and morality. He had a profound influence on the culture of Pietism in Germany and Pastorius’ garden.

Paracelsian and other early modern ideas about plants as living letters, the power of salts, mercury, and sulfur, and even some discussion of Galen’s humors can be found in Pastorius’ Artzney und Kunst and Monthly Monitor. He consistently cites Paracelsus and privileges his theories about salts, mercury, and sulfur over the traditions of Galen’s theories. Paracelsus saw disease as caused by entities not a ‘humoral’ imbalance in a person’s body. This said, it does seem the Pastorius has not completely discounted Galen. Although most scholars believe Paracelsus’ ideas about disease were a basis of modern medicine, they also agree that his ideas about treating disease were influenced by Lutheran ideas about health. Lindemann argues that "Paracelsus strongly felt the influence of Luther and other Reformers and wanted to build a Christian medicine; he rejected Galenism as a pagan teaching. He likewise conceived of disease in spiritual

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terms and as entities.” The chapter where Pastorius details maladies of Pennsylvania people is significant because it demonstrates that this medicinal is not just a copy of one kind of European source (of the twenty-three listed) but was an effort to localize knowledge of plants and health—this medicinal is an example of literal botanical writing that tests book knowledge and empirical knowledge of plants. He made the medicinal useful in Pennsylvania, built upon a foundation of empirical observations in Pennsylvania and scholarly knowledge based on Lutheran traditions.

Figure 1.2: Title Page of Jacob Böhme, Seraphinisch Blumen-Gärtlein, oder Geistliche Extracten aus allen Jacob Böhmens Schriften [Angelic Flower Garden spiritual extractions from all Jacob Böhmens writing].

Mary Lindemann, Medicine and Society in Early Modern Europe, New Approaches to European History (Cambridge, New York: Cambridge University Press, 2010), 16.
Amsterdam, 1700. This is a publication of a collection of Böhmes writing, so the image reflects a Pietist interpretation of his writing. This image shows many of the botanical images found in Böhme’s theology: bees, the garden, lillies, tulips, and a human heart crucified on a cross.

Böhme, similar to Paracelsus, composed a theory of ‘cosmic vitalism’ that encouraged a mystical engagement with the natural world and used botanical imagery throughout his writing. Cosmic vitalism thought of nature as a living thing that taught cosmic, divine truths. To him:

The world is seen as a mirror or outer expression of the inner divine will. Creation and faith become united in the creative imagination. . . . All nature is Boehme's 'living witness.' In itself, the knowledge of scholars and scientists is inadequate (1, Aurora, ch. 22:11). Nature is full of secrets hidden beneath the letter (1, Aurora, ch. 21:1). Scripture and nature have to be understood with reference to one another.

The particulars of Böhme’s natural philosophy summarized in this statement explains much of Pastorius’ habits in writing about his plants and garden. First, “the world as a mirror” and nature as a “living witness” is rephrased in Pastorius’ poetry and explains his habit of nature printing. He directly cited Psalms in his poems, “All Trees, Shrubs, herbs, Flowrs, Plants & Weeds are but my Microscope, Psal. 19.2.” Like Paracelsus, Böhme described nature as a book, and the plants as living letters. Pastorius translated this belief in the writing of his ABC Kräuter poems, which I will discuss in chapter two. Lastly, Pastorius takes Böhme’s assertion that scripture and nature, must be activated through dialogue. He codified his poetry, study of plants and experiences in his garden with

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39 Weeks, German Mysticism from Hildegard of Bingen to Ludwig Wittgenstein, A Literary and Intellectual History, 179 & 183.

Biblical scripture. Sometimes his scriptural citations are obvious, but most of the time they are obscure references, perhaps, deeply personal. This habit and Pastorius’ *ABC Kräuters* and nature printing can be explained by his allegiance to Pietism.

Historians of religion have explained the peculiarities of German Pietists, one being their fascination with language.\(^{41}\) Pastorius shared this concern and interest in language. He was fluent in seven languages and throughout his *Beehive* and poetry are repeated re-phrasings of his verse and aphorisms in multiple languages. Similarly, he aspired to invent a botanist’s language with his plants. A foremost concern of Pietists and Pastorius was the desire for a more heart-felt religion, a deeply personal connection with God.\(^{42}\) Language and decoding the language of nature were how they connected their belief, scripture, with the natural world. Pietists actively wrote and spoke in what they called the “Language of Cannan”. It was “complex, full of Biblical citations, neologisms, allegory, emotional excess and even orthographical innovations.”\(^{43}\) For the most part this mode of writing and speaking was obscure and imaginative and drew on the esoteric and hermetic discourse of alchemy.\(^{44}\) Pastorius’ writing about plants and his garden exemplify all of these qualities. These imaginative qualities distinguish Pastorius’ art of gardening from his Quaker neighbor’s emphasis on austerity and productivity. It might have been an


\(^{42}\) Shantz, *An Introduction to German Pietism, Protestant Renewal at the Dawn of Modern Europe*, 95.


\(^{44}\) Martin, 239.
anomaly in seventeenth century Pennsylvania, although he was not alone,\textsuperscript{45} but, soon after Pastorius’ death, it became the basis of folk-art practices of German immigrants in eastern Pennsylvania.\textsuperscript{46}

The botanical allegories and symbolism found in Böhme’s writing abound in Pastorius’ poetry (See Chapter two). Böhme’s writing relied on sensuous images, as did Pastorius’ writing. Plants were used as images to connect Biblical scripture to the natural world. The sensuous nature of their images made them personal, capable of being felt. The Pennsylvania Dutch of the eighteenth and nineteenth centuries also used botanical images as symbols and to tell stories, in some cases the same plants used by Pastorius in his own writing. Historian of Pennsylvania German Folk Art, John Stoudt, traced the meaning of this imagery to several sources. The meaning of these botanical symbols were deeply held, found in Classical literature (Greek and Roman), medieval mysticism, German folk songs, German Lutheran hymns. Notable in Pastorius’ writing were traditions dedicated to searching for names of God. Stoudt attributes this tradition to a Syrian mystical theologian, Pseudo-Dionysius the Areopagite (late fifth-early sixth centuries). His text, \textit{On the Divine Names}, connected names found in pagan philosophy with Biblical scripture. Secondly, Stoudt also calls attention to medieval theologians’ view of the natural world as a kind of hieroglyph of spiritual truth. “They studied nature, not according to her character, but merely in the light of the spiritual propriety of its

\textsuperscript{45} His neighbors Christopher Witt and Johannes Kelpius and his following fully embraced the same imagery. See chapter 3 and Edward hocker, “A doctor of colonial Germantown: Christopher Witt, physician, mystic and seeker after the truth.”.

\textsuperscript{46} Stoudt, \textit{Pennsylvania German Folk Art}, Chapter 4.
phenomena. Each aspect of the natural world was a speculum, or mirror of God’s nature.”

Pastorius’ interest in this kind of imagery grew out of his reading of Böhme and familiarity with German folk songs and Lutheran hymns, all of which employed botanical symbolism of these medieval sources.

Before Pastorius fully embraced Pietist botanical imagery as a basis of his imaginative writing and making of a garden, he studied philosophy, languages, and law at three universities in Germany. Two of these universities had large botanical gardens. These gardens were important centers of his life as a student.

**Altdorf University and Nuremberg**

Altdorf was a Protestant town, intimately connected to the progressive political and literary culture and industry of nearby Nuremberg. Wealthy merchants of Nuremberg founded Altdorf University and continued to patronize the university throughout the seventeenth-century. It was a small, fortified medieval village that hosted particularly modern courses, although still largely committed to Aristotelean scholasticism, in the natural sciences, especially medicine. Alix Cooper describes Altdorf’s influence in northern Europe although it was a “small walled town.” It was “about 20 km away from the thriving trading center of Nuremberg—[and] had grown into a focal point for the new sciences. Simultaneously, tiny Altdorf’s plant world had come to be one of the most highly studied—and written about—in all of Europe, indeed in the entire world at the

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47 Stoudt, 31.
time." By 1620, two medical professors had founded a botanical garden and later an anatomy theater similar to those found at Leiden.

The young garden and its culture of art were influential in central Europe and to Pastorius’ education in several ways. First, the garden was central to the intellectual culture of Altdorf University and influenced the culture of modern botany and medicine in Central Europe. Although Pastorius did not formally study medicine or a natural science, the garden clearly was important in Pastorius’ university education as evidence in his manuscripts about gardens and plants. DeElla Victoria Tom also suggests that the poetry societies of Nuremberg influenced Pastorius interest in nature poetry. He was seventeen when he first arrived at Altdorf and for the first two years as a student at Altdorf, was enrolled in general studies. Although we do not know exactly what classes he participated in, he would have generally studied philosophy, literature, and science. Lastly, Protestant ideals about nature, agriculture and piety are a common theme in most of Pastorius’ poetry, letters, and his garden journal as they are in the landscape of Altdorf’s campus—it was inscribed with poetry at every turn. Notable is the use of poetry on the gates of a botanical garden at the center of a natural science and medical pedagogy. In the poem, inscribed at the gates of the garden, we see a direct connection between the study of botany and Protestant ideas about piety.


49 See Tom, *The Intellectual and Literary Background of Francis Daniel Pastorius*, especially her description of the Pegnitzschäfer or Blumennorden, pp. 33-34; emblematic poetry, p. 223; and similarities with macaronic poetry, p. 94.
Pastorius called attention to Altdorf’s garden culture in particular in his *Beehive* entry for “XXII. Garden Park in Altdorf in horto Medico”\(^5\) In Latin and German he recorded the inscription from the gate of the botanical garden and greenhouse at Altdorf University. It was a poem that described a pious Nature that includes both plant and human life.\(^5\) DeElla Victoria Tom transcribed this same inscription and described the inscription as a traditional analogy that would have appealed to Pastorius’ Pietist sensibilities.\(^5\) "The traditional analogy they draw between the ephemeral nature of plants and human life seems to have appealed strongly to his pious nature."\(^5\)

Schau, wie Vergänglich sind die Rosen und Narcissen,
Und was vor Blumen mehr der höchste Künstler Dir
In dieser Frühlings-Zeit stellt in dem Garten für;
Indes sie heite kaum die Mutter-Erde grüssen,
Wird morgen niemand mehr von ihrem Orte wissen,
Der schöne Schmuck verfällt, der Wind raubt alle Zier,
So lieber Leser geht es gleichfalls Dir und mir,
Desswegen lasset uns auffs Sterben seỳn befliessen.\(^4\)

[Translation:]
Show, how ephemeral is the Rose and Narcissus (daffodil)
And what ahead Flowers more the supreme art Yours.
In this place, garden, Springtime is forever
Meanwhile hardly today to them, the mother earth salutes
Becoming morning nobody knows more from their orchard

\(^{50}\) [Pastorius, “Beehive, Bee-Stock,” entry no. 22, 58 (V1).]

\(^{51}\) Tom, “The Intellectual and Literary Background of Francis Daniel Pastorius,” 223.

\(^{52}\) It was no coincidence that Pastorius, in Germantown, would assist Johannes Kelpius to settle a community of eremitic German Pietists on the Wisahickon ridge in Germantown. Kelpius also attended Altdorf University and graduated with a masters degree in natural theology. Before Kelpius emigrated to Pennsylvania and met Pastorius, he had published multiple treatises on natural theology at Altdorf University. Altdorf, like Jena was a place that developed Pastorius’ commitment to Pietism. Kelpius’ community was also known for its garden. See Chapter three.

\(^{53}\) Tom, “The Intellectual and Literary Background of Francis Daniel Pastorius,” 223.

\(^{54}\) Tom’s transcription from Pastorius, p. 223, “Beehive, Bee-Stock,” entry no. 22, 58 (V1).
The beautiful decoration decays, the wind steals all adornment
And so it goes, likewise, dear reader, for you and me
Therefore let us be eager for death.\textsuperscript{55}

He recorded inscriptions like these from gardens on his Grand Tour, but this garden is significant for many reasons, especially because Pastorius would have spent time in this garden as a student. The garden not only influenced what was taught at Altdorf University, but how it was taught.

This poem acknowledged ornamental plants as an important part of this botanical garden and declared plants to be “artists themselves” as a part of the ephemeral beauty of nature. It also invited visitors to see themselves as plants. This open-door policy was further reinforced by a culture of botanizing and exploring in the nearby countryside that was central to the culture of science at this university. Professors led tours of the Altdorf and Nuremberg countryside to collect and catalogue local plants, minerals, and fossils.\textsuperscript{56} These botanizing expeditions were so significant that in the catalogue of plants in the Altdorf botanical garden published in 1670, there is a regional map of Altdorf with concentric circles inscribed over its topography. The concentric circles represented zones of exploration.

\textsuperscript{55} Translation my own.

\textsuperscript{56} Cooper, Inventing the Indigenous Local Knowledge and Natural History in Early Modern Europe, Chapter 2.
The plants listed in Altdorf’s catalogues were keyed to maps like these. This said, the garden also held a vast collection of ‘exotic’ plants from Italy and Africa. This is apparent in a catalogue of the garden’s plants published by the university in 1660, *Florae altdorfinae deliciae hortenses*.\(^{57}\) Exotic plants were purchased through wealthy merchants in Nuremberg who had global trading connections.

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\(^{57}\) Moritz Hoffmann, *Florae Altdorfinae Deliciae Hortenses*, 1660.
There are several representations of Altdorf University’s botanical garden that were published in the seventeenth century. The engraving shown here in Figure 1.4, was published in *Florae Altdorfinæ deliciae hortenses* in 1660. This volume is a catalogue of over one thousand species of exotic and regional plants assembled by Altdorf botanist Moritz Hoffman. Hoffman was part of the medical faculty but was also responsible for organizing and leading the university’s regional botanizing expeditions shown on the
map of Figure 1.3. The garden’s design was influenced by the Italian botanical gardens of Pisa and Padua. This engraving, written descriptions of the town and garden, describes a garden with scientific purpose but encoded with poetry—inscriptions were engraved on the entry gate, paths were named with poetic names, and parterres and planting beds formed geometric patterns. It was a place of pleasure, recreation, and empirical observation.

The garden was a center of learning and culture in the University for an international community of students and faculty. During the mid-seventeenth-century, Altdorf University hosted somewhere between 300 and 400 students from central Europe, France, Denmark, England, Greece, Sweden, Ireland, and Scotland. Pastorius’ professors taught public (secular) and canon (Roman Catholic) law, ethics, poetics, philosophy, history, and oriental languages. The university offered degrees in law, philosophy and medicine, and in addition to the botanical garden had a medical theater of anatomy, an extensive collection of skeletons, and anatomical equipment, and a celestial observatory (See Figure 1.5). 58

Along with the formality of lecture halls and classrooms, spacious grounds beyond the 'collegium’ offered opportunities for quiet reflection and animated conversation. 'Manifold and attractive promenades' ('mannichfaltigen und reizenden Spaziergänge') and pathways with names like Via Philosophica, Via Scipionis and Poets' Grove ('das Poetenwäldgen') led through the botanical garden, along the gardens and town walls of Altdorf, and to adjacent fields and nearby hillsides. Reflecting moments of personal rumination and camaraderie while strolling at Altdorf, Pastorius recorded cultural landmarks of the campus, including an anonymous poem, inscribed at the entrance to the orchard of the

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botanical garden, describing the ephemeral beauty of the rose and the narcissus as an image of human transience.59

Altdorf was small, Pastorius would have walked by and through the garden on a daily basis. Even the street names were poetic and encouraged exploration of the landscape around the small city.

Figure 1.5: Engraving of anatomical theatre in Altdorf. Source: J.G. Puschner. Open Artstor: Wellcome Collection, Creative Commons.

59 Weaver, 193.
In addition to the engraving published in the *Florea Altdorfinæ* of 1660, seventeenth-century representations of the garden’s influence and design can be found in many forms: aerial views of the city of Altdorf; plan and perspectival engravings of the garden itself in subsequent catalogues of its botanical collections; narrative histories of the garden; and what historian Alix Cooper calls ‘local floras.’ A ‘local flora’ was a book that catalogued plant species found in a particular place, usually a town.  

Altdorf University also published volumes dedicated to the study of medicine, botany, and the culture of botanizing and teaching botany for physicians throughout the seventeenth-century. The ‘local floras’ documented observations from local botanizing trips. They listed plants by their Latin and common names in multiple languages keyed to a map, brief descriptions, and the environmental conditions where each plant could be found. The primary purpose of ‘local floras’ were to help physicians in training at the university to find local medicinal plants, useful for local diseases and conditions. Hoffmann proposed in his *Botanotheca*, published in 1662, “Let’s consider Botany as an operative art.” ‘Local floras’ and Hoffmann’s teaching and botanizing with students around Altdorf were significant breaks from the traditional reliance on medieval herbals that copied information about plants from other books. The ‘local floras’ were a product of local exploration and empirical observation.

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60 Cooper, *Inventing the Indigenous Local Knowledge and Natural History in Early Modern Europe*, 3.  
61 Cooper, quoted and translated by Cooper, 69.  
62 Cooper, Chapter 2.
Pastorius would have been very aware of this practice as Altdorf University was very small. He was skilled in cataloguing and identifying medicinal plants in Pennsylvania and likely participated in Altdorf’s botanical expeditions. Also significant is that Pastorius, in writing his Pennsylvania medicinal, described it as a local catalogue of medicinal plants for Pennsylvania disease and health. He also took care, in his multiple lists of plants, to list the names of plants in multiple languages, a practice likely observed and habituated at the botanical garden of Altdorf.

Figure 1.6: Horti Medici Academ Altorf Delineatio Nora. Source: Johann Jakob Baier. Horti Medici Acal. Altdorf Historia, 1727. Courtesy of Dumbarton Oaks. Annotations at the bottom keyed to the garden. Latin translations, Zachary Elliot.
In addition to the ‘local floras’, professors of Altdorf published many catalogues of plants held at the botanical garden. One, published in 1677 in Altdorf, documents the plants in their collection from 1650 and 1677. The catalogue, *Florae Altdorffinae deliciae hortenses sive catalogus plantarum Horti medici quibus ab a. 1650 usque ad a 1677 auctior est factus, Altdorffii*, also includes engravings of the garden and its greenhouse. The author, Maur Hoffmann, was one of three professors on the medicine faculty at this time. Views of the garden published in 1660, looking towards the greenhouse, show a quadripartite arrangement of bordered flower beds with a pavilion at the center. Each section of the garden is bound with hedges and further subdivided with elaborate, but symmetrical arrangements of pattern and shapes. The view published in 1727 (See Figure 1.6) shows the garden expanded to twelve sections and three different kinds of glass houses. The influence of the Italian botanical garden is still apparent. This is not surprising; the founders of the botanical garden were educated as physicians in Italy and imported plants from Italy. Engraved on the roof of the greenhouse is:
“HIBERNACILLUM PLANTARUM [hibernation plant house]”. Related to Altdorf’s anatomy theater, this greenhouse was also described by Hoffman as a ‘Theatrum Botanicum.’

In the background is the town of Altdorf and on either side of the garden, arranged in neat rows and numbered, are representations of fossils found in the region. The engraving captures many aspects of the role of the botanical garden in the culture of science and medicine at the university.

Figure 1.7: Colored Detail View of Blumenorden Irrgarten. From: “Perspectivischer Grundriß und Prospect, des weit berühmten Nürnbergschen Irrgartens bey Kraffshoff” Kuperstich Johann C. Berndts aus der Chronik Joh. Herdegens, 1744.

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63 Cooper, 67.
Twenty kilometers north of Altdorf was another garden that hosted the reading and writing of poetry. The purpose of this section is to suggest that the Pegnesischer Blumenorden literary society and their garden in Nuremberg influenced Pastorius in the making of his Germantown garden. It will summarize a culture of botanical poetry and describe the Blumenorden’s garden, but is not meant to be a literary analysis of the Blumenorden’s use of German or its poetic forms. What is important to note is that in Germany, Pastorius’ world of language was intimately connected with place and plants and that he transplanted this world of language to Pennsylvania through the making of and writing about his own garden.

I have already discussed in detail the botanical gardens of Altdorf University, its relationship with its patron city, Nuremberg. At the age of seventeen, as a young university student, he was exposed to two gardens that immersed him in a German world of science, poetry, and language, unlike, but related to his father’s garden in Windsheim and the botanical garden at the University of Jena. (I will discuss these gardens later in this chapter.) As mentioned earlier in this chapter, at Altdorf poetry was inscribed throughout the garden and campus. But in Nuremberg, poetry was a garden and the garden was poetry. The Blumenorden’s garden was a translation of _ut pictura poesis_ as a _hortenses poesis_ (see Chapter two). Here I will expand on the influence of the culture of poetry and a poet’s garden in Nuremberg because, Pastorius, as a student at Altdorf, no
doubt read the poetry published by the Pegnesischer Blumenorden literary society and certainly visited the Blumenorden’s garden north of Nuremberg.\textsuperscript{64}

The Pegnesischer Blumenorden’s garden was a place made by poets for the writing of poetry. The Blumenorden was a literary society founded to elevate the German language as a poetic language, its authors invented poetic forms that celebrated a stylized everyday life and the landscape of Nuremberg. For the first few decades, the society’s members met and wrote poetry on the banks of the Pegnitz River, which runs through the center of Nuremberg. The society’s first published poems were pastoral poems set along this river. Each member of the society assumed botanical pen names and worked to collectively write and publish poetry. It is important to note that this society was the only literary society in northern Europe that admitted women as full members. Additionally, both Phillip Spener and Melchior Pastorius (Pastorius’ father) were active members.\textsuperscript{65} Spener and Pastorius’ father were the two most important and influential figures in Pastorius’ European life.

\textsuperscript{64} Tom, “The Intellectual and Literary Background of Francis Daniel Pastorius,” 33. Tom suggests that Pastorius would have recorded selections from the Blumenorden’s poets in his Poetica Pastoriana (a lost manuscript listed in Pastorius’ Res Propriae).

Common themes in the Blumenorden’s poetry included: playful and inventive German language poems that used onomatopoeia and alliteration, translations of classical literature into German, especially Virgil, the use of allegory and pastoral themes situated in German landscapes, and poems about piety, gardens and plants. In about 1667, the society established a new garden in the Kraftshof woods just north of the center of Nuremberg. At this time, Pastorius was finishing his law degree at Altdorf University.
Figure 1.9: “Perspectivischer Grundriß und Prospect, des weit berühmten Nürnbergischen Irrgartens bey Kraftshoff” Kuperstich Johann C. Berndts aus der Chronik Joh. Herdegens, 1744.
[t title in flag] Prospect u: Gegend des Irrgartens. [Prospect of the area of Irrgarten] Der Irr Wald [labyrinth in a grove]
a. der Lange bedeckte gruns gang beym Eingang. [tall portico covered with green at the entrance]
b. die Lange Allée abro [long tree allée]
c. die meinften Hütten stehen [standing half-huts]
d. der so genaüte Kirchhof [the so-called churchyard]
e. der Bruñen [the fountain]
f. die Küchen [the kitchens]
g. die Irrgänge [paths through the maze]
h. der Schlangengang [serpentine path]
i. die Wiesen [the meadows]
j. die Gesellschaffts Hutte [the society's hut]
The garden itself is colloquially called the Nuremberg *irrgarten* and *irrhain*. Its traditions continue and for the most part, the form of the original *irrgarten* survive. *Irrgarten* most directly translates as labyrinth and can be understood as the labyrinth so familiar to early modern Germans, from Italian gardens and like the labyrinth at Versailles made from clipped hedges and sculpture, encoded with Aesop’s allegories and stories. It is likely that Pastorius walked through many labyrinths in palatial gardens while on his Grand Tour (see Appendix B, 2.0). Early modern German gardens were to a great degree influenced by both Italian and French garden design theory. An *Irrhain* is similar to a labyrinth, but different in that it translates as a wandering or maze in a woods. It is a kind of grove.

If we look at this engraving of the garden from 1744 (see Figure 1.8), we see that the Nuremberg garden is an assemblage of many kinds of spaces, including an *Irrgarten* and *Irrhain*. The *Irrgarten* takes on many forms: g. *die Irrgänge* [paths through a maze], h. *der Schlangengang* [a serpentine path], both oriented by b. *die Lange Allée abro* [long tree allée] and a., an inscribed entry portico. The *Irrgänge* (g.), as depicted, is a partially wooded wandering path created by an assemblage of clipped hedges of elongated forms which means it could be better described as an *Irrhain*. Here there seems to be no clear beginning or end, except that the *Irrgänge* (g.) does eventually lead to the ‘so-called churchyard’ and a fountain. The *Schlangengang* (h.) appears to be multiple, geometric, symmetrical, meandering paths. Both of these garden spaces are populated with paths that appear to have objects placed in them and are populated with ‘half-huts’ (c.), a communal hut (k.), a fountain (e.), and poetry inscribed on panels attached to trees (d.).
Particularly interesting here is *der so genaunte Kirchhof* [the so-called churchyard]. This ‘churchyard’ is what I would describe as an arboreal shrine to poetry. The trees are inscribed as if they speak and write poetry of their own. The name of this part of the garden as *Kirchhof*, as a churchyard, suggests that it is the most sacred place in the garden. The *Kirchhof* emulates the medieval and early modern German tradition of *Bildbaum*. A *Bildbaum* was a “wayside shrine” or outdoor “minimal chapel.”\(^{66}\) *Bildbaum* often marked unusual trees but also could be described as “a common experiential horizon in which religion and nature were extensions rather than antipodes of one another.”\(^{67}\) The *Kirchhof* was a grove of *Bildbäume* and where the *Blumenorden* literary society met to write poetry.

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**Figure 1.10:** Present condition of the *Pegnesischer Blumenorden*’s garden in the Kraftshof woods. Photographer unkown. *Kirchhof* (left) and entry to the *Irrhain* (right). 2011. Photograph. http://www.nuernberginfos.de/strassen-plaetze-nuernberg/irrhain.html.


Pastorius attended University of Jena for one year, in 1674. It is now known as Friedrich Schiller University Jena. He went to Jena to finish his law degree and specifically to study under Heinrich Lincke. Lincke was a student of Erhard Weigel (1625-99), the author of *Philosophia Mathematica*, an influential text that directly challenged Aristotelian scholasticism. Weigel inspired modern advances in law, philosophy, and mathematics. His *Philosophia Mathematica* declared rational logic as the basis of all nature. “By 1665 Jena had gained a reputation for innovations in teaching method and content of the sort that would eventually end the era of Aristotelian scholasticism in Germany. The mathematician Erhart Weigel saw mathematical principles behind all of nature, and declared nature and technology as the true objects of learning.”

Weigel also experimented with alternatives in educating children which in turn inspired the Pietist Halle orphanage and school. Weigel’s teaching methods and ideas were radical and attracted the attention of Pietists like Pastorius. He hosted his students in his own home where he demonstrated scientific experiments with various technical instruments and gadgets to study the earth and stars, hydraulic pumps that

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68 Linke accepted a professorship at Altdorf University in 1674. This explains why Pastorius completed his law degree at Altdorf. To graduate he had to write and defend corollaries based on Aristotelian logic and the very civic and cannon laws he objected to as un-Christian. Weaver details this circumstance based on Pastorius’ published dissertation and notes from his letters and Beehive. See Weaver, pages 250-264.


conveyed water and wine, and an elevator. He also taught the enlightened philosophies of Hugo Grotius and Thomas Hobbes and openly challenged the authority of the state and church. Pastorius sought out Lincke as a teacher because he was already questioning the state and cannon law he had been taught at Altdorf. He was looking for alternatives to his Aristotelian education at Altdorf and Strassburg. At Jena, albeit, only for one year, he found a ‘home’ of learning and working, a place where a botanical garden was a place for learning and pleasure.

Figure 1.11: Caspar Junghannß: Collegium Jenense, um 1710. Kupferstich. Thüringische Universitäts- und Landesbibliothek Jena. Polianski, Igor J. Die Kunst, Die Nature Vorzustellen, Die Ästhetisierung Der Pflanzenkunde Um 1800. Jena, Köln: Lehrstuhl für Kunstgeschichte & Kunsthistorisches Seminar mit Kustodie Verlag der Buchhandlung Walther König, 2004, Appendix, Figure 7. Below are some specific places at the university, keyed to the engraving:

3. Auditorium Jur. [Auditorium for Jurisprudence] (middle next to observatory)
14. Observatorium. [Celestial Observatory] (middle top)
15. Hort. Medicus [Physic Garden] (top right)
16. Hort. Templo adjacens. [Garden adjacent to the Templum] (bottom middle)
University of Jena’s botanical garden was founded in 1586. It was established well before the botanical garden at Altdorf was founded and was forming its own culture of modern botany. The botanical garden at Jena supported local botanizing as well as collections of plants from Africa, Asia, and the Americas. Pastorius arrived in Jena the same year that the garden was building its first heated greenhouse.

The culture of gardens and botany at Jena in 1674 revolved around two gardens, both of which Pastorius knew as a student in Jena: the university’s Hortus Medicus, adjacent to the collegium, and Wilhelminus, which was an extension of the original Hortus Medicus from 1640 to 1663, but by 1674 was converted to Duke Wilhelm’s own pleasure garden outside of the city’s walls. Jena’s Hortus Medicus was the second botanical garden to be founded in Germany and from the sixteenth through the nineteenth centuries, the medical faculty maintained connections with leading natural scientists in Italy (Padua), England, France, and the Netherlands. Its design and ordering of plants was certainly originally modelled after Padua’s botanical garden.\(^{71}\) Werner Rolfnick, an important botanist at Jena (who died in Jena in 1673) studied medicine at Padua and developed the Hortus Medicus’ collection of medicinal plants, but also expanded its collection to include ornamental plants ‘for the betterment of the city.’\(^{72}\) Related to Rolfnick’s contributions was the fact that the tradition of local botanizing trips was well

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\(^{72}\) Polianski, 72.
established at Jena by 1674 and the *Hortus Medicus* would have also organized a collection of local plants alongside exotic medicinal herbs and ornamentals.\(^{73}\)

![Image of Hortus Medicus]


The *Hortus Medicus* has been well documented as it was in 1659. An engraving of the garden published in the *Catalogus plantarum horti medici Jenensis* in Jena (1659),

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shows a garden ordered by quadrants of symmetrical parterres. Each parterre was its own symmetrical arrangement of shapes and likely represented the four quadrants of the world, similar to Padua’s garden. It was a walled garden, adjacent to the collegium and lined with trees. There is no celebrated entrance or gateway, or conservatory shown, but it is clear that it inscribed geometric ornament and ordered plants within an artificial geometry. What is not present in the engraving that was apparent in the engraved representations of Altdorf’s garden: people walking in the garden and any evidence of poetry inscribed in or associated with the garden (see Figures 1.10 & 1.11).


The engraving of Hortus Medicus Jenesis Wilhelminus also published in the 1659 catalogue, shows a different kind of garden outside the city walls to the north.
Wilhelminus was first a physic garden but was converted to a pleasure garden in 1675. This garden was enclosed by walls, but in addition to geometric parterres, it had walkways through a ‘wilderness’ of trees. It is not a bosk, but is clearly an artful planting of different kinds of trees. The image also shows varied topography along the length of the garden. There are steps down to the parterres and steps up into a vineyard. A visitor to this garden was encouraged to walk, sit, and study in the garden. There are places to sit in the open and hidden within the trees, and many kinds of artificial and ‘natural’ places, ornamental parterres, shady woods, and a vineyard.

There is a fourth image of Jena, published in 1674, *Jena von Norden*, engraved by Häublin and Heinlein (the same year Pastorius attended University of Jena). This view of Jena from the north shows *Wilhelminus* after it was converted to the Duke’s family pleasure garden. The garden was expanded along the entire length of the city wall. Its parterres and a large ‘woods’ or ‘wilderness’ to the west are much larger than in 1659. There is a pavilion near the center of the garden and fields and large vineyard just to the north of the town (in the background of the image). The entire garden was contained by a tall fence.

Although the *Hortus Medicus* was forced to contract to its original site adjacent to the *collegium*, Pastorius arrived in Jena when botany and gardening were flourishing. One scholar suggests that the university built a heated greenhouse in 1674 and another scholar dates its construction in 1681. This suggests that the faculty were collecting, propagating, and cultivating exotic and local plants. Ilse Jahn summarizes a description of the gardens of Jena written by Jena botanist, John Theodor Schenck, published in the 1659 catalogue.


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75 Jahn, 19.
John Theodor Schenck’s living description of the new garden resembles a tour, from its western hills, planted with wine, fruit, and ornamental shrubs, over a winding path to the lower leveled central part with six large flower beds on which the visitor can see ‘native as rare foreign plants arranged together, ’as he would otherwise scarcely lose them without tremendous time, to see without the expense of difficult journeys.”

Another written history of Jena’s gardens describes the garden’s influence and importance a decade later. Jahn bases this assessment on Rolfinck’s description of the garden in his *Des vegetabilibus*, published posthumously in Jena in 1669 and 1670.


This garden was to serve "the general best of the city," and bring lovers of botany to whom he called: 'Amate flores, quia pulchri sunt; amate flores, quia perfecti sunt!' [Lovers of beautiful and perfect flowers] This was the goal of the garden, which contained not only medicinal plants, but oriental ornamental plants such as narcissi, tulips, hyacinths, and overseas novelties such as the Mexican passion flower. The Garden culture became the basis of their scientific publications. In his [Rolfinck’s] botanical handbook (*De vegetabilibus* ... 1669-1670) he shared his own observations on plant propagation, takes a critical look at contemporary views on Genesis and the doctrine of signatures, and also conveys his experience.

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76 Translation my own.
and methods on the installation of herbaria on the Basis of own Exsiccatensammlungen [something to do with the basis of his collections].

Ornament, the art of gardens, and sciences of botany and medicine were intertwined at University of Jena.

**Tree Planting in Windsheim**

Pastorius was born in Sommerhausen but spent most of his childhood in Windsheim in Germany’s Franconia region. Sommerhausen, in particular, was known for its vineyards and orchards. Melchior moved his family to Windsheim after the death of Pastorius’ mother to take a lucrative post as part of Windsheim’s governing senate in 1659. Windsheim was a Lutheran, Imperial city and a dense medieval town, surrounded by a wall. It was governed at the pleasure of its twenty-five senators and its land ownership and tax policies could be described as feudal. Its economy and culture were defined by its commercial activity and the agricultural needs of the region which supplied various trade guilds. Simply put, it was an economy dependent on the subjugation of the poor, who worked the land in servitude, a middle class of merchants and makers, and the wealthy Burghers who governed, controlled and owned land.

Although Pastorius or his family were not farmers or gardeners, their wealth was largely dependent on the productivity of Windsheim’s orchards, fields and vineyards, of

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78 Translation my own.
79 Now Bad Windsheim

which the poor worked. Pastorius’ decision to estrange himself from his family and Windsheim was his own critique and rejection of Windsheim’s repressive commercial and political culture which his father administered. This conclusion is based on Pastorius’ own words, and Weaver’s analysis of Pastorius’ letters and notebooks. Weaver describes in detail Pastorius’ opinions about Windsheim’s feudal economy and his own father’s complicity in what Pastorius described as unchristian ethics and politics. At some point during his university education, he adopted progressive ideas about the rights of all individuals to own land, the obligation of government to the health and welfare of its citizens, and the rite of an individual to adopt their own religion. In the end, Pastorius’ pietism could be described as a rejection of any authoritarian institutionalization of any religion.
Melchior’s garden in Windsheim was likely typical of town gardens of Burghers in small municipalities in early modern Germany. I have found no evidence in Melchior’s garden journal to suggest otherwise.\(^81\) The house remains with a large green space on the east side of the house. Town gardens such as this were places of pleasure and prestige but also generally served the community with medicinal herbs.\(^82\) Melchior was town Burgher of Windsheim beginning in 1658, a governing senator, and his position gave Pastorius and himself access to town gardens and Burgher’s homes in most towns in the German territories. Anytime Pastorius traveled as a student and even on his Grand Tour, because of his and his father’s privilege, he would have been entertained in gardens of aristocrats and wealthy merchants.

This town garden culture was influenced by the fact that sixteenth- and seventeenth-century German physicians, intellectuals, political leaders visited and studied in Italy.\(^83\) Melchior converted to Lutheranism\(^84\) but was first educated as a lawyer at a Jesuit university in Rome. He spent many years in Rome and northern Italy as a young

\(^81\) See Melchior’s garden journal. Melchior Adam Pastorius, “Literary and Historical Miscellany, Manuscript” (Middle Franconia, Germany, ca 1702 1695), http://dla.library.upenn.edu/dla/medren/pageturn.html?id=MEDREN_9942926943503681&rotation=0&currentpage=14.


\(^83\) Gothein, A History of Garden Art, Edited by Walter P. Wright; Translated from the German by Mrs. Archer-Hind, M. A., with over Six Hundred Illustrations.

\(^84\) He converted to Lutheranism before 1650, but much of his family remained Roman Catholic.
adult. He was also, at some point after 1683, appointed director of the town hospital in Windsheim, wrote the beginnings of a ‘Garden Kalendarium’ and kept a detailed inventory of medicinal plants in his own journals. Given his wealth and influence, his garden would have been planted with medicinal plants and collections of exotic plants.

In addition to his father’s garden, there are several other town gardens that Pastorius would have known. He tells us what cities he visited in Franconia in his Itinerary quoted in his Beehive. Notable in these cities were the town gardens in Breslau (now Wroclaw, Poland), Nuremberg, Frankfurt, and Ulm. Particularly important is the town garden in Ulm designed by architect Joseph Furttenbach. Furttenbach published an architectural treatise of ideal town civic buildings, homes and gardens, Architectura recreationis., 1640. In it he envisioned ideal public and private architecture and garden design for towns like Windsheim. Melchior and Pastorius may have seen or even referenced Furttenbach’s architectural treatise, especially when Melchior built his town home in Windsheim in 1668.

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Melchior’s house and garden that survives in Bad Windsheim was large and elaborate like those shown in Furttenbach’s *Architectura recreationis*, although its half-timbered framing is not decorated with elaborate classical pilasters and balustrades. What does not survive is any aspect of a stylized walled town garden (see Figure 1.14).

I have shown here house and garden type one, *Das Erste Bürgerliche Wohnhaüss*. No. 1., to explain the pieces and parts of a house typical of a wealthy town burgher like Melchior (see Figure 1.16). What defines this type as an ideal is the relationship of the three-story house to the garden, the compartmentalization of the garden into parts, and its
enclosure behind city walls. The influence of Italian and French gardens are evident in the contrived geometry of its parterres. The garden is compartmentalized into a yard with entry from the street, an enclosed ornamental garden with parterres in the center, and a kitchen garden and orchard towards the back. Furttenbach’s ideal describes a house and garden of wealth, privilege and influence but more importantly demonstrates how individuals, like Melchior transposed the ideals of Baroque garden design from France and Italy into small, remote towns like Windsheim in German territories. It describes an urban house that is clearly German, but a garden that translates Baroque garden culture at a contained and smaller scale. Not only was this garden moderately productive, it was a place of recreation and represented Melchior’s intellectual, political, and social status.

The garden’s enclosure separated a wealthy burghers’ property from common peasants. This was a social norm in Windsheim in the seventeenth-century.86 The enclosed paved yard in Furttenbach’s ideal is adjacent to the street with a small door and has a small shed that likely housed the family’s horses. The yard is enclosed in part by the house, a corner wall that separates the property from the street on the east and north, and a wall with an entry into the garden proper on the west side of the yard. This wall is masonry or stone and thick with plantings in a bed at its base and espalier fruit trees on the yard side. This wall on the west side of the yard is the true entry to the formal garden, although the typology also shows entry into the ornamental garden from the house as well.

86 See Weaver, “Franz Daniel Pastorius (1651-c. 1720): Early Life in Germany with Glimpses of His Removal to Pennsylvania”
Espaliered trees surround the entire ornamental garden in the center. This ornamental garden is protected from the street and is made of elaborate, symmetrical, highly articulated, edged parterres, a fountain, and container plants. This kind of garden was made for strolling, but also to be seen from above in the house’s upper floors. The ideal type here does not show any benches or private places to sit and read, although it is likely that there would have been a bench embedded into the thickness of the wall of espaliered trees. This garden is productive with fruit trees, but is primarily a place for entertaining and pleasure.

In the back of the garden, on the west end of the house, is the kitchen and herb garden. The planting beds are rectangular and shows regular plantings of herbaceous plants and trees. In all cases, the planting beds are contained by some kind of hard edging and clearly defined walking paths.

Enclosure and geometry define this garden typology. This is not surprising, German towns like Windsheim were very dense, sometimes geographically isolated, walled, medieval urban environments and these new, ‘modern’ typologies were designed to adapt French and Italian Baroque gardens ideals into dense, winding, medieval towns for burghers like Melchior. The burghers and Furttenbach were directly citing the influence of Italian botany in Padua and Pisa, but also the Baroque culture of gardens in Rome, Northern Italy, and France.

Windsheim’s economy was largely dependent on agriculture and an established feudal system of land ownership and taxation. In the seventeenth-century, Windsheim’s
population was somewhere between 3000 and 3600 residents. Not all of these residents had the rights of citizenship. Its environment outside of its city walls was dominated by a landscape of orchards, vineyards since Roman antiquity, and church steeples, bell towers, and small towns behind protective medieval walls. Weaver described Windsheim and the Franconia region: “In Pastorius’ day the region was a crossroads of Europe, predominantly rural in character.”

The town supported sheep-herding, cattle-raising, and trade guilds of weavers, dyers, lace-makers, stocking-knitters, furriers, comb-makers, pewter-founders, potters, carpenters, beer-brewers, bakers and butchers.

In the early seventeenth-century, this region was almost entirely devastated by conflict, famine, and plague, and its “population ... fell to one-half its pre-war level.” Its “agriculture nearly came to a standstill: entire farming villages were decimated, the cattle were slaughtered, fields lay fallow and overrun with weeds.” Windsheim was profoundly affected by the Thirty Year War: “In the imperial city of Windsheim, Melchior Adam Pastorius later reported, occupying soldiers insulted, harassed, extorted and robbed the citizenry; malnutrition and lack of sanitation created plague epidemics, school, church and other civic functions ceased.”

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88 Weaver, 82.

89 Weaver, 43–44.

90 Weaver, 44.
An engraved landscape of Windsheim by Matthaeus Merian was published in Frankfurt am Mayn as part of a volume dedicated to the Franconia region in 1656, eight years after the Treaty of Westphalia concluded the war.

The image looks at Windsheim from a distance and shows the town as it was fortified with a protective moat and wall. The town is set in a valley. In the foreground of the image, there is a series of hills with scattered groupings of trees and a few travelers walking through the woods on a path. In the background, the landscape clearly shows rolling hills around the town covered with semi-enclosed fields, orchards and vineyards and towns in the distance. In the middle ground is the town and what appears to be a
military encampment, which controls entry into the town gate and five church steeples inside the walls.

Weaver points out that on several occasions, Pastorius referred to the structure of Windsheim when describing Germantown in his letters to his father and Pietist friends in Frankfurt. He described Germantown and Philadelphia as cities without walls, like Rome. He even refers to the ancient Roman practice of drawing a line around a city to protect the city and that this line somehow would protect Germantown. In a letter to Germany, “Pastorius wrote that the town was like Rome because ‘no walls protect our village other than those Romulus once drew around his city with a plow,’ [Weaver’s translation] and although he noted that God protected the villagers from attack in peaceful Pennsylvania.” All the towns where Pastorius lived in Franconia, Frankfurt, Altdorf, and Jena were walled, densely built towns. It must have felt strange to not live behind a wall.

Pastorius lived in Windsheim at a time of post-war rebuilding—many of the orchards and vineyards in the region and directly around Windsheim may have begun to produce fruit again, but some may have still laid abandoned. Melchior’s garden, in Pastorius’ mind amplified tensions between poverty and wealth, and the ruined farms and the protected status of the town in the region. It is not that Pastorius rejected the influence of France and Italy, per se, but more likely that he rejected what the garden did not do for the citizens and peasants of Windsheim. The garden inscribed wealth and privilege onto

91 Weaver, 82.
Pastorius’ life in Windsheim and although it did likely house collections of medicinal plants for people in the town, it exemplified vanity, sheltered wealth, and protected its own privilege by design.

Pastorius and his father recalled a family tree planting ceremony in their Windsheim town garden in an exchange of letters ten years after Pastorius left Germany. Weaver accounts for the details of this event and of his strained relationship with his father, his obligations to Franconian political systems, his eventual total rejection of German society, through letters, Pastorius’ journals, and Melchior’s notebooks. The tree symbolized Pastorius’ German life, marked an emotional separation from his family and home, and his political independence from his family and Franconian culture. Up until this tree planting, Pastorius was conforming to familial and cultural expectations, while at the same time writing about his own disgust with the life he had been born into. The tree planting also symbolized the beginning of his life associated with the Frankfurt Pietists, his true Christianity, and eventually, his decision to emigrate to Pennsylvania.

Surrounded by family (Pastorius’ step-mother, two step-siblings, and his father Melchior), Pastorius planted a young tree in his father’s garden. Here is Weaver’s summary:

Preparing to leave Windsheim on April 24 [1679], as Vienna and the Windsheim senate were jointly suppressing the tax revolt of that winter [a series of political events that Melchior was responsible for, and that Pastorius openly protested],

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92 See Weaver, pp. 303 & 391. Weaver cites pages 92-93 of Pastorius’ letters published in Nuremberg in 1693. Francis Daniel. *Kurze geographische beschreibung der letztmahls erfindenen Americanischen landschaft Pensylvania, mit angehenckten einigen notablen begebenheiten und bericht-schreiben an dessen hrn. vattern, patrioten und gute freunde.* Nuremberg: Erscheinungsort nicht ermittelbar, 1693. (This edition can be found at the Historical Society of Pennsylvania.)
Franz Daniel had gathered together in the family garden with Melchior Adam, [and family]…..for a small ceremony that typified the ritual of Franconian existence yet anticipated an untypical career. Twenty-seven year old Pastorius knelt to the earth and planted a young tree in the garden soil.93

After this tree-planting ritual, Pastorius never returned to Windsheim and carefully avoided any contact with his family home throughout his Grand Tour of central Europe and time living in Frankfurt.

Over ten years later, the tree is lovingly mentioned in a letter from his father. Somehow Melchior had thought that Francis was sick or dead because the tree in his garden was dying. Melchior admitted that he had been burdened with bad dreams because the tree was dying. Pastorius responded to his father’s letter and assured him that he had been sick, but was well again.94 Pastorius and his father believed that the tree symbolized Francis’ life and family roots in Windsheim. Thinking that a tree, such as this, could be human, have a life or spirit like that of Francis is prevalent throughout Pastorius’ poems and descriptions of plants.

Where in a garden like Melchior’s would have Pastorius’ planted his tree? Because of the ceremony of the ritual, and Pastorius’ importance as Melchior’s first-born son, his father may have wanted him to plant a small tree in the ornamental, pleasure garden, in a corner or at the edge of a carefully designed parterre. It would have likely been a small tree, not an oak or elm, but would have been placed in a privileged place,


94 Weaver, 303.
not part of the espalier wall. It is interesting to note that one of Pastorius’ first acts in designing Germantown, was to plant peach trees along ‘Germantown Avenue’. These trees were visible and part of the public realm, outside of individual gardens, and part of the public street, not behind any wall, they privileged the public street and the ‘betterment of the city.’

All the gardens of Pastorius’ German life discussed in this chapter, were places of privilege. They were part of an established culture of science, education, art, and recreation. His German life was saturated with a stylized culture of literature, science, politics, and pleasure. It is possible that he knew other kinds of gardens like the market gardens of London, medicinal gardens of the Beguines of Ghent, and the kitchen and medicinal gardens of monasteries in France and Italy. He recorded that he visited several Capuchin Monasteries in Orleans and Paris, France in his *Beehive*. He also described his time in Cambridge and Ghent on his Grand Tour as places where he felt most at home, comforted by their pious ethics and morality.

Finally, at the University of Cambridge and in the city of Ghent, I did manage to find some devoted men who, secretly retired from the world, and resigned themselves wholly to God, and having discovered my earnest searching, they taught me many good lessons and greatly fortified me in my resolution; they also gave me a helping hand in various ways.  

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95 Translated and quoted from Pastorius’ *Beehive* by Weaver, 186.
It is in this excerpt from a letter to his father, that we see his earnest interest in a ‘retired’ world view that was opposed to the stylized Franconian, intellectual life of his family. This also explains his lack of interest in a garden that privileges style or nationhood.

Pastorius’ writing about plants and gardening in his *Beehive, Monthly Monitor, Artzney Kunst*, and botanical poetry written in Germantown documents aspects of his separation from his German life, but also his own conscious choices in his own art of gardening in Pennsylvania. What does he keep? His interest in language, poetry, natural science, and Pietist theology, especially the language of *Einpflanzen* (implanting) and *Eindrücken* (imprinting). This mixes with his exposure to English ideas about gardening and plants. What does he leave in Franconia? His duties to and participation in a stylized Franconian life, and the contrived geometry and scenery of its town and university gardens.
CHAPTER 2: Pastorius’ Reading and Writing as Gardening.

Prologue

In Pastorius’ mind, to garden was to read and write. His plants were living letters of a divine language that were at the same time, symbolic and real. He read plants to “swarm with my mind through all kinds of plants.” Reading was a physical, intellectual, and spiritual experience—a kind of pilgrimage at the scale of his day to day life in the world and his garden in Germantown. His garden was a place, a fenced plot of land and at the same time a location in a book. He made it to be a labyrinth of letters and verse, a poem that mirrored his life experience in Pennsylvania. Pastorius was an astute observer of his garden and the Pennsylvania woods and recorded his observations with great care and accuracy, but as was his Humanist habit (his concern for ethics and language), he revisited the materials of his garden and woods as metaphorical devices in his poetic and religious writing.

Here in my Garden I enjoy, what Want can’t pinch, nor Fulness cloy. Jd.
Thou (to wit Jesus) art the Pilgrim’s path, the blind man’s eye,
The dead-ones life, On thee my hopes rely; If thou remove, if grope, I err, I die It.
My garden is a Labyrinth, I doubt; I seek, but find no door; yet would be out.

Pastorius wrote this verse in his Beehive alongside several entries about himself in his garden and his relationship with plants. It describes his own Christian piety as a

97 Francis Daniel Pastorius 1651-1719 and Christoph E. Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae, Studies in German Literature, Linguistics, and Culture v. 2 (Columbia, S.C.: Camden House, 1982), 75 & 98.
pilgrimage guided by Jesus, ‘The dead-ones life’, in his own garden. Here is one way to interpret this personal poem: ‘Here in my garden I am able to enjoy a spiritual life, something that cannot be threatened by human wanting and self-loathing. (Cloy being an expression that describes self-loathing caused by the over-eating of food.\textsuperscript{99}) Jesus guides me on my pilgrimage and teaches me how to garden. My garden is the labyrinth where I live, struggle and look for meaning in my life.’

This chapter will explain Pastorius’ scholarly and literary habits as they relate to his garden and his work as a gardener in Germantown. I will account for what Pastorius read and wrote about plants and gardens as it was influenced by Renaissance traditions of commonplacing as a mode of reading and cataloguing knowledge, his exploitation of botanical language as literal, metaphorical descriptions of place and his own kind of \textit{botanischer Poesie}, and lastly, the \textit{Geistlicher Irrgarten} as a spiritual writing of a garden. Related to this tradition is Pastorius’ citation of the Humanist tradition of \textit{ut pictura poesis} as he made it to be \textit{ut hortenses poesis}. My analysis will recall the influence of the literary culture of Nuremberg and progressive philosophies and beliefs of Frankfurt Pietists, Böhme, and Paracelsus discussed in Chapter One in my analysis of his botanical writing. This chapter will survey what and how he wrote about plants and gardens and suggest why he wrote about plants as he did.

His plants and garden became the commonplaces by which he philosophized, read and wrote his own mystical science, Pietist theology, and botanist’s language that was

grounded in Pennsylvania as a place and his own readings of the Bible. In the end, this chapter will show how Pastorius adapted book knowledge, Lutheran traditions, mysticism of German Pietism and sensory experience in his garden in Pennsylvania. He became an enlightened American garden artist by adapting his learned modes of reading and writing to his Pietist convictions and the particulars of his Pennsylvania garden.

Pastorius valued and actively employed several early-modern, European, intellectual traditions in his Germantown garden writing. His habits of active reading and writing exemplified the Humanist traditional practice of commonplacing. Humanism was pre-occupied with recovering ancient learning and philosophy. The doctrine of ‘commonplacing’ and the ‘commonplace’ were theorized by Aristotle. A commonplace, *locus communis* in Latin and *topos koinos* in Greek, had a double aspect: a commonplace was “a kind of locale in the imagination where one goes to seek arguments” and was also described as a “speech-within-a-speech” used to amplify or magnify a subject. Similarly, Seneca further theorized these traditions. Pastorius was pre-occupied with Seneca’s metaphor of the bee, as an ideal scholar that is an active reader of a garden, collecting honey—the garden being a place to collect knowledge, the hive being a container of many places to store knowledge, and the honey being sweet knowledge.

During the Renaissance, Humanist philosophers read by Pastorius continued to develop

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100 Enlightened in that he imparted greater knowledge and understanding of a garden and gardening from botanical, horticultural, and spiritual points of view. I do not suggest enlightened in the sense of the rationalism of the “Age of the Enlightenment,” although he was participating in its formation.

the metaphor of the bee as a model for commonplacing. Its institutions developed modes and methods of reading and writing into notebooks that sorted citations and observations from books into topics, places where arguments could be recovered. The commonplace tradition was ultimately a scholarly and systematic mode of recording information, language, and ideas that was active and spatial. Pastorius fully understood its antiquity and applications. It was the mode by which he catalogued information in notebooks, and translated poems, observations, and aphorisms across several languages.

Pastorius’ reading, writing and commonplacing were sensitive to and wholly engaged with the natural world like the Blumenorden poets of Nuremberg but also as they were influenced by his Pietist world-view discussed in Chapter one. His Pietist consciousness embraced a mystical engagement with the natural world. He savored experiences in his garden, the Pennsylvania wilderness, and believed in divinity that was hidden in the nature of plants and the wilderness. All of this was further informed by his learned interest in language, natural science and Humanist traditions of poetry that paralleled the development of modern German botany, Baroque poetry and garden art. Before emigrating to Pennsylvania, he witnessed the emergence of modern botany, medicine, German language in new forms of German poetry, and German garden theory.

A large part of Pastorius’ reading and writing were translations of language, science, and theology. His personal library of books, pamphlets, almanacs, and Bibles

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102 Modern botany begins to be thought of as a natural science distinct from pharmacology in the seventeenth-century in England, Germany, and Italy. These landmarks are explained in Edward Lee Greene’s *Landmarks of Botanical History* (Stanford, CA: Stanford University Press, 1983).
was the largest in Pennsylvania until James Logan.\textsuperscript{103} He read widely in seven languages about many kinds of subjects: natural science, chemistry and alchemy, medicine, botanical herbals, poetry, philosophy, history, law, Quaker politics and ethics, Pietist theology, technology, astrology, theology, husbandry, gardening, and home economics. I have assembled a survey of subjects and books that he referenced from my own and others analysis of Pastorius’ writings and accounts of his scholarly citations, library, and books borrowed.\textsuperscript{104} This bibliography is sorted into subject areas that informed Pastorius’ own theories about garden design, horticulture, medicine, botany, botanical poetry, and the divinity of plants (see Appendix B, 1.0).

Most prevalent in his writing about plants and gardens are his own readings of Paracelsus’ theology and natural philosophy, Johannes Coler’s Lutheran ethic described in \textit{Oeconomiae Ruralis \& Domesticae}, Nicholas Culpepper’s pharmacopeia and astrology as it influenced plants, Virgilian imagery found in English garden manuals and Abraham Cowely’s poetry, Philipp Jacob Spener’s Pietism and the botanical symbolism of Jakob Böhme, Henry Peacham’s guide to emblematic poetry, Virgil’s \textit{Georgic}, and George Fox’s messages to Quakers to settle Pennsylvania and Quaker ethics. This chapter will analyze Pastorius’ knowledge of plants and use of botanical imagery in his writing as it relates to some of these sources.


\footnote{104 Sources include: Sources: Edwin Wolf’s \textit{The book culture of a colonial American city : Philadelphia books, bookmen, and booksellers}, Marion Dexter Learned’s \textit{The Life of Francis Daniel Pastorius}, and Lyman Rily’s manuscript, \textit{Books from the "Beehive" Manuscript of Francis Daniel Pastorius}. My list does not include all books owned and referenced by Pastorius.
Pastorius’ ideas about plants and plant culture refined and adapted book knowledge of published science of botany, medicine, and poetry with his own experiences in Pennsylvania. He had observed first-hand how poets in Nuremberg and botanists at Altdorf University adapted book knowledge and language as a localized study of place (see Chapter one). By 1700, as evidenced in his Monthly Monitor, he was doing much the same—transposing and situating European science and botany alongside his own observations in his Germantown garden. By book knowledge I mean the authority of Humanist traditions in natural science, religion, and language described in the books that he owned and borrowed. His own observations describe his experience gardening as a part of the fluid, multifarious, unsettled, colonial conditions of Pennsylvania.105

Through a close study of his reading and writing, particularly as he began to write in English in his own original writing, his transformation as a European intellectual to an American gardener is apparent, especially in his lists of plants. His first list of plants was written entirely in German. Later he named plants in multiple languages. What is adapted, or could be described as American? His predominant use and adoption of English alongside German, Dutch, and Latin106 as his language to describe his ideas about plants and gardens was about embracing the manifold conditions of Germantown as a


place. Also notable are his inventive refinements of his scholarly and commonplacing habits that collected book knowledge alongside his own empirical knowledge about plants and gardens in Germantown. These habits were distinct from his fellow English gardeners (Norris and Penn), as he was not preoccupied with style or national identity as they were.

Likewise, he often distinguished between the many parts of his garden in his writing: his garden and field, his garden and the woods, and the plants he cultivated and the plants he found in the wild. This dissertation considers all of these contexts as his garden, although he at times referred to it as his ‘country farm.’ These distinctions are evident in his botanical poetry, *Monthly Monitor* (garden journal) and his *Artzney und Kunst* (medicinal). In 1714, he recorded over 220 varieties of plants in his “Reportium Seminale” (see Appendix C, 1.0). His medicinal, dated 1686, recorded over 150 different plants grown in Germantown gardens and collected from Pennsylvania’s woods (see Appendix C, 8.0). In addition to lists such as these, he wrote about the design of his garden, his plants, bees, angling, horticulture, herbal medicine and agriculture from many points of view as it was influenced by his reading and own experience.

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107 See Erben and Chapter Three.

The fact that he wrote so much about his garden and plants meant that it was a center of his world and that he intended to share his theories and observations beyond himself and his own lifetime. He wrote to be read by people like his sons, grandchildren, friends, and people centuries later. Cotton Mather, a contemporary of Pastorius, is a similar example, but Mather had the advantage of established publishing resources in Boston and his association with Harvard University. Pastorius would have published some of his botanical writing, if Philadelphia had established more print shops in his lifetime. I have summarized the contents of six of his manuscripts that survive that include his own writing about his garden, plants, and bees.109

Introduction to Manuscripts

There are several kinds of botanical writing in six of Pastorius’ manuscripts which this chapter will analyze in detail. These modes of writing could be described as literal, analogous, metaphorical, and botanical orthography. He also spent considerable effort theorizing and writing what he called “Emblematic Recreations.” This chapter (and Chapter six) will analyze this mode of writing. All of these modes of writing were influenced by Pietism, his interest in language, and his systematic readings of books, but

109 These summaries are written in part based on my own transcriptions of the manuscripts at the Historical Society of Pennsylvania and the Kislak Center at the University of Pennsylvania, and transcriptions published in The Francis Daniel Pastorius Reader (2019), Patrick M. Erben, Editor, and in Deliciae hortenses, or Garden-recreations; and Voluptates apianae (1982), edited by Christoph Schweitzer.
were also informed and encouraged by his own experience in Pennsylvania. He invented modes of writing that wholly embraced Pennsylvania.

His *Artzney und Kunst: ist all umsunst ohne Gottes Gunst* is also referred to as his *Talia Qualia Medicinalia, Artificialia & Naturalia* and is dated 1696 on the title page alongside two nature prints. It is a small pocket-sized notebook that contains practical medical and home economics information akin to Coleri’s *Oeconomiae*, Hohberg’s *Georgica Curiosa*, and Culpepper’s *Pharmacopaeia Londinensis* and *English Physician*. Its writing is mostly literal and concerned with the practical use of plants. There are entries about human and animal health conditions common in Pennsylvania and recipes for herbal remedies for these conditions—everything from pain associated with childbirth and menstruation to headaches. Near the end of the book, there are also recipes for writing ink, printer’s ink, and paint that he used for his own writing and nature printing (see Appendix C, 7.0). At the beginning of “Cap 82” of the book is the list of plants used by him and other Germantown residents for herbal remedies and grown in their gardens or found in the woods (see Appendix C, 8.0). Below this plant list is a poetic aphorism that describes his own natural philosophy as it was influenced by Paracelsus’ medical theories and his own experience. In Pastorius’ mind, in the end, it is the divinity of these plants that heals.

[top of page, title above plant list]
Im Gemeinstry Garten /. Gewüchs Eigenschafften,
Krafft und Würkungen

[In the common garden /. plant characteristics, potency and effect]
Although Pastorius referenced several medicinals and herbals from Germany, England, and the Netherlands in this book, he wrote this medicinal to advise Pennsylvania people as to how to use plants grown and found locally to improve human and animal health in Pennsylvania. He also described their medicinal garden as a ‘common garden’—meaning a shared garden of the greater good. This medicinal documents aspects of early American botany, gardening, and medicine as it was informed by his regional and European knowledge and experience.

Pastorius’ garden journal, *A monthly monitor briefly showing when our works ought to be done in gardens, orchards, vineyards, fields, meadows, and woods* is dated 1701 on its cover. It is, like his *Artzney und Kunst*, a small notebook and includes practical knowledge about horticulture, agriculture, apiculture, angling, viticulture, and pomology for Germantown. Its writing is both literal and analogous, concerned with

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110 Translation by Meredith Hacking.

practical matters of gardening as well as beneficial and harmful correspondences between plants, people, soil, water, the moon and astrological alignments. Although it is an accounting of his personal garden, it is modelled on European husbandry and home economics books because it includes a calendarium and organizes practical information about ordering a garden, cultivating and propagating plants, trees, and shrubs. Pastorius’ calendarium described work in his garden, orchard, vineyard, apiaries, and fields, culinary recipes for seasonal and ‘healthful’ dishes, and notes about weather, water, and soil. Following the calendarium are various sections about t and lunar phenomena as he believed it influenced plants and the work of gardening in Pennsylvania; practical notes and observations about apiculture, his own bees and beehives in English and German (see Appendix C, 3.0)\textsuperscript{112}; practical notes, observations, and disappointments about his own vineyard; practical notes and observations about his herbs, vegetables, and ornamental plants; recipes for wine, seasonal cuisine, and beer; chapters about specific plants including, Asparagus, Hyacinthus Indicus Tuberosus, daffodils, and roses; lists of plants organized as annuals, perennials and how he propagated them; notes on various ways to order plants in a garden; a seed report of two hundred and twenty plants that indicates how each seed was stored and includes recommended soil and sun conditions, lunar and celestial astrology for cultivation (see Appendix C, 1.0); notes about soil improvement,

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\textsuperscript{112} This is the earliest first-hand account of apiculture in Pennsylvania that I know. It is clear from these notes that many people in Germantown maintained apiaries, harvested the wax and honey, kept the harvest for themselves and sold the and honey.
soil types and water quality; a chapter about angling; and detailed records about Germantown’s weather, sunrise and sunsets.

Pastorius’ *Monthly Monitor* assembled practical knowledge from a variety of German, Dutch, and English sources and includes observations based on his own experience in his Germantown garden. For example, his chapter about his exotic ornamental plant which he grew for the pleasure of its scent, “Hyacinthus Indicus Tuberosus” carefully describes the plant and how it should be cultivated. He cites page eighty-five of Timothy Rolls, *Blumen Büchlein*.113

> that every Root or Clove doth bloom only Once and therefore the By Shoots ought the more Carefully be gathered. How you may multiply this Tuberosum by Sowing in the 7th [September] or 8th [October] mo. his black Seed very thin in a Pot or Pan & c. the German Capuchin Timoth. von Roll in his Blûmn büchlain pag. 85.

After his detailed accounting of recommendations from several books, he explains his own methods for propagating this delicate exotic plant in Germantown (see Appendix C, 5.0 and Chapter four). He was equally detailed about how he prepared his Asparagus beds (See Appendix C, 4.0), his vineyard and orchard (see Appendices C, 4.0, 10.0, & 11.0).

His *Monthly Monitor* documents Pastorius’ belief that astrology and lunar cycles had a power over his plants and influenced how he gardened, harvested and propagated plants, but also that he did rely on his own experience, success and failures in the garden.

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He recorded and ascribed to European theories of correspondence, astrology, and lunar influence found in German, Dutch and English almanacs and Paracelsus’ *medica*, however, his garden journal is not generic or a treatise that describes an ideal garden. It documents, in detail, how he gardened, how he tended his bees, what he grew and was able to harvest for medicine, food, and recreation, and when and how he worked in his garden. Chapters four and five will analyze most of this writing in detail.

Pastorius’ *Circumstantial Geographical Description of Pennsylvania* (*Umständige Geographische Beschreibung Der zu allerletzt erfundenen Provintz Pensylvaniae*), literally described the natural geography, agriculture, and industry established in Pennsylvania and Germantown in German for German readership in German and Dutch territories in Europe. This said, it does rely on analogous tropes that Pennsylvania had the power to redeem culture of sin and ruin. It is the only volume of writing to be published that documents his observations about agriculture, horticulture and the plants of Pennsylvania. His father, Melchior Adam Pastorius, worked with the Frankfurt Pietists to have it published in Frankfurt in 1700. It was widely circulated and published again in 1704 and again selections were published in 1850 and 1884.114 The preface to the 1700 edition clearly states Pastorius’ “strict search for a higher moral and spiritual purpose”115 in settling Germantown, Pennsylvania. Pastorius described Pennsylvania as a place where he could abandon himself completely to a “true


115 Erben, Brophy, and Lambert, 62.
Christianity." This declaration is followed by several chapters that describe in detail the settlement of Pennsylvania, including the manner and methods that William Penn employed to procure its settlement, descriptions of its towns, industry and natural resources, including lists of indigenous and imported plants (nuts, fruit, vines, field crops, and trees). Several chapters are dedicated to the material particulars of Pennsylvania’s natural and settled geography, the design of Germantown, its fields, houses, orchards and industry. It also includes anthropological descriptions of Native American’s cultural, agricultural, hunting, and fishing practices and their spiritual and physical interactions with land and plants. His observations in this book are anthropological in that they were written with a kind of objectivity and reverence that was unusual in the seventeenth century.

I thought to myself, these savages have never in their lives heard the teaching of Jesus concerning temperance and contentment, yet they far excel the Christians in carrying it out. ... They are, furthermore, serious and of few words, and are amazed when they perceive so much unnecessary chatter, as well as other foolish behavior, on the part of the Christians. Each man has his own wife, and they detest harlotry, kissing, and lying. They know of no idols, but they worship a single all-powerful and merciful God, who limits the power of the Devil. They also believe in the immortality of the soul, which, after the course of life is finished, has a suitable recompense from the all-powerful hand of God awaiting it.\footnote{Erben, Brophy, and Lambert, 65.}

In this text, Pastorius makes explicit the connection between his awareness and observations of Pennsylvania as a natural and settled place and his intentions to design a ‘true’ Christian life and lively-hood in Germantown.

Pastorius’ Ship-Mate Ship is a large notebook that includes a letter to Mary Norris, Rachel Preston, and Hannah Hill who were daughters of his good friend Thomas Lloyd, a long religious, meditative preamble, three poems, and decorated front and back covers. He wrote Ship-Mate Ship in 1714, near the end of his life. Erben describes it as his “most accomplished and sustained poetic endeavors.” The first poem, “I. The Origin and Progress of Plantation-Work” is his own biblical history of gardening and agriculture. It identifies Old and New Testament people, places, and plants. (This poem will be analyzed in more detail in Chapter six.) The second poem, “II. The Improvement of Ourselves on Plantations” is his own Biblical history of the divine book of nature and the pious work of gardening. The third poem, “III. The Extent & Produce of the Inward Spiritual Farm.” describes the nature of the pious work of gardening and farming. Each line of every poem references Biblical verse. This volume is carefully crafted: its penmanship is beautiful, every aspect composed, and its covers are ornamented with several plant prints. The poems are a culmination of his poetic writing about plants and gardening as they compose remnants of verse previously recorded in the entries of his Beehive and Deliciae hortenes poems. They are devotional in their writing and excellent

118 Erben, Brophy, and Lambert, The Francis Daniel Pastorius Reader, Writings by an Early American Polymath, 279.

examples of his Pietist leanings—how he actively studied the Bible and thought of himself as a gardener in the intellectual and spiritual senses—but they were also meant to instruct or teach their readers, the daughters of one of his closest friends in Pennsylvania.

Pastorius also composed a volume of poems about his garden, plants, and bees in 1714 as his *Deliciae hortenses, or Garden-recreations; and Voluptates apianae*. Christoph Schweitzer published a complete transcription and partial translations of these poems in 1982.120 Like his *Ship-Mate Ship*, it is beautifully composed and could be considered a cumulative effort as many of the poems and verse in the poems can also be found as entries in his *Beehive*. In some cases, he intentionally borrowed verse from other authors and cited their contribution, cited Biblical scripture, and also sometimes paraphrased other authors. He often cited and paraphrased Virgil and annotated the poems in the margins with footnotes of Biblical verse. The volume includes poems written mostly in English and German, but he also used phrases in French, Italian, Greek, and Latin. The poems are sometimes a literal narrative that tells us about specific plants and where they are planted in his garden, his interactions with his bees, capturing their swarms, stories of his neighbor Christopher Witt, his wife, Ennecke Klostermanns and his sons in the garden, and how he spent time in his garden. Many of the poems describe his interest in botanical orthography. The “Blumen and Kräuter ABC” in this volume is one example of botanical orthography. Sometimes the poems are metaphorical in that they employed botanical symbols to play with language and meaning and contemplated

120 Pastorius and Schweitzer, *Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae*. 
his garden as an emblem of Christian virtues. Like the Ship-Mate Ship poems, they are often devotional studies of Biblical verse. All of these poems tell his stories of his piety as a daily practice as it was grounded in a particular time and place—his Germantown garden, 1683 through 1719.

The last volume of writing that includes writing about gardening and plants is Pastorius’ Beehive, formally titled, *Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or, Rusca Apium, Begun Anno Do[mi]ni or, in the year of Christian Account 1696*. He wrote it between 1696 and 1719. It is a three volume, indexed twelve-hundred page encyclopedia that assembles commonplaces, notes, and citations from hundreds of books. This manuscript is a culmination of Pastorius’ intellectual, spiritual, and professional lives. Scholars so far have catalogued the books that Pastorius cited in this manuscript and have accounted for its complex, inventive arrangement of encyclopedic writing as Pastorius’ own commonplace book designed for future readers. Patrick Erben summarizes Pastorius’ Beehive as an ingenious culmination of his life-long scholarly project: “Instead of merely transporting European learning to Pennsylvania, Pastorius adapted the intellectual principles of his reading and writing in the cultural context of his new home. On one of the ‘Bee-Hive's’ numerous title pages, he announced


his book's role in mediating between Old World sensibilities and New World contingencies.”\textsuperscript{123}

I have navigated the \textit{Beehive}'s three volumes to index and catalogue entries that relate to Pastorius' interest in botany, gardening, plants, and agriculture. From these volumes, there are entries written in English and Latin\textsuperscript{124} that include versions and various translations of original poems about plants and gardening; inscriptions that Pastorius recorded from gardens in Europe; epistolary poems that Pastorius wrote to his Germantown neighbor Christopher Witt; Pastorius' own notes from Henry Peacham’s "Emblematic Recreations"\textsuperscript{125} about buildings, gardens, plants, and labyrinths; and many specific indexed entries, including: “ornament and the garden,” “ordering a garden,” “garden dog,” “magical cures,” “alchemy,” “chemistry,” “astrology,” “printing,” “landskip,” “land,” “geography of the world,” “wild,” “wilderness,” “flowers,” “gardens,” “physic,” “herbs as doctors,” “doctrine of signatures,” “history of printing,” “agriculture,” “Indians,” “nature,” “tulips,” “roses,” “rose of sharon,” “vegetables,” “kinds of trees,” “hops,” “cabbages,” “sallats,” “milk herbs,” “daisies,” and “Virgil Georgics.” Each of these terms are as Pastorius indexed them in his \textit{Beehive}. I have also

\textsuperscript{123} Erben, \textit{A Harmony of the Spirits: Translation and the Language of Community in Early Pennsylvania}, 185–86.

\textsuperscript{124} There are likely many more entries about plants and gardens written in German, but I have not transcribed or accounted for these. I have used Pastorius’ indexes as a guide and these are written almost entirely in English.

\textsuperscript{125} Henry Peacham, \textit{Minerva Britanna or A Garden of Heroical Deuises} (London, 1612).
transcribed several other entries found by browsing that were not directly indexed by Pastorius (see Appendix D).

Although the *Beehive* is not solely focused on botany, gardening, agriculture, these subjects are a significant part of this cumulative encyclopedic writing project. Whereas he wrote his *Monthly Monitor* and *Artzney und Kunst* as for the most part, practical guides for gardening, botany, farming, and medicine in Germantown, his *Beehive* documents his ideas about plants, botany and gardening as a substantial part of his life in Germantown. Therefore, it is a useful reference to clarify the meaning of words as Pastorius understood them in his writing. Its writing includes examples of literal, analogous, and metaphorical writing with some references to his interest in orthography. It is a primary point of reference for most of his writing about gardening and plants—all of his other manuscripts, his *Monthly Monitor, Artzney und Kunst, Ship-Mate Ship, Deliciae hortenes*, and his *Geographic Description of Pennsylvania* in some way are connected to and referenced in entries of his *Beehive*. It is a primary source that explains Pastorius’ interest in gardening, gardens, and plants.

**Commonplacing and the Commonplace**

I acknowledge with Macrobius, that in this Book All is mine, & Nothing is mine.126

126 In this chapter and chapter four, I consider ‘commonplace’ as a noun and verb as a basis for understanding Pastorius’ ‘garden’ (n.) and what it meant to him to ‘garden’ (v.). See OED entry for “commonplace” (v.): To extract ‘common places’ from; to arrange under or reduce to general heads; to enter in a commonplace-book. This usage first appears in English ca. mid seventeenth-century. As a noun, it first appears ca. sixteenth-century.

127 Pastorius, “Beehive, Bee-Stock,” I, V. 1. Macrobius was a fourth century Roman administrator in ‘Hispania’ and Africa, and an intellectual. (His full name was Ambrosius Theodosius Macrobius.) He wrote
Pastorius cited Macrobius and other ancient scholars on his many title pages of his *Beehive* as if to narrate his own history of the Renaissance tradition of commonplacing. These citations directly refer to the first aspect of commonplacing, “a kind of locale in the imagination where one goes to seek arguments.” This practice was adopted as the primary mode of reading as a basis for making rhetorical arguments and all forms of writing for the educated elite at Lutheran Humanist universities like the Universities of Altdorf, Strasbourg, and Jena, where Pastorius was a student (see Chapter One). Peter Stallybrass and Brooke Palemeri have been studying Pastorius’ *Beehive* as a tour de force that modeled and reinvented European commonplacing traditions for readers in colonial Pennsylvania. In a lecture to the Orrery Society of the University of Pennsylvania, they described this mnemonic aspect of the commonplace tradition as Pastorius understood it. The method allegorized gardening as an active mode of learning. To read was to garden. A title page of John Amos Comenius’ textbook, that Pastorius knew as a student well, *Orbis Pictus* reads: “The student whilst he readeth books pickith all the best things out of them into his own manual. This is how you go about writing...To

three texts. One was a treatise on Latin and Greek grammar. The second, was a philosophical text that invoked Plato’s *Republic*. Third, was an imaginary dialogue between intellectuals, not unlike Pastorius’ colloquies, that we will see later in this chapter. The three texts are titled: *On the Differences and Similarities of the Greek and Latin Verb, Commentary on the Dream of Scipio*, and *Saturnalia*. Pastorius’ access to these texts could be explained by his education and his library of hundreds of volumes that included collections, general histories, and encyclopedias. I have not located these texts directly cited in his *Beehive, Alvearialia or Res Propria*. See: Mikail Zahariade. “Ambrosius Theodosius Macrobius.” In *The Encyclopedia of Ancient History*. Blackwell Publishing, 2013.

gather, to read...To gather a posie...Lego means to gather or to read.” There is an image on this same page: “This is Aristotle, actually a text where the plant is being pulled out [a reader reading this, extracting plants from what they read] ...This is active reading.”

Pastorius did not draw pictures like this, but in his *Beehive* he explained his sources for his bee, hive, and gardening metaphors that he employed in the writing of his poetry and making of his *Beehive*.

One of his many definitions for ‘poesy’ in his *Beehive* reads: “Poetry’s the flower of wit”—poetry being a living, divine organism of the mind. He also cited Seneca’s Epistle 84, *On Gathering Ideas*, on one of his pages as his source for the bee and hive as a metaphor for his own reading and writing.

We should follow, men say, the example of the bees, who flit about and cull the flowers that are suitable for producing honey and then arrange and assort in their cells all that they have brought in; these bees, as our Vergil says, pack close the flowing honey. And sell their cells with nectar sweet.

These metaphors extended from how he lived in his books to how he lived and worked in his garden. To commonplace was to cull, gather, pluck, or pick flowers or fruit.

It is in his poems where he combined these garden and bee metaphors with symbolic meaning of plants as divine beings. Herein they became his own commonplaces

129 Stallybrass, Palmieri, and Rogers, “Orrery Society Inaugural Presentation: Peter Stallybrass and Brooke Palmieri on Renaissance Reading and Writing, the Commonplace Tradition, and the Beehive Manuscript of Francis Daniel Pastorius.”

130 Pastorius, “Beehive, Bee-Stock,” 753 (V2).

where he immersed himself in the metaphors of the very plants of his garden. In his
_Deliciae Hortenses_, he again described his reading and writing as bees make and store
honey in their honeycombs. But here he was not just following the example of bees, he
was a bee, words were plants and a book was a garden.

> Jch slaht de Byen, en Jck trach teen By te wezen,
> Niet traegh; maer dragende in’t Boeck by’t Boeken lesen.
> Jck swerm met mÿn Gemoedt door alderhande Kruyt,

[I resemble the bees, and try to be a bee,
Not slow; but carrying into the book while reading books.
I swarm with my mind through all kinds of plants.]\(^{132}\)

These poems exemplify a second aspect of commonplacing, a “speech-within-a-speech”
used to amplify or magnify a subject.\(^{133}\) The bee metaphor described in his poem was his
commonplace that substantiated how and why he gardened, his garden work being pious,
intellectual work.

There is one commonplace employed by Pastorius that all of his botanical
commonplaces referenced: his garden was a place behind his house, but it was also a
place in his imagination where he cultivated plants as commonplaces of his piety. There
are several examples of this in his _Deliciae hortenses_ collection of poems.

> J planted with my hand/Jn good mould and in sand:/The work now being done,/J
> whet my Brain thereon.

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\(^{132}\) Pastorius and Schweitzer, _Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae_, 75,
translation Schweitzer p. 98. This poem is written in what Pastorius called ‘low Deutsch’, what we now
know as old Dutch. Schweitzer’s translation.

\(^{133}\) Lechner, _Renaissance Concepts of the Commonplaces, An Historical Investigation of the General and
Universal Ideas in All Argumentation and Persuasion With Special Emphasis on the Educational and
Literary Tradition of the Sixteenth and Seventeenth Centuries_, 2.
To “whet” here is Pastorius sharpening his wit and curiosity on the material of his garden. There is a second example where he described his garden as a place to extract “Time and Patience.”

1. Extract the Quint Essence
   Which grows here in my Garden;
   Jt makes hard Cases soft,
   Does faint and soft hearts harden.
   For all the World’s Produce
   As this Quint Essence
   Of Time and Patience,
   And when applied oft,
   Has no such gen’ral use
   Of Time and Patience.

Some murmure at poor Time, and Say we want it,
And then of Patience, Oh! that God would grant it!
But let me telle those ff.s that they should plant it. For the Old
Saying is,
ORA et Labora. Wishes are no horses, nor no horse-rhadish neither.\textsuperscript{135}

This poem declares his belief that the work of gardening is a kind of devotional meditation on God— “ORA et Labora,” pray and labor, and that just wishing for “Time and Patience” is not enough, it must be planted, tended, and harvested. To him gardening was pious work, one gardened to see, perceive, read God as it was manifest in life.

The garden as a place of piety was a commonplace employed by medieval mystic poets, early modern German folk songs, Lutheran hymns, the writings of Johann Arndt, Jacob Böhme, and poetry of Martin Opitz.\textsuperscript{136} Pastorius used this commonplace in Pennsylvania because it was so familiar, as it was embedded in many aspects of his life.

\textsuperscript{134} Pastorius and Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae, 44.
\textsuperscript{135} Pastorius and Schweitzer, 51.
scholarly, secular and religious lives in Europe. He realized his piety in the making of his garden. His garden magnified his belief and his belief magnified his art.

He borrowed from the traditions of Lutheran Humanism, German botanical poetry, read and wrote the symbolism of plants as it was embraced by German Pietism, and situated these combinations in his garden. The first examples are the most common images of a plants of German Pietist writing based on chapter eleven of the book of Isaiah and The Song of Songs, ‘the Rod of Jesse’ and ‘Rose of Sharon.’ Pastorius wrote these symbols in the second poem of his Ship mate Ship: “II. The Improvement of Ourselves on Plantations.”

And He himself it’s offspring too, according to the Flesh: (Rev. 22: 16.)

32: The Flesh | well call’d the Flow’r of Grass, | which fadeth & decays, (1. Pet. 1: 24.)

None but the Rose of Sharon can be blossoming always. (Cant. 2: 1.)

Chapter eleven of the book of Isaiah describes “The care of God over his vineyard.” Verse six of this chapter reads: “He shall cause them that come of Jacob to take root: Israel shall blossom and bud, and fill the face of the world with fruit.” Chapter ten, cited by Pastorius further allegorizes the “Rod of Jesse” (also called the Root of Jesse) as an image of the divine growth of Israel. The ‘Rose of Sharon’ as used in line thirty-two is quite simply a symbol of Christ. He cites “Cant 2:1.” This is chapter two, verse one of Song of Solomon: “I am the rose of Sharon, and the lily of the valleys.” Both of these

plants and Biblical citations were commonplaces in Pietist literature read by Pastorius and also continued to be used in the imagery of Pennsylvania German folk art through the nineteenth-century.  

There are also examples of plants that Pastorius wrote as symbols in his poetry that he also cultivated in his garden. He used flowers and his garden symbolically in general and specific senses, suggesting in his poems that the plants of his garden spoke to him and showed him God’s power. This entry in his Beehive is indexed “garden” and situates the symbolism of ‘garden’ in his own garden behind his house.

Whatever in my garden grows God's Goodness Might and Wisdom shows; This threefold Attribute I see In every herb, Flow'r Shrub and Tree: Each Tree, Shrub herb & Flower cries, he's bounteous, powerful & wise.  

Several pages after this entry, is an entry that describes his understanding of ‘White Lillies’ as symbols of purity and the virgin Mary. This image refers to verse in the Biblical books of the “Song of Solomon” and “Hosea.” He grew white lilies in his garden and writes about them in several places in his Monthly Monitor and Artzney und Kunst. (See Appendix C, 1.0, 2.0, 6.0, and 8.0.)

White Lillies yield the sweetest Smell When Virgin like they stand; I mean, when (understand me well) Untouch'd by humane hand. So is the Sacred writ of old Without the Newish Gloss, Of Glossers, and of Glosers bold. Away with all their Dross!  

Wie wilstu weiße Lilien Zu rothen Rosen machen?

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138 See Chapter four of Stoudt, Pennsylvania German Folk Art.

139 Pastorius, “Beehive, Bee-Stock,” 166-167 (V. 1).

Küß unversehns dein Polyxen,   Sie wird erröthet lachen.\textsuperscript{141}

White Lillies presently One may metamorphose
By kissing Margery, (Dorthy, & c.) Into a Damask Rose.\textsuperscript{142}

Pastorius also grew several kinds of roses in his garden: “My Roses, are quadripartite,
Some Musk, some Red, Some Pale, some White. What than makes my Cordolium? I want the Centifolium.”\textsuperscript{143} Roses were images of love, perfection, a woman, and paradise in Pietist and Christian writing. Here he suggests that a white lily could metamorphosize into a damask rose with a kiss—that the purity of the virgin Mary could metamorphosize into a woman like Margery or Dorthy with a kiss. Margery here is likely referring to Margery Kempe, a fourteenth-century Christian mystic and Dorthy is Dorothea of Caesarea who was a fourth-century Christian martyr.\textsuperscript{144}

Plants as symbols and living beings were his commonplaces for what he gardened, they were the divine material of God’s creation with the power to heal and bring pleasure to him, his family and neighbors. Plants in his mind, were evidence of God, they spoke to him and he wrote of them and planted them as commonplaces, ‘speeches within speeches’ that made a garden. These commonplaces were rooted in his Pietism as it was influenced by the writings of Jacob Böhme discussed in Chapter one.

\textsuperscript{141} Transcription of Pastorius’ German in this verse is also found in Pastorius and Schweitzer, \textit{Deliciae Hortenses, or Garden-Recreations; and Voluptates Aphanæ}, 53.

\textsuperscript{142} Pastorius, “Beehive, Bee-Stock,” 174–75, V. 1.

\textsuperscript{143} Pastorius, 193, V. 1.

\textsuperscript{144} I can find no citation to this effect in his writing, but Pastorius always used names in his poetry purposely and almost always referred to figures of the history of Christianity, the Bible and classical literature.
His poetry and garden relied on the embodied meaning of images of plants and gardens. They are original in this regard as examples of early American art.

**Writing and Printing a Botanical Language**

*How to set my Delicias Hortenses, or Germantown Garden Recreations in Order.*
I planted with my hand
In good Mould & in Sand,
The work now being done,
I wet my Brain upon
Minerva's Grindle-Stone.\(^1\) —Pastorius (*Beehive*)

Three things in this poem stand out as an example of Pastorius’ own adaption of *ut pictura poesis* as his own *ut hortenses poesis*. He conflates writing and gardening, makes explicit his Germantown garden was a place of physical and intellectual labor, and he invokes Minerva, the Roman goddess of medicine, the arts, wisdom and poetry—in his mind, the work of gardening is like the intellectual and imaginative work of writing poetry. This is the second main theme of most of his writing about his plants and garden.

Pastorius understood the Humanist authority of *ut pictura poesis* as it was based on Horace’s *Ars Poetica*. This ancient assertion is a comparison of painting with poetry that translates, “as is painting so is poetry.” The influence of this simile has been described in the *Encyclopedia of Poetry and Poetics*: "The Horatian simile, however interpreted, asserted the likeness, if not the identity, of painting and poetry; and from so small a kernel came an extensive body of aesthetic speculation and, in particular, an

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\(^1\) Pastorius, “Beehive, Bee-Stock,” 140–41, V1.
impressive theory of art which prevailed in the 16th, 17th, and most of the 18th
centuries.\textsuperscript{146}

The very first poem in Pastorius’ \textit{Deliciae Hortenses} cites Horace’s \textit{Ars Poetica} directly. The poem is a prayer and establishes the general theme of all the poems in this
collection. The first part of this poem is excerpted below.

Francisci Danielis Pastorij
Deliciæ Hortenses,
Or
Garden-Recreations.

Honest Country-man, Cultor virentis Agelli.*
Thy Garden, Orchard, Fields,
And Vineyard being planted
With what good Nature yields,
Brave things to thee are granted;
Besides the Gifts of Grace.\textsuperscript{147}

*[The tiller of a verdant field.]\textsuperscript{148}

It and its annotations in its margins realize two themes found in \textit{Ars Poetica}: authenticity
of the poet’s voice and that the source of good writing is wisdom. Horace suggests that
authenticity of the poet’s voice can be found in a writer’s own world, what they know.

Take a subject, ye writers, equal to your strength; and ponder long what your
shoulders refuse, and what they are able to bear. Whoever shall choose a theme
within his range, neither speech will fail him, nor clearness of order.\textsuperscript{149}


\textsuperscript{147} Pastorius and Schweitzer, \textit{Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae}, 43.

\textsuperscript{148} Pastorius and Schweitzer, 87.

Pastorius wrote poems about what he knew well: his garden, woods, bees, and the Bible.

“Cultor virentis Agelli” is a phrase that Pastorius culled from lines 115–118 of *Ars Poetica* which reads: "Vast difference will it make, whether a god be speaking or a hero, a ripe old man or one still in the flower and fervour of youth, a dame or rank or a bustling nurse, a roaming trader or the tiller of a verdant field, a Colchian or an Assyrian, one bred at Thebes or at Argos." Here Horace suggests that all of these could be writers of poetry. Pastorius declares himself, the ‘honest country-man, tiller of a verdant field’ poet from a Virgilian tradition. He was a tiller of his own fields in Pennsylvania.

Pastorius’ poem is framed with decorative borders and annotated with aphorisms written in Latin. The verse written above the poem reads:

In

 sipiens

 Con

Ad

st  nus  a

Insanus  olide  quam non  spicit herbas. MDCCXI.  

[The foolish one is completely foolish when he foolishly at no time and no place looks at plants.]  

Horace declares the source of good poetry can be found in wisdom drawn from life.

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150 Fairclough and Horace, 459–61. Schweitzer called attention to this citation, see Pastorius and Schweitzer, p. 87.

151 Pastorius and Schweitzer, *Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae*, 44.

152 Pastorius and Schweitzer, 87. See Chapter six and Appendix E.
Of good writing the source and fount is wisdom. ...I would advise one who has learned the imitative art to look to life and manners for a model, and draw from thence living words.\textsuperscript{153}

The annotation above the poem that declares ‘a fool does not look at plants’ is one example where Pastorius declares plants as his source of wisdom where he looked for models and ‘living words.’

Pastorius addressed “Poesie” in many entries in his Beehive. We can understand Pastorius’ “Poesie” as a poem and poetry.\textsuperscript{154} In these entries he accounts for many aspects of poetry including Horace’s assertion, \textit{ut pictura poesis} from \textit{Ars Poetica}. Below is Pastorius’ entry for “Poesie” adjacent to the Loeb translation of lines 361–364 from \textit{Ars Poetica}.

\begin{quote}
Poesie is a speaking picture, & Picture a speachless poesie. busie their brains to hamer.\textsuperscript{155}

A poem is like a picture: one strikes your fancy more, the nearer you stand; another farther away.\textsuperscript{156}
\end{quote}

Pastorius rephrased the seventeenth century common trope of \textit{ut pictura poesis} and addressed the idea that the writing of poetry is a kind of labor. The complete sentence where \textit{ut pictura poesis} is found also suggests that a poem can be spatial, a kind of place that can be appreciated up close and from a distance. Both of Pastorius’ interpretation and


\textsuperscript{154} “Oxford English Dictionary,” See entry for “poesie.”

\textsuperscript{155} Pastorius, “Beehive, Bee-Stock,” 470 (v. 2).

\textsuperscript{156} Fairclouch and Horace, \textit{Satires, Epistles, The Art of Poetry}, 481, line 361.
translations of poetry, describe poesie as an animated being. Poesie speaks to you. Herein is Pastorius’ hortenses poesis, his garden and plants were his source of wisdom for writing poetry and they spoke to him: “And hear, how here some Trees & Bushes talk their fill.”

Pastorius’ employed different modes of writing about and with plants. His writing was either literal, analogous, metaphorical, or botanical orthography. Examples of his writing that could be described as literal are concerned with documenting his garden, orchard, vineyard and woods. This writing for the most part catalogued plants into lists of what he cultivated and harvested, but also what he ate and how he used plants to solve practical problems. It is mostly based on his own experience in Pennsylvania. Sometimes, these lists were encoded with analogous information and referred to other kinds of writing. A large part of his Monthly Monitor is populated with analogous lists and explanations. This writing is primarily concerned with correspondence between astrological alignments and plants, soil and water, lunar cycles and plants, plants and other plants, qualities of plants and human experience. This writing connects his own experience with plants and gardening with his knowledge about plants that he read in his books. It is his poetry recorded in his Deliciae Hortenses, Ship-Mate Ship, and Beehive that connects his own experience and book knowledge with his Christian beliefs. This writing is for the most part metaphorical in that it is primarily concerned with his plants and garden as symbols of his Christian morality. It is obsessively annotated with citations

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157 Pastorius, “Beehive, Bee-Stock,” 178-179 (V. 1). Later in this chapter and chapter six, I will discuss how his compositions of plant prints (as images) were ‘speaking pictures.’
of Biblical verse. This said, sometimes his poetry narrates the real conditions of his
garden. Pastorius’ nature prints and _ABC Kräuter_ poems can be analyzed as a kind of
botanical orthography. Here he was printing plants and ordering plant names into
alphabets to write what he called his ‘botanical language.’ This writing was concerned
with spelling as an art or practice, but also orthographically projected figures of plants.
He believed plants to be the divine material of God’s creation and printed them to read
their signatures in their figures. He printed fragments of plants to write what he called his
_ABC Kräuters_. Similarly, he wrote _ABC Kräuter_ and acrostic poems with both German
and English common names of plants. These practices suggest that he considered the
visible and auditory figures of plants and plant names as part of his botanical language.
All of these modes of writing, collectively documented and theorized a very particular
kind of garden that privileged experience, book knowledge and belief.

Pastorius’ _Monthly Monitor_ is populated with many kinds of lists: lists that situate
plants and trees in his garden, fields, or woods; lists that catalogue his seeds, how he
stored them, and how much he has stored; lists that catalogue plants as to part of his
garden, orchard, or vineyard; lists that describe plants as annuals or perennials; plants that
are wild and collected, or cultivated and harvested; lists of plants by how he propagated
them; kinds of weather, water, and soil; and detailed records of temperature, sunrise, and
sunsets in Pennsylvania throughout the year (see Appendix C). There are different kinds
of lists in his _Beehive_. Sometimes these lists cross-reference other kinds of lists or entries.
Additionally, he sometimes annotated his lists with poetic verse. For some kinds of
plants, he dedicated several pages to describe a plant, its place in his garden, how he
cultivated them and how he prepared them for meals, medicine, or household use. This kind of writing is literal, concerned with documenting his garden, field, and woods.

There are two lists of trees and shrubs, one from his *Monthly Monitor* and the other from his *Beehive* that could be described as literal. His lists found in his *Monthly Monitor* are for the most part quite literal and organize the plants by where they are cultivated or found in Pennsylvania and whether they are perineal or annuals. (For complete transcriptions of these lists, see Appendix C, 6.0.) “Trees whereby Known” is entry 328 in his *Beehive*. This entry lists fifteen trees as a part of a poem, where trees talk.

As by the diff'rent Fruits wise Orchard-keepers see,
And say, This is a good, but That an evil Tree;
So o the same self foot Impartially I judge
Of men of all degrees, without Respect or Grudge:
And thus my Reader may, Or rather keep him still,
And hear, how here some Trees & Bushes talk their fill.

1. The Bramble:
2. The Rose-tree:
3. The Briar:
4. The bastard Currant Tree.
5. The Raspberry bush:
6. The prickly Paliurus:
7. The Ivy tree:
8. The Hulver or Holm tree:
9. The Juniper:
10. The Bay tree:
11. The white & black Poplar:
12. The Apple tree:
13. The wild Pitch tree:
14. The Birch:
15. The Palm tree:

If ye would further know, what other Trees now say,
I bid you harken; But for me, I dare not stay.
That there of Apricocks, Pears, Chestnuts, Pomegranates,
Figs, Citrons, Oranges, Plums, Quinces, Almonds, Dates, & c.
Will Orderly Discourse of Matters rare and true:
My time is quite elaps'd therefore Dear Friends, Adieu.¹⁵⁸

The plant lists in his *Monthly Monitor* are for the most part practical and document valuable trees, plants and shrubs of Germantown, whereas, this one appears to be a practical list, but in the end, imagines the trees of an “Orchard-keeper” as moral beings with the human capacity of speech. In the end, this list is literal but also refers to the mythology of the Greek oracle of Dodona. Versions of the oracle of Dodona referred to a specific sacred landscape, a temenos that included wild and cultivated groves deemed sacred because “Zeus was believed to speak through the rustling of oak-leaves.”¹⁵⁹

Several Latin classical writers prevalent in Pastorius’ writing referred to Dodona, especially Herodotus, Virgil, Macrobius, and Pliny the Elder. The oak in the oracle of Dodona, as Pastorius’ “Trees whereby known,” were functional and symbolic in their wild and cultivated woods. Margaret Mills considers the mythological nature of trees as characters in Dodona’s Greek landscape: "At Dodona, nature itself, in the form of the oak, the winds, and the remembered doves, was the means by which humans could receive communication from the god."¹⁶⁰ It is the same for Pastorius, except that he believed himself to be communicating with his own god, but he was also very much

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thinking about trees as a part of his Christian Humanist literary imagination. Pastorius transplanted these imaginative ideas directly into Germantownship’s woods. Similarly, he writes of words inscribed on his trees in his “Emblematic Recreations.”

In the “Trees and Shrubs” section of his “Emblematic Recreations” catalogued in his Beehive is an image and Latin motto that suggests that he himself wrote on trees. This practice was practical but also part of his imaginary writing of his garden.

Some words engraved on a Tree: Crescitque manetque Cicatrix. Dum crescit, nomina crescent.

[Some words engraved on a Tree: the scar both grows and remains. While it grows, the names grow.]

Trees served as geographic markers to establish the corners of Germantownship in Pennsylvania. These trees are actually noted on the first survey of Germantownship in 1683. Pastorius would have done the same to mark the perimeter of his and Enneke’s town lot in Germantown. But more significantly, he would have been inclined to mark the trees in his own woods with writing in the same imaginative tradition of Dodona, but also because the woods of Franconia was populated with trees marked with images and words that were venerated as sacred chapels. In German, a sacred tree marked with words or a shrine is called a “Bildbaum.” The images depicted in these shrines were often allegorical but also sometimes referred to specific Biblical verse. Sometimes these trees

162 Pastorius, “Beehive, Bee-Stock,” 82. Translation: Zachary Elliot.
were marked by monasteries, but not always. They often served as markers to guide travelers on a pilgrimage to a monastery or town, but they were also treated as sacred places. “The shrine tree (*Bildbaum* in German) effectively becomes a kind of new or anti-cathedral.”164 This practice was commonplace in the countryside of seventeenth-century Germany. It was also reinterpreted in the making of the sacred churchyard of the *Blumenorden’s* garden north of Nuremberg discussed in Chapter one. Inscribed trees marked both the countryside and the cultivated gardens of Franconia. Pastorius also inscribed Latin mottos on many elements of his garden, including his trees.

There is another literal list in his *Monthly Monitor* that documents some of his favorite foods grown in his garden. He liked salad and preferred it with supper.


Of this Glove to take Six parts, & the seventh of the following [note from the margin: ‘quodlibetical’] hotch potch of wholsom herbs, viz. a little Scurvy grass, Sorrel burnet, garden Cresses, borage=marigold=& gilli=flowers, Balm, mint, nep, thyme, marjoram, hysope, sage, fennel, Chervil, parsley, purslain, Sweet Basil, Savory, Smallage, & c. together with the fresh Sprouts of Onions, Leek or Shallots.

Eat your Saellet at the beginning of Supper with some Eggs.165

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Not only does this list document aspects of his diet, but also the fact that he cultivated these ‘salladings’ year-round, as much as it was possible.

The most literal of his lists is his “Reportium Seminale” (Seed Report) found near the end of his *Monthly Monitor* (see Appendix C, 1.0.). This list is an alphabetical list of two hundred and twenty plants that he cultivated in his garden. It indicates where and how he stored the seeds of each plant in his closet, sometimes indicated how much seed he had stored, and is also codified with symbols that indicate what kind of soil and sun conditions each plant prefers. All of this information was the result of his own direct experience. Additionally, sometimes he codified the plants of the list to indicate which astrological sign ruled over each plant. This information he learned from books like Culpepper’s pharmacopeias, European herbals and almanacs. He explains how he has codified his ‘Seed Report’ at the beginning of the list.

In the subsequent Alphabet ⋆ Intimates the same to be Pernans or Longlived; the rest must be yearly renewed by Sowing. ⋆ signifies New Moon, ⋄ Full, Incr[ease] Decr[ease] Last Qu[arter] 1st 2d. 3d. & c. the Month, in which they should be Sown or Planted. dry gr. wet gr. fat gr. & c. ⋄ Sh. whether they love to grow in dry, moist, dunged, sandy ./. ground, sun shiny or Shadowy places. B. stands for [linen] Bags, C. for Calabashes & P. for Paper bags with the additional number, where to find the same in my Closet. The red Figure saith, how many years the sd Seed keeps good. And a :●: Point prefixed, that I have of it, But the rest I ought to procure, if possible gratis.167

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166 ‘Closet’ to Pastorius could mean a closet or cabinet in a room inside his house, but it could also mean an entire room in the garden, perhaps an outbuilding in his garden. Isaac Norris’s son used ‘closet’ to refer to his library in an outbuilding in his garden. See, Reinberger, Mark, and Elizabeth McLean. “Isaac Norris’s Fairhill: Architecture, Landscape, and Quaker Ideals in a Philadelphia Colonial Country Seat.” *Winterthur Portfolio* 32, no. 4 (Winter 1997): 243–274.

Pastorius’ ‘Seed Report’ is very literal, it explains how he managed the quantity of plants grown in his garden, but is also concerned with correspondences between the plants of his garden and their relationship with soil, the sun, celestial and lunar phenomena.

There are other kinds of lists and entries in his *Monthly Monitor* designed to remind him, as the gardener to take care and harvest particular plants according to their corresponding astrological associations and interactions with their environment. He fully adopted natural astrology as a basis for cultivating, harvesting and propagating plants. (This will be discussed in more detail in Chapter five.) For the most part, in this writing, he cited Culpepper and Hohbergs’ *Georgica Curiosa*. Culpepper’s books were English and distributed widely in colonial Pennsylvania. The *Georgica Curiosa* was published in Nuremberg in 1682, 1701, and 1715. This means he was drawing from both English and German sources and his correspondences reflected both English and German ideas.

Above his list that organizes plants by their governing planets, he explained the consequences of these associations and recommends particular ways for harvesting plants.

Gather your herbs, flowers & Seeds in the Planetary hour, i.e. Let the planet that governs the herb be angular, , p. th stronger the better. In herbs of Saturn, Let Saturn be in the ascendant, if you can. In herbs of Mars, let Mars, be in Mid- heaven, for in those houses they delight: Let the Moon apply to them by good Aspect, & let her not be in y houses of her Enimies. If you can not well stay till she apply to them let her apply to a plant of the same, triplicity, & if you canot wait that time neither, let her be with a fixed star of their Nature.

His list organized plants that he cultivated in his garden by Saturn, Jupiter, Mars, Venus, Mercury, and the moon and sun as planets, that plants should be harvested according to their governing planet (see Figure 5.8).
To gather herbs, be of the right time sure, For else you undertake in vain the Cure.

**Saturn** governs the Peach tree, Quince tree, Poplar tree, Medlar, Comfrey, hemp, knot-grass, dead arsmart, Mullin, Waterfevse, [ill], Snakeweed, Solomons Seal, Shepherds purse, rapture wort, darnel

**Jupiter**: Chestnut, red roses, billberries, quickgrass, balm, cinqfoil, docks, agrimony, liverwort, Scurvy grass, Endive, bourage, gilly flowers, sage, asparagus, succory, Chervil, hyssop, houseleek

**Mars**: hawthorns, thistles, arsmart, nettles, barberries, Savine, hops, Rubarb garden patience, Carduus benedictus, Pepperwart, garlic, onions, Cives, Mustard, wormwood, Tobacco, rhadish, horse rhadish, Bazil.

**Sol**: Wallnuts, Juniper, Rosemary, Turnsole, Eye-bright, Clendine, Rue, barnet, Marygolds, Chamomil, Lovage, Centaury,

**Venus** Peach & Pear tree, Cherrytree, Plum, Elder, blackberried, vine, Damask-roses, Violets, Strawberries, beans, parsnips, wheat, burdock, wood-sorrel, featherfew, mint, catmint, penny royal, plantain, tansie, thyme, wild thyme, golden rod, Mallows, Columbines, Motherwort, Mugworth, Vervine, yarrow,


**Luna**: Willow-tree, white roses, white lillies, Lettuce, Cabbages & Coleworts, Clary, poppy, purslain, Cucumbers, Orach, water cresses, water lillies, water flags, Clover, Moonwort, Mouslar, Rattle grass, Orpine, 168

This is a complicated measure of time that presumes a correspondence between celestial alignments and when fruit and vegetables mature and ripen.

Likewise, Pastorius believed that plants should be propagated according to lunar cycles—that there was a correspondence between the moon’s power and particular plants (see Chapter five). In his *Monthly Monitor*, he recorded a catalogue of plants to be sown

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168 Pastorius, 21.
according to phases of the moon: “The Moon being New,” “The Moon Increasing,” “In the Full Moon or Just before,” “The Moon Decreasing,” and “In the Last Quarter.” These correspondences were quotations from Culpepper and Hohberg, and the many almanacs in his library.

**The Moon Decreasing:** Rhadish, parsnips, Carrots, Beets, Onions, parsley for the root, Smallage, Chervil, Clary, Celandine, Calmus, Elicampane, Succory, Gourds, Cucumers, Melons, pumpions, Squashes, Beans, Peas, Cornsalad, Scorzonera, Potatoes, Comfry.

Transplant also young Trees and Shrubs.

**In the Last Quarter:** Beans, Peas, Coleworts, Turnips, Rice, Chickpeas, Millet, Lentils, Barley, Oats, Buck-wheat, Rye, Wheat, Flax, hemp.169

According to these notes, it is in the decreasing and in the last quarter of the moon when trees should be transplanted and most of the field crops of Germantown should be sown (also see Figure 5.6).

Pastorius wrote many narrative poems that describe where in his garden particular plants were planted. (What and where he planted will be analyzed in Chapter four.) Although these poems may, at first read, appear to be descriptive and literal, but they were encoded with his belief in celestial correspondences and Christian morality. In the following poem, three plants from his celestial lists were ordered at the entrance of his garden. He calls them his ‘sentinel’ or ‘wardens’ of his garden. In his poems, trees and plants often talked to him, but it is important to remember his interest in emblematic

169 Pastorius, 84.
poetry. Each plant mentioned here symbolized something, whether that be the power of a planet or Biblical symbol.

206. Here at the Entrance of my Garden
There stands a Sentinel or Warden
Whose Names are Rue, Mint & Thime,
Born in our unrefined time.
They and their Neighbour Patience
Shall never be removed thence,
As long as I am call'd the Owner.
If you kill any of them four,
That keep the Watch at this my door,
Then certainly you will be [ill]g'd
Or, being a Child, severely bang'd;
And Nettle-rod one of the Jury, Revengin all hurts done [ill]170

When he wrote about and planted mint, he thought of Venus and all of its qualitative correspondences, and with Thyme he thought of Mercury and Venus. Could we read this poem also like this: ‘Here at the Entrance of my Garden, There stands a Sentinel or Warden, Whose Names are New Moon, Venus, and Mercury’171? The “Nettle-rod one of the Jury” is no doubt a reference to nettle’s stinging hairs and possibly, Isaiah 34:13.172

He employed his taxonomic, practical lists of his garden journal when he wrote his narrative and emblematic poems. When he was gardening and writing, he was conversing with his plants, but also with his books and the Bible by way of his plants.

There are poems in his *Delicæ Hortenses* and *Beehive* that are very practical declarations about his medicinal plants in his garden. However, in the following poem, he fiercely defends violets for their medicinal qualities but also as symbols of love. In his


171 Pastorius lists Rue to be planted at the new moon, but Culpepper lists Rue as a plant of the Sun and Leo. Also Pastorius lists Thyme as ruled by Mercury, but Culpepper lists it as ruled by Venus.

mind, as this poem clearly states, not only did they treat the discomfort of a headache, fever, skin burns, but also that they provoked passion of the heart.

Qui violas Violas, fies violabitis Ipsa, [For those who violate violas, scatter away or]
Ne violes Violas, o Violenta! meas. [Do viola, violas, Violence! I will]
Why doest thou send me Violets my Dear?
To make me burn more violent, I fear:
With these thy Cordial Flow’rs too vehement thou art
To let on Fire and to violate my heart.
Some from an other hand did Cool my Sore,
But thine (th’ very fresh) in flame it more & more.
My head-ach, thirst, hot Ague, Pleurisie,
Are not remov’d, they are Increas’d thereby.173

He believed physical, spiritual, and emotional health were equally important—he did not compartmentalize his practical and spiritual lives of his garden. His poetry is a reflection of this and often invoked associations with astrology, the nature of his garden, and sometimes could be read as allegories of his own inter-personal relationships.

Pastorius also wrote dialogues between men and women that play with feelings of love, desire, and anger. Here each of the plant names become metaphors for a range of human emotions. In some cases, it appears that he has selected plant names based on their sound, but also plants themselves as symbols of love and anger. They suggest that he was familiar with similar colloquies published by the Pegnesischen Blumenorden literary society in Nuremberg. Their colloquies were often poetic and playful conversations between men and women about everyday subjects like plants. Pastorius wrote his

173 Pastorius, “Beehive, Bee-Stock,” 191 (V1).
humorous botanical dialogues as a wedding gift for James Logan. Below are excerpts from two of these dialogues.

Some herbal Epithets, which a Couple of young overfond Peramours foolishly bestowed one upon another.

He: Well met! Sweet Maudlin, and dear Primerose clear & fair, My Honey-suckle, oh! my Golden Maiden hair.  
She: Wellcome \! my Flow'r de Luce, One blade & Sawce alone, Brave Purple Amaranth, Calmus and Anemone.  
He: My Tulip heliotrope, All heal, pure Ladies smock, Sweet Bazil Violet, Eybright and Holiehock.  
She: Sengreen, Cull-me-to-you, Poppy, Opopanan, Nep, Spikemard, Centaury, Gold-cup & Thorowan.

A Scolding Fit of Botanical Bynames between husband & wife, the honey-moon being over.

Buck horn.  
She: Thou Horehound, Butterbur, Cockshead and Cuckowpint, Satgrion, Dragon wort, Bistort, Puff, Calamint.  
He: Black-Pot-herb, Mistelto, knotgrass and Tormentill, Snakeweed, Squill, Devilsmilk, thou stinking Camomill.  
She: Poor Night-shade, Monk Rhubarb, Bulls-foot & Foxes-tail, Ling, Crabs-Claws, Genigreek, Hogsbread, wild Galingale.  
He: Tough Bindweed, Nettle and Three-faces-in-one-hood, Dwarf Elder, Bitter-Sweet, Toad-flax and Southern wood.\(^{174}\)

These are of course funny; no doubt he meant them to be witty.

This is not the only example where he used plant names as names for people. Pastorius would often sign his name on his correspondence with his own botanical pen names. In a letter to Lloyd Zachary in August of 1717, where Pastorius was discussing his ideas about typography and the invention of printing, he signed his name: \textit{“FDP.}\(^{174}\)
Fetherfew. Dill. Pimpinella.” In this case, this acrostic could be read as both analogous and mystical writing. As an analogy, it could be read as: ‘I wrote this botanical alphabet under the advice of Fetherfew, Dill, and Pimpinella. They speak to me and guide my ideas.’ As a mystical expression, it could be read as: ‘Fetherfew, Dill, and Pimpinella are the writers of this botanical language.’ This is botanical poetry, *ut hortenses poesis*, in that his plants themselves are the poetry and the poets.

In 1528, Albrecht Dürer wrote: “For, verily, ‘art’ is embedded in nature; he who can extract it has it.” Pastorius rephrased this assertion throughout his writing. Instead of ‘art’ he used words like, ‘quint essence.’ His interest in printing plants was a direct result of his readings of Paracelsus, Jacob Böehme, and his German Pietist scholarly and religious tendencies but was also a part of the development of German naturalistic art and botanical illustration. As I discussed in Chapter one, Paracelsus’ natural philosophy claimed that plants held within themselves divine secrets and signatures that could be read by studying their figures. Böehme and the German Pietists asserted that God was in everything, and could be recovered from the inward nature of plants. He may have learned nature printing techniques while a student at Altdorf University, given their active culture of botanizing the Franconian countryside. But Pastorius wrote about his


177 This is most evident in the life and influence of Maria Sibylla Merian (1647–1717) and her associations with Labadism, natural science and print culture in Frankfurt and Nuremberg. It is possible that Pastorius read or saw her *Neues Blumenbuch* (1680) and *Raupen* (1679 & 1683). See Maria Sibylla Merian, 1647–1717: *Artist and naturalist*, edited by Kurt Wettengl, Ostfildern, G. Hatje, 1998.
nature printing as a kind of spiritual, devotional practice, not as a scientific endeavor to document plants of Germantown. His botanical orthography did not employ plants and their names simply as metaphors for Christian morality, it was a mystical reading and writing of the plants of his garden. (I discuss the practical mechanics of his orthography in Chapter six.) In his writing, he theorized and invented his own botanical alphabet—a botanist’s language concerned with reading and writing with the figures of plants.

II. The Improvement of Ourselves on Plantations
1. When Mundanists let Crawl & Sprawl their Thoughts upon the Ground, Phil. 3:19
To God on High I mine do rais, and Heaven-wards have bound;
Col. 3:1.
2. Some times it seems mine Eyes & Hands to Earthly Objects bow,
2 Thess. 3:12.
And yet my Spirit, ♦ and Mind by no means stand below.
Phil. 3:20.
3. All Trees, Shrubs, Herbs, Flowr’s Plant & Weeds are but my Microscope,
Psal. 19:2.
To spy God's Wisdom and Great Pow'r, when Moles and blind men grope.
Rom. 1:20.
4. As many Grasses I look in Meadows, Orchards, Fields,
Matt. 6:28, 30.
They all are living Letters, and each one, a Syllable yields,
Isa. 42:11,12.
5. By which, as in a Primmer, I do spell, Praise e the Lord,
Psal. 1:48.
Praise ye His blessed, holy name: Praise Him with one Accord!
6. Then whether I base Mushrooms see, or Oaks and Cedars tall,
I read, you’ve both your Growth of Him, who worketh all in all.

Isaiah 42:11,12

178 Erben, Brophy, and Lambert, The Francis Daniel Pastorius Reader, Writings by an Early American Polymath, 304.
11 Let the wilderness, and the cities there of lift up their voice, the villages that Kedar doth inhabit: let the inhabitants of the rock sing, let them shout from the top of the mountains.
12 Let them give glory unto the LORD, and declare his praise in the islands.179

This poem found in Pastorius’ Ship-Mate Ship is written in first person—“They all are living Letters, and each one, a Syllable yields, ...By which, as in a Primmer, I do spell, Praise e the Lord.” This poem conflates gardening, writing, and prayer and an explanation of ut hortenses poesis.

He liked to explain how he assembled his plants into his ABC Kräuters as an ordered list of plant names and prints. His best-known prints of plants and ABC Kräuter are found in his own copy of Michael Pexenfelder’s encyclopedia of the arts and sciences.180 In this book, on the pages that describe the art of mechanical typography and printing, Pastorius inscribed prints of plants and an ABC Kräuter poem. Anthony Grafton describes this example of Pastorius’ plant prints as part of his fascination with language and translation rooted in his Humanist education.

Here Pastorius ... covered the next opening, which deals with the use of metal characters in printing, with ingenious prints of many different kinds of leaf. In the bottom margin he wrote that characters could be ‘natural, the progen[y] of the gardens and the fields, some of which appear in the margin, or artificial. Of the first category, absinth [wormwood] stands for A, beta [beet] for B, the crocus for C, ferns for F, and so on. Botanists understand them very well.’ Here we see that Pastorius’s fascination with language, in all its texture, richness, and variation, was rooted in the culture of the old Holy Roman Empire—a world in which cryptography offered the possibility of sending secret messages, something every

179 The Holy Bible, Containing the Old and New Testaments Newly Translated out of the Original Tongues: And with the Former Translations Diligently Compared and Revised, by His Majesty’s Special Command. (Oxford: Printed by the University printers, 1706), Isa. 42:11,12. Emphasis my own.
chancery and resident ambassador regularly did, and inspired the production of a rich body of poetry by a kind of combinatorics—rather like modern language poetry. Pastorius’s mystical vision of language had its roots in a very particular milieu and moment.181

Figure 2.1: Michael Pexenfelder. *Apparatus eruditionis tam rerum quam verborum per omnes artes et scientias*, 1670, p. 311. Library Company of Philadelphia. (Grafton’s explanation refers specifically to these prints and annotations.)

This example is a fragment of other, more complete *ABC Kräuter* poems found in his *Deliciae hortenses* and *Beehive*.

He titled poem “15” in his *Deliciae hortenses*, “Multicolores Flores diversos spargunt Odores. Blumen und Kräuter ABC.” This poem is one of his most complete

181 Grafton, 25.
*ABC Kräuter* poems that survives. It constructs a complete English alphabet with plant names of plants from his garden in German. It is worth quoting in its entirety.

15
Multicolores Flores diversos spargunt Odores.
Blumen und Kräuter ABC.

Anemone wohl bekannt, Braune Mägdlein, so genannt,
Hirm=stärckend Camomill, Hertz=erfrischend Daffodil,
Liech=vol blauer Ehrenpreiß, Fritillaria schwartz und weiß,
Granadilla bald verschwindet, Auserleßner Hyacinth,
Jhr Ionquilles bey dem thron Der durchleücht’gen Königs-Kron,
Dich Lavendulam ich kan Setzen zu dem Majoran,
Nelcken, aller Blumen Ruhm, Milch=farb Ornithogalum,
Liebliches Perpetuel, Qvendel, köstlich, hell und schnell,
Gartens=Zierat rothe Ros’n, Buntgeschmückte Schweitzer=hos’n
Wunder=shöne Tulipan, Und wohl=Edler Valdrian,
Wetter=röslein rein und fein, Ysop, Zotter=nägelein,
Sind mein’s ABC.s Beschluß Wer mehr haben will, der muß
Hand anlegen ohn Verdrüß,

So thut man mit Adam buß, Gen. 3:19.

Annum Bonitate Corones, Deus Exaltande Frequenter: etc. abcdef.

15
Flowers of many colors give off various fragrances. [Schweitzer]

ABC of Flowers and Herbs [Mote]

Anemone well known to all, *Braune Mägdlein* [Pheasant’s eye], are thus called,

Brain-strengthening *Camomill* [Chamomile] Heart-refreshing Daffodil,
*Blue Ehrepreiß* [Veronica], full of light *Fritillaria* black and white,
*Granadilla* [Passion fruit] soon is gone, Exquisite *Hyacinth*,
You *Inquilles* [Jonquils] by the throne *Königs-kron* [Kaiser’s crown], flooded with light

You, *Lavendulam* [Lavender] I can plant, Next to *Majoran* [Marjoram],

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182 Pastorius and Schweitzer, *Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae*, 61 and 93. This transcription is taken from Christoph Schweitzer’s edited publication of Pastorius’ *Garden Recreations* poems. I have used his notations and partial translations found in his footnotes as well as Patrick Erben’s translation of Poem 15 found in Erben, Patrick, Alfred L. Brophy, and Margo M. Lambert, eds. *The Francis Daniel Pastorius Reader, Writings by an Early American Polymath*. Max Kade Research Institute Series. University Park, PA: The Pennsylvania State University Press, 2019, pp. 250-251.
Nelcken [Carnations], the glory of all flowers Milk-colored *Ornithogalum* [Star of Bethlehem],

Lovely *Perpetuel* [Perpetuelle], *Quendel* [Broad leaved Thyme], delicious, bright and quick,

Garden-Ornament red *Ros’n* [Roses], Colorfully decked out *Schweitzerhos’n* [Marvel of Peru].

Beautiful *Tulipan* [Tulip], And noble *Valdrian* [Valerian],

*Wetterrösllein* [Flower-of-an-hour] pure and fine, *Ysop* [Hyssop], *Zotter=nägelein* [Bog bean],

Are my ABC’s completion

Has to put his hands to it without complaint; Thus one does penitence with Adam, Gen. 3:19.

May you crown the year with generosity, God, who ought to be exalted constantly: etc. abcdef. [Schweitzer]

[Genesis 3:19. In the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it wast thou taken: for dust thou art, and unto dust shalt thou return.]\(^{183}\)

He ended the poem with a citation of Genesis 3:19, “man is but dust and will return to the earth in time,”\(^{184}\) a commonplace used in many of Pastorius’ poems. He wrote this poem in English, German, Dutch, and Latin languages as a list of plants that he grew in his garden. It can be seen as a reflection of his multilingual life in Germantown and an accumulation of a lifetime of knowledge about and experience with plants in Europe and America. It also is evidence that he thought deeply about each and every plant grown in his garden and that he thought of himself as one of them.

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\(^{183}\) The Holy Bible, Containing the Old and New Testaments Newly Translated out of the Original Tongues: And with the Former Translations Diligently Compared and Revised, by His Majesty’s Special Command.

Pastorius’ mystical reading of nature, based in his “particular milieu and moment,”\textsuperscript{185} can be attributed, not only to his reading of Böhme, but also his close reading of and allegiance to Paracelsus. Paracelsus philosophized a ‘light of nature’ that revealed a divine truth—this was called the \textit{spiritus vitae} and in his philosophy mediated all life.\textsuperscript{186} Through his readings of the Bible, he also asserted that because humans were created last, humans must read “all creatures” because they “are like books and letters” of which humans were created.\textsuperscript{187}

In delineating his understanding of nature, Paracelsus borrows terminologies from the alchemists and mystics, as well as from Luther. In proceeding from the investigation of the great world to the small world, the theoretical physician proceeds, like the mystic, from the visible to the invisible and from the exterior to the interior, \textit{von aussen nach innen}. The human creature is a 'mirror' image cast in the elements.\textsuperscript{188}

Related to this, Paracelsus rationalized that the outward visible figures of natural materials like plants, suggested their inward value or power. For example, “the liver-shaped plant that heals the liver ailment.”\textsuperscript{189} He named this doctrine, ‘signature of things.’ It was applied in his medical philosophy but also by the mysticism of German Pietists like Pastorius. Pastorius printed fragments of plants to read their ‘signatures’, repeatedly.

\textsuperscript{185} Grafton, 25.
\textsuperscript{186} Andrew Weeks, \textit{German Mysticism from Hildegard of Bingen to Ludwig Wittgenstein, A Literary and Intellectual History} (Albany N.Y.: State University of New York Press, 1993), 125.
\textsuperscript{187} Weeks, 129.
\textsuperscript{188} Weeks, 127.
\textsuperscript{189} Weeks, 130.
cited Genesis 3:19\textsuperscript{190}, and rephrased Paracelsus natural philosophy in his poems. His fascination with writing a language of botany with printed figures of plants was his own translation of Paracelsusian natural philosophy. Like Paracelsus, Pastorius cross-referenced elements of nature (plants) with Biblical scripture and believed that God’s ‘vital force’ was in all things, especially plants. To Pastorius, to print plant leaves and blossoms was to read and write a true art. It was the basis of his art of gardening.

As evidence in his *ABC Kräuter* poems and nature prints, his art considered the living material and forms of plants as figures of a kind of divine, perfect language. Each of these poems and his nature prints are kinds of botanical orthography. In this kind of writing, plants and the figures of their leaves and blossoms made letters and words, and symbolized something divine that could be ordered and cultivated into a language. These modes of reading and writing a garden were a product of his scholarly wit and tenacity, his pious devotion to Christian beliefs, but was also influenced by the culture and practices of medical botany at Altdorf, Jena, and other botanical gardens in Northern Italy. He visited Padua on his Grand Tour (see Appendix B, 2.0). Although he employed nature printing differently than a physician and botanist, he understood the practical applications of nature printing in the making of herbariums and published herbals in Italy and Germany. The totality of his writing about plants and books of his library demonstrate a near mastery of early modern botany.

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\textsuperscript{190} The Holy Bible, Containing the Old and New Testaments Newly Translated out of the Original Tongues: And with the Former Translations Diligently Compared and Revised, by His Majesty’s Special Command., Genesis 3:19. “In the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it wast thou taken: for dust thou art, and unto dust shalt thou return.”
Nature prints are a particular genre of botanical illustration that has been practiced since antiquity, but began to be theorized in the fifteenth and sixteenth centuries. Its practice was explicitly connected with the development of botany as an independent discipline and early modern medicine in Europe. As a theorized practice, it emerged from the culture of botanical gardens in Northern Italy, the culture of botanizing plants in situ, and the making of herbaria. Because many early modern German physicians, who botanized for medicinal plants, were educated in Italy, the practice of collecting and pressing plants (sometimes from the botanical gardens in Padua and Pisa) into an herbarium and nature printing were practiced in German speaking territories as early as the early fifteenth century. But there is evidence that nature printing was also practiced as a kind of personal recreation as early as the late fifteenth century.

Karen Reeds assessed the authority and authenticity of a well-known nature print that has been attributed to Leonardo Da Vinci. Some scholars have incorrectly credited him with ‘inventing’ the practice. Da Vinci’s often quoted notes in the *Codex Atlanticus* described a technique used to print plants. In this same manuscript there is also a single, clear print of a sage leaf. Reeds has attributed this print to Francesco Melzi, Da Vinci’s student and friend. What is most important to note about Reeds’ assessment of the sage leaf print is that it is just one example of a practice by artists invested in botanical and nature illustration, botanists and physicians. She also noted three other fifteenth century

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191 Nature prints are also sometimes called ‘autoprints’ by historians of science. I will also describe them here as orthographic prints of plants, leaves and blossoms or nature and plant prints.

manuscripts illustrated extensively with nature prints that predate the *Codex Atalanticus*. Two of these were written in German and Latin and were books of medical and astrological miscellany. The third was an herbal—a more spontaneous, personal notebook—with nature prints, watercolors, and drawings and notes in Latin and Italian. This practice that Reeds documents in the fifteenth century continued in the sixteenth century by botanists and eventually by artists in Albrecht Dürer’s studio in Nuremberg and as we shall see, Sir Isaac Newton in Cambridge.

Roderick Cave, author of *Typographia naturalis, A History of Nature Printing* and *Impressions of Nature* suggest that by the end of the sixteenth century, nature printing and a variety of techniques were practiced throughout Europe. Cave analyzes in detail a variety of examples and techniques theorized and practiced in Europe in the sixteenth, seventeenth, and eighteenth century Europe, including in Franconia, Germany. There are several examples of botanists and physicians, contemporary with Pastorius, who were educated in Northern Italy, that were important in developing the technique and advocating for its application in the printed publications of herbariums in Northern Europe, including Leiden and the Royal Society of England. Botanist Johann Daniel Geyer published a study of dittany in Frankfurt and Leipzig in 1687. (Dittany is a


common name for a plant in the mint family.) At the end of this volume are detailed instructions for printing plants. He concludes: “This is certainly an artistic talent, as by these means, people can prepare an herbarium themselves.” There is also the example of Sicilian botanist Paolo Baccone. His herbal survives in the collection at the University of Leiden: “the Leiden Baccone herbarium contains not only dried specimens but also proofs of printed etches glued on the herbarium sheets. Many of its specimens are stained with black ink.” Baccone shared his nature printing techniques with botanists, scientists, the secretary of the Royal Society in 1670, and German scientists in the early eighteenth century. He employed nature prints not just as a technique that documented plants in situ (as he did in the botanical gardens in Pisa and Padua), but as a step in his process for printing accurate illustrations of plants in herbals. Pastorius’ elaborate annotations in Pexenfelder’s section about printing demonstrate an awareness of printing as an industry and of innovations like Baccone’s printing methods.

It is also important to note evidence of the influence of Dürer’s studio in Nuremberg. In a detailed study of the traditions of nature studies and Dürer’s animal and plant studies, Fritz Koreny analyzes Renaissance attitudes toward the study of nature as a basis of modern naturalistic painting. Dürer’s influence continued to be celebrated in

196 Cave, 34.
197 Cave, 34. Cave quotes a translation from J. Beckmann’s History of Inventions, 1786 and 1814.
199 Giallombardo and Angel, 17–18.
seventeenth century Nuremberg. Koreny identifies an example of a nature print as a part of “Piece of Turf,” an undated botanical painting attributed to the Dürer studio.²⁰⁰ “It was first in the Renaissance that German art at last adopted imitation of the real world as an explicit artistic theme, and truth to nature as the yardstick for the validity of a work of art. It followed that the nature study became the indispensable basis of creative art.”²⁰¹ “Piece of Turf” is very similar to Dürer’s “the Large Piece of Turf” with some differences: “the unidentified artist included impressions of actual leaves in addition to those he drew: in green paint, placed on or near the correct places on the plant, there are two ivy leaved speedwell leaves, and situated alone at bottom right, a leaf, in red, that does not belong to any of the plants in the group.”²⁰² Because of these juxtapositions and the naturalistic detail of the painting, it reads as a scientific study of a grouping of plants in situ. But in the end, it is a beautiful, earthy, realistic depictions of plants that was eventually adopted as a standard for modern botanical illustration. The influence of Dürer and his followers in Nuremberg and elsewhere was profound. Nature prints were part of a process of directly observing nature that had a significant influence in the development of Dutch and German painting of animals, insects, plants, and botanical illustration in the sixteenth and seventeenth centuries.

²⁰⁰ Koreny identifies the ‘nature print’ as an ‘autoprint.’
²⁰² Koreny, 182.
Nature printing was used in the sixteenth and seventeenth century in painting, the making of herbals used for documenting and identifying plants, but it also appears to be common that nature printing was employed as a kind of annotation and writing in a book, much like Pastorius’ prints in his Pexenfelder encyclopedia. By this I mean an intentional commonplacing of plants into books, thereby creating adjacencies of images of plants.

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and text. Sachiko Kusukawa, in a study of the use of images and text in sixteenth century investigations of human anatomy and medical botany, describes some examples of nature printing techniques employed by German, Italian, and English botanists and scientists. One unusual example, contemporary with Pastorius, stands out. There are several leaf prints made by Sir Isaac Newton on the blank pages of his own copy of a sixteenth century herbal, Leonhart Fuchs’, *De historia stirpium* (1542). As a member of the Royal Society he was familiar with Baccone’s techniques. These annotations show that Newton was either curious about the printing technique, engaged in some local botanizing, or perhaps enjoyed printing plants as a kind of recreation, similar to Pastorius. Cambridge was another place where Pastorius observed examples of nature prints first hand, as he spent time there while on his Grand Tour between 1680 and 1682 (See Appendix B, 2.0).

Pastorius must have at some point seen nature printing practiced and made prints himself, either as a student at Altdorf University and University of *Jena*, in Nuremberg, on his travels in Padua and Cambridge, or while living with his family in Windshem. He may have also seen herbals made from plant collections from Northern Italy. This dissertation considers Pastorius’ plant prints as a kind of botanical record, an herbal, as he harvested the plants from his garden and wilds of Pennsylvania.

However, he was also printing plants to read and write their figures. His prints were a kind of commonplacing (an active reading) of Pennsylvania’s nature, similar to his notations in his *Beehive*. It is no coincidence that he decorated the title pages of his *Commonplace Book* with a symmetrical composition of prints of sage, wormwood, and what look to be either blossoms of digitalis or cowslips (see Figure 2.3). He grew them in
his garden and wrote about them in his poems and notebooks. But he also composed them in very particular places and printed them as parts of letters and poems. There are three examples of his plant prints worth considering here, particularly because they call attention to a practice of ‘reading plants’ as spiritual beings and their figures as letters in a botanical language. First, there are two prints printed with black ink and painted with green and vermilion colored paints at the bottom of one of the title pages of his *Artzney und Kunst*. Second, there are several prints printed with black ink on the front and back covers of his *Ship-mate Ship* collection of poems. The last example is a letter written by him that was teaching his methods of nature printing to his young student, Lloyd Zachary (1701–1756). Pastorius kept a draft of this letter that included a poem and plant prints as well as a description of the reply from Zachary that included a folded packet of plants. The care by which he described his methods and how the impressions were composed suggest a practiced and thoughtful hand.
Figure 2.3: Title Pages, Commonplace Book, no date. Pastorius, Francis Daniel. “Francis Daniel Pastorius Papers 1683–1719,” Collection No. 0475. Pennsylvania Historical Society, Volume 10. Written in Dutch above these prints: “Gebruikt dit Boekten Nutt, en maakt geen Vals Be, Maar Zuigt'er, als de Bye eon Soeten Honig uit.” He is writing himself here as a bee, making honey in his book.

The two leaf impressions on the title page of Pastorius’ *Artzney und Kunst* are of two kinds of plants; sage and a leaf from a woody plant from the Prunus genus, likely a leaf from a plum or peach tree. They were placed just below the names, years, and places of birth of himself and his two sons.

Franc Daniel Pastorius natus Somerhusæ i est oppidum Franconiæ, 26 Septembris 1651.
Eius Liberi: Johannes Samuel Pastorius natus Germanopoli, i est pagus Pennsilvaniæ, 30 Martii 1690.
Henricus Pastorius natūs itidem Germanopoli [ill] April 1692.


The plant impressions ornament the cover so as to celebrate the importance of plants grown in Germantown, their medicinal value to spiritual and physical health of himself and his sons, Samuel and Henry.

Similarly, he also ornamented his Ship-mate Ship with plant impressions. It is as if poetry and science were equal expressions of faith.
Figure 2.5: Front cover of Ship-Mate ship, 1718 (binding at the bottom). Francis Daniel Pastorius. “Francis Daniel Pastorius Papers 1683–1719 (Poetry, Essays, Penn Germantown Charter),” Collection No. 0475. Pennsylvania Historical Society, Volume 8.

The plant impressions on the front cover of this book were carefully arranged along the binding, all oriented towards the open edge of the book. Although all the plants cannot be identified, the prints here look to be that of sage (*Salvia officinalis*) and the top and underside of a leaf of the *Prunus* genus. Pastorius grew peaches, plums, quinces, and pears in his own orchard. It is also possible that the toothed leaves are that of arrowhead (*Viburnum dentatum*), a shrub native to north-east America and used by Native Americans to make arrow shafts. The second plant just below the sage appears to be that of caraway (*Carum carvi*). The fourth print from the top may be a print of caraway blossoms or seeds. Pastorius listed caraway, sage, and varieties of peaches, plums, and quinces in his “Seed Report” of his *Monthly Monitor*.

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204 Chantel White, “Plant IDs: Plant Identification from Pastorius’ Plant Prints,” March 6, 2019.
The plant impressions on the back cover were also carefully composed, but there are playful arrangements of smaller specimens around the larger leaves. Some of these plants are the same as the front cover, but there is also what appears to be parsley (*Petroselinum crispum* or *sativum*), caraway again, and possibly the leaves of inkberry (*Ilex glabra*). Inkberry is native to eastern coastal North America and was used by Native Americans to make a kind of black tea. It is also favored by bees and honey made

![Figure 2.6: Back cover of Ship-Mate ship, 1718 (binding at top). Francis Daniel Pastorius. “Francis Daniel Pastorius Papers 1683–1719,” Collection No. 0475. Pennsylvania Historical Society, Volume 8.](image)

265 White.
from the nectar of these plants is particularly flavorful.\textsuperscript{206} These plant prints could be described as a Germantown herbarium, collected from Pastorius’ own garden or nearby.

There is an epistolary exchange between Pastorius and Lloyd Zachary that not only includes instructions for nature printing, writing with figures of plants, but also actual prints of plants.


Pastorius tutored Zachary in Latin, French, and philosophy. Zachary would later practice medicine in Philadelphia and was a founder and trustee of the College and Academy of Philadelphia, now University of Pennsylvania. Several letters to him survive in Pastorius’ letter book.

Pastorius wrote him a letter between Spring and October of 1718 (Zachary was seventeen). The letter details his own history of printing, calling attention to the fact that printing technology in China predates Guttenberg’s invention in Strasburg. He opens the letter with a somewhat poetic description of printing plants as part of a botanical alphabet and imprints of what appear to be leaves from a peach tree and Wormwood. This letter is another example of Pastorius’ hortenses poesis, the writing of poetry as a garden. (This part of his letter book is damaged and large parts are difficult or impossible to read.)
[ill] beloved Friend Lloyd Zachary;
[ill] [thou] hast been in Maryland,
[ill] [I or You] got a knack to Print,
[ill] [of] none but Simplists understand.
As hereby I do hint.
The stamps in ev'ry garden grow,
In Orchards, Meadows, Fields;
Some with Industrious hands then Sow,
And some dame Nature yields.
If thou desire to learn this Art,
Take with thee three or four,
And then the [ill] will impart
In less than half an hour.
Now, for a Fore task this declares
That Sa[ill] Angelica
In this New [ill] ink appears
In lieu of the A
Balsi does [ill] the place of B.
Oud Cel[ill]judine [Celandine] [ill] of C.
Dewberry leaves do [ill]aud for D.
Elicampane for E. &c.
But this kind of Versifying turns
about into [ill]
.... [a list of plants in alphabetical order to print]
I shall in plain Prose bid thee to bring along
a Maniple\textsuperscript{207} of the rest of such herbs that
will complete the Alpha Bet.
Fox glove, Germander, Hepatorium, Jack of the [ill]
[ill]Live in [ill] Maiden Hair, Night
Shade, Or[ill], Pimpennel, Quince tree leaves
Rattle grass[?], Sanicle, Three [faas] in own [ill]ood,
Xyris,\textsuperscript{208}

\textsuperscript{207} a handful

\textsuperscript{208} Pastorius, “Francis Daniel Pastorius Papers 1683–1719,” Vol. 5.
Zachary replied to this letter on October twenty-fifth with a beautiful, folded assemblage of pressed plants and plant prints. Pastorius’ own enthusiastic description of this letter records its content, form and the nature of its botanical prints.

Germantown y 29th of October, 1718  
Loving Friend, heart chearing [sic] Sun,
.... Thy last, dated the 25th of this Instant, I reed [sic] the same day towards Evening, my daughter Hanah bringing it unto me (sitting as one of muses birds before my hive, into the stove room... the cover being quickly off, I perceived by the Folding of the Inclosed, (en ungue Leonem) then would a certain Rarity appear, & so told my wife, daughter & youngest son, then & there present.(the Eldest having just brought a bag full of buckwheat to the mill for his piggs.) All the rest of my small family now standing about me, (as people surround Mountebancks) I unbreathe the mysterious Gordian knot and let them glance upon the green, red, yellowish & purple Sage-Rose & other fine leaves in the margin. Oh what a staring, gaping & gazing! One said, O strange & the other, I never saw the like in my life! At lap my little grand child must also take a view of thy Masterpiece of Curiosity, who not yet able to speak seemed to skip for joy. Thus seeing each of them sur priz'd, (Admit atoribus omnia magna) I desired their Attention, & that they should look rather to the centre, where Appelles (pingens A.teruitati) pourtrays the substance of the matter,) than upon the circumference & counterfeited shadows: And thereupon beginning to read thy preamble viz. the underserved Title, together with the long-nosed Ovid's latin verse Fallitur Augur they all at once cried out, alas, that this Letter is not in English!209

This folded package made by Zachary was an artful composition with a poem by Ovid written in Latin, surrounded by green, red, yellowish, and purple prints from a ‘Sage Rose.’210 The counterfeited shadows were nature prints—to be counterfeited was to be printed. In this letter we also hear him describe himself as a “bird and muse sitting in front of his hive.” This could be a metaphor, but it could also be that he was actually

209 Pastorius, Vol. 5.

210 I cannot say exactly what plant this is, but it is likely a Fall blooming rose (Rosa).
writing in his *Beehive*. What is also clear, is him as a warm, loving grandfather with children on his lap.

Pastorius printed plants as a kind of literal writing about plants with plants, a botanical orthography that recorded the plants of his garden and because he wanted to read their figures, their outward forms. He printed plants to read their signatures, in the Paracelsusian sense and to make an herbarium of his own garden. His prints, in his mind, were also commonplaces, speeches within speeches, that told stories about the divinity of plants and their respective healing qualities. Lastly, he printed plants so as to write his own botanical alphabet. In this respect, his printing was orthographic writing, concerned with spelling and language.

**Geistlicher Irrgarten**

A *Geistlicher Irrgarten*, was a kind of devotional broadside first printed in Stuttgart in 1607, in Amsterdam, Strasbourg and other German cities throughout the seventeenth century, and later by German settlers in Pennsylvania up to the end of the nineteenth century. They were designed to encourage a mystical connection with Biblical scripture. It was not the most common kind of devotional broadside, but they were published widely in German and Dutch territories. Their origins can be explained as the result of a convergence of the Humanist ideas about labyrinths, like Comenius’ *The Labyrinth of the World and the Paradise of the Heart*, early modern garden theory such as Thomas Hill’s *The Gardener’s Labyrinth* (1577) and Johann Peschel’s *Garten-Ordnung* (1597), and Furttenbach’s description of a labyrinth at the center of a children’s
garden, and Pietist theologies like Johann Arndt’s *The Little Garden of Paradise of Christian Virtues.* It, as an artform, was also influenced by Jesuit imaginative forms of devotional literature and the dramatic increase of printing at the time of the Protestant reformation and "thus, by the time that German-speakers began to settle in the Mid-Atlantic colonies, spiritual literature tied to labyrinths and, through them, imaginative spiritual pilgrimage, were embedded in the pietist-Protestant worldview."212

To fully explain the importance of the *Geistlicher Irrgarten* as a popular artform we must revisit the mystical consciousness of their readers—a mystical consciousness is preoccupied with encounters with the metaphysical world through prayer and contemplation. A Christian mystic, like Pastorius, looked for meaning in their common everyday life and worked to understand their world through the intimate study of Biblical scripture. The *Geislicher Irrgarten* walks a reader through a reading of scripture as a garden labyrinth.

The preparation for setting type for this kind of broadside was incredibly complex. A *Geistlicher Irrgarten* as an artform is a printed image text, sometimes illuminated by hand and intended for spiritual edification.213 On one level they represented Christian life as a spiritual journey through a labyrinth. Here the labyrinth was employed as a commonplace—‘a speech within a speech.’ On another level they

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212 Brandt, 17.

213 Brandt, 116.
activated a mystical connection between the reader and the meaning of scripture. Like a commonplace book, a *Geistlicher Irrgarten* was spatial in that it situated scripture in a garden. Pastorius was making a *Geistlicher Irrgarten* in making his own garden, in effect, translating this kind of reading and writing in his Germantown garden.

I will show here two examples, one printed in Haarlem in 1705, during Pastorius’ lifetime, and the second was printed and illuminated at Ephrata Cloister in 1785.


The first is a winding labyrinth printed in Europe for ‘Low Deutsch’ readers that resembles the *Blumenorden*’s geometric *Shlangengang* in Nuremberg, but with a clear center. This broadside guides the reader on a path to a ‘new Jerusalem.’ Its legibility as a garden labyrinth is apparent in its image. Its legibility as a devotional reading is
dependent on this image, its artistry and mastery of typesetting and printing. It is possible that Pastorius owned or read a *Geistlicher Irrgarten* such as this one\textsuperscript{214}, as he corresponded with publishers in Frankfurt and Amsterdam from Pennsylvania.

The second exemplifies an evolution of the artform and a mastery of printing and illumination of an *Irrgarten* image text. It was printed and illuminated at the Ephrata Cloister in Pennsylvania in 1785. The founder of Ephrata Cloister, Conrad Beissel, worked as a weaver in Germantown for a short time soon after Pastorius’ death. In the fall of 1721, Beisel settled a hermitage on the Conestoga River in Lancaster County to devote his life to God. He later established the Ephrata Cloister as a monastic home of his followers, a church called the Seventh Day Baptists.\textsuperscript{215} Beisel’s writing used Pietist botanical and mystical symbols based on Böhme’s imagery. By 1743, Ephrata Cloister had established a printing press to publish hymnals, devotionals, and Beisel’s theological writings and was producing hand lettered illuminated devotional manuscripts such as this *Irrgarten*.\textsuperscript{216}

One important aspect of this *Geistlicher Irrgarten* is its use of drawn botanical imagery that is related to Ephrata’s mastery of *fractur*. *Fractur* was a form of print typography used at their press that could be described as organic, but it was also, as I will suggest here, a form of botanical orthography similar to Pastorius’ nature printing.

\textsuperscript{214} Pastorius’ *Alvearialia* accounts for a bundle of pamphlets in his list of books. I have not found a detailed accounting of this bundle.


Printed *Fractur* in its realization is similar to the drawn botanical imagery in the margins of this *Irrgarten*. Illuminators at Ephrata illuminated hymnals and manuscripts with drawn abstract, botanical images of tulips, flowers, and metamorphic forms.

Ephrata also wrote and illuminated alphabets with *fractur* that are comparable to Pastorius’ *ABC Kräuter* poems. Stoudt described “The Christian ABC is Suffering, Patience and Hope” a manuscript completed in 1870, as “doubtlessly the greatest of the Ephrata *fractura* manuscripts.”217 The illustration of this and other Ephrata manuscripts, and the *fractura* of this manuscript wrote letters as botanical forms and surrounded each letter with more botanical forms. Even the fragments of the letters as figures are botanical. Each letter in the *Christian ABC Book* were drawn as emblems of a Christian idea based on Pietist botanical imagery.

217 Stoudt, *Pennsylvania German Folk Art*, 133.

For example:

The letter “A” is a Gothic letter with ornamental border in the lily motif. According to the legends accompanying the vignette enclosed with the arms of the letter, the symbolism is built around the idea that Abraham was the seed and figure of the church on earth, while Sarah was the type of the heavenly church. ...This is an old symbolic idea, and it finds its full expression in Jacob Boehmes’s Mysterium Magnum, Chapters 37-42.\textsuperscript{218}

Pastorius’ ABC Kräuter poetry and nature printing prefigured aspects of the culture of fractura illuminated manuscripts at Ephrata Cloister of the mid-eighteenth century.

\textsuperscript{218} Stoudt, 140.
The Ephrata *Geistlicher Irrgarten* shown in Figure 2.8 is a masterwork of printing and botanical illumination that imagines a garden as a spiritual and intellectual place. It is an analog of a garden and employs botanical images prevalent in Böhme’s theologies and Pastorius’ poetry and writing about his garden. At the top of the maze, the author describes its design as a ‘Spiritual Maze with four wells of grace.’ He further states that he designed it to illuminate four conditions of a spiritual humanity: the four rivers of Paradise, a reading that emulates the affictions of life, the ecology of the natural world and human life, and the nature of man’s sinful condition.

Pastorius’s poetry addresses all four of these themes in various forms. His poetry often refers to his garden as a well-watered paradise and rephrases Adam’s fall and Genesis, Chapter three. He also revisits his own physical suffering (fever and ague) and decision to emigrate to Pennsylvania in his poetry. I want to call attention to one theme in the design of this *Irrgarten* because it parallels Pastorius’s ecological consciousness.

3. However, that is begins and ends at the same place, illustrates in the same way that all waters flow out of the sea and return again to the same, so also man, as soon as he is born into the world, hurries back to his origin and to his mother earth.\(^\text{219}\)

Pastorius’ often rephrased this same assertion. One example of this rephrasing can be found in one of his poems about tobacco. It also calls attention the meaning of Genesis

3:19: “In the seat of thy face shalt thou eat bread, til thou return unto the ground; for out of it wast thou taken: for dust thou art, and unto dust shalt thou return.”

We are but Ashes & our life a Smoak; Yet some do think themselves as strong as Oak. Tobacco Pipes their witness bear,

That Smoak and Ashes all men are.

There is a second rephrasing of this commonplace in his *Beehive*.

304. Men & their Garden-mould are of ye self same stuff. What reason have they then to hector & to haff?

As if their bodily terrestrial descent of high breath'd AE ther were, that purest Element:

Whenas Experience does Convince them, yt they must Revolve back whence they came & resolve to Dust.

He believed in a correlation between humans and their environment that we moderns would call ecological. He also believed in a regenerative cycle of life and death of human and non-human lives—that life and death begin and end in the same place, the earth. Otto’s and Pastorius’ ecological consciousness were rooted in the same Pietist sources, interpretation of Biblical verse and conscientious world view.

The labyrinth of this *irrgarten* is written in such a way that it begins and ends in the same location. To read and comprehend this devotional, one must follow its writing with eyes and fingers and trace the garden as an intellectual space. I sat down to read this

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220 *The Holy Bible, Containing the Old and New Testaments Newly Translated out of the Original Tongues: And with the Former Translations Diligently Compared and Revised, by His Majesty’s Special Command.*, Genesis 3:19.


222 Pastorius, 176–77, (V. 1).
irrgarten in person and study its botanical imagery. Reading this garden requires intense concentration, so much so that it is meditative—everything outside of the Irrgarten’s space disappears from your consciousness while you walk through the narrative. It also exercised a kind of intimacy with Biblical narratives and scripture. I can easily imagine a devout Christian able to walk and talk with Jesus while reading a garden such as this.

Similarly, Pastorius described himself in his own garden walking and talking with Jesus.

308. Soluscum Solo. [Only myself] When I in my garden walk, And there to Christ Jesus talk, Non can interrupt nor let Mine Addresses Groans and Crys, Or what heavenly Replys In that Solitude are met.223

His garden was on many levels, like Otto’s Geistlicher Irrgarten, an image text designed to induce a spiritual and ecological consciousness.

There are other noteworthy details of this Geistlicher Irrgarten found in its labyrinthian text. The author not only explains that he has designed this text to be a garden, its story animates this image as a spiritual and sensual experience. Here is an excerpt from the beginning of the labyrinth:

That [Adam’s sin] is why, when awakening and seriously reflecting upon this matter, I felt great grief deep in my heart. There in my mind I was, out walking for a while. And as I was walking along, I saw a garden in the distance that looked so appealing, I was soon drawn near to it. Since it wasn't locked, I went into it undismayed. Back and forth I walked and up and down in this garden. It was strangely laid out. I felt I could very nearly get lost in it. Then I almost became afraid because the path wound back and forth so much and I thought at first I was going the wrong way without a chance of ever getting back on the right

223 Pastorius, 176-177 (V. 1).
way. For I could find no door or gate which was at the place where I first came in.\textsuperscript{224}

This excerpt is similar to Pastorius’ description of Ariadne’s, and his own labyrinths and Comenius’ parable found at the beginning of \textit{The Labyrinth of the World and the Paradise of the Heart}.

574. Labyrinth or Maze, made with so many windings & turnings that one cannot get out. the passages are so intangled that the more a man strives to get out, the more he loseth the way. we still wilder [sic] ourselves in our own mazes. Dedalian. -a meander. a miz-maze to come out of the winding paths of this L. fair Ariadne.\] must be courted to obtain her clue.\textsuperscript{225}

The content of this devotional broadside is connected to the same sources read and considered by Pastorius and they both realize a garden in Pennsylvania.

This comparison of European and late eighteenth century \textit{Geistlicher Irrgarten}, and Pastorius’ own writing about his garden, situates Pastorius as part of a continuum of translation of Pietist theology, an evolution of printed and drawn artforms, and a culture of gardens that was conceived in Europe but evolved as an American folk-art practice. What is common between both of these examples of \textit{Irrgarten} and Pastorius’ writing and making of his own garden are their shared themes of labyrinth and gardens as an intentional reading and writing of Biblical scripture, an ecological sensibility, and a belief in and reverence for an analogical natural world.

\textsuperscript{224} Otto, “Spiritual Labyrinth (Geistlicher Irrgarten).” Translation by Free Library of Philadelphia.

\textsuperscript{225} Pastorius, “Beehive, Bee-Stock,” 572 (V1).
Conclusions

Pastorius was thirty-two years old, had travelled throughout continental Europe, practiced law, and was deeply immersed in German Pietist beliefs when he arrived in Philadelphia. Compared to his life in Franconia, his American world had become immeasurably interconnected, not compartmentalized or isolated by Pennsylvania’s wilderness. This new ecological world was the subject of most of his writing because it affirmed his Pietist beliefs.

From this experience in this particular place and time he invented new ways to read, write and translate in a place (colonial Pennsylvania) where books and a common language were rare commodities. From even a cursory summary of the books he was reading, and the nature of his writing about plants, it is logical to suggest that he would have transposed this interconnected mode of reading and writing into the making of his actual garden—it influenced how he ordered his garden but also his relationship with his plants and garden as a place. Pastorius writing about plants and his garden affirm Erben’s conclusion that “in his Bee-Hive manuscript, ... Pastorius continually elaborated on the interconnected structure of his world of reading and writing, in which intellectual properties were intricately tied to both the material realm of the book and the experiential world outside the text.” Pastorius had become a mature reader and writer who had demonstrated in his writing a kind of ecological awareness in his Germantown garden.

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227 Erben, 188.

228 This is not to suggest that he understood the modern concept of ‘ecology,’ only to suggest that his awareness of the interconnectedness of his garden plants and bees was a pre-cursor to what we now would
This ecological awareness is comparable to his Leni Lenape neighbors that I will discuss in Chapter three.

Given this, it is not surprising that he never declared a singular allegiance to German, Dutch or English garden theories. He had become an enlightened gardener invested in the particulars of Pennsylvania’s ecology and community and was not interested in transposing an artificial expectation about what a garden should be based on European traditions. I describe him as ‘enlightened’ in that he imparted greater knowledge and understanding of a garden and gardening from botanical, horticultural, and spiritual points of view. This is very different from both of his friends Isaac Norris and especially William Penn’s ideas about the design of their Philadelphia gardens and plantation.

Describe as ecology. It is likely that Pastorius was aware of the Greek concepts of oikos and ökologie as he studied and wrote in Greek. Oikos describes the Greek household and its economy, including the relationship between land and people. Ökologie is the study of the economy of nature. Both are the roots of German zoologist Ernst Haeckel’s term Oecologie (Ecology) formulated in 1866 and a theoretical basis of Coleri’s Oeconomia.
CHAPTER 3: Pastorius’ Garden Recreations: Gardens of his American Life. (ca. 1683–1719)

Prologue

The poems of Pastorius’ Deliciæ Hortenses were written between 1698 and 1714. It is a collection of writing that documents many aspects of his Germantown garden: narratives that describe happenings in his garden; his physical and mystical interactions with plants; and explanations as to why he gardened so intensively. These poems explain, in part, why gardening was a center of almost every aspect of his daily life in Germantown. His title for this collection of poems tells us modern readers much about why he gardened and his interest in other American gardens: Deliciæ Hortenses or Garden=Recreations and Voluptates Apianæ. Pastorius translated Deliciæ Hortenses as “Garden=Recreations.” His English translation is explicit, a garden is recreation.

In the writing of these poems, Pastorius relied on his direct experiences in his garden and with his plants. To further elaborate on the meaning of these experiences he referenced a variety of book sources. Throughout the collection he repeatedly cited verse from the Bible, Horace’s Ars Poetica, Virgil’s Georgics, Varro, Seneca, Pliny the Elder’s Natural History, Aristotle, the popular English physician Nicholas Culpepper, and German botanist Timothy von Rolls. He was not just citing their names, but interpreted details from their writing. His citations demonstrate a deep understanding of gardening as theorized in Biblical verse, classical and seventeenth-century sources.

Pliny the Elder theorized the garden and expounds on practical aspects of plants and gardens in multiple sections of his Natural History. Book nineteen, is a history of
gardens and gardening comparable to Pastorius’ own histories of gardens found in his *Deliciae Hortenses* and *Ship-mate Ship*.

The kings of Rome indeed cultivated their gardens with their own hands; ... In our Laws of the Twelve Tables the word 'farm' never occurs—the word 'garden' is always used in that sense, while a garden is denoted by 'family estate.' Consequently even a certain sense of sanctity attached to a garden, and only in a garden and in the Forum do we see statues of Satyrs dedicated as a charm against the sorcery of the envious, although Plautus speaks of gardens as being under the guardianship of Venus. Nowadays indeed under the name of gardens people possess the luxury of regular farms and country houses actually within the city. ... At Rome at all events a garden was in itself a poor man's farm; the lower classes got their market-supplies from a garden.  

In this passage, Pliny declared the ‘garden’ as a fundamental aspect of the traditions of Roman law and called attention to the sanctity of a garden in Roman tradition. Lastly, he favored the urban garden as a source of comfort and nourishment as it was “a poor man’s farm.” To Pliny the garden was a recreation on many levels: a source of food and comfort. Pastorius rephrased these themes and Pliny’s sense of garden as a recreation throughout his *Deliciae Hortenses* poems.

To fully understand what Pastorius meant by “Garden=Recreations” we must define what ‘recreation’ meant to him while living in Germantown. In the seventeenth-century, ‘recreation’ could be understood in at least three ways. First, ‘recreation’ was a kind of refreshment, meal, or nourishment that was eaten. This meaning is realized

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230 This chapter will not address the meaning of *Deliciae Hortenses* in Pastorius’ native German language, although he wrote about half of the poems in this volume in German. I have made this choice because English was the language that he, for the most part, relied on in all of his writing about his garden and his *Beehive*, and it was the language that he shared with Isaac Norris and Christopher Witt.

throughout his writing about his garden in his *Monthly Monitor* (See Appendices C & D) and in several of his *Deliciae Hortenses* poems.

My Lavender, or Spica Nardi,  
Makes head, brain, heart and  
Stomach hardy;²³²

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To’s Vineyard, and Orchard and Garden such Times,  
wherein he helps Nature, and Nature his Rimes,  
Because they produce him both Victuals and Drink²³³

He used many of the herbs he grew to make different kinds of wine and tonics as a kinds of health tonics and celebrated many kinds of plants as nourishing food in his writing. Pastorius celebrated refreshment and physical nourishment of the herbs, fruit, vegetables, and honey that he harvested from his garden.

‘Recreation’ to Pastorius also meant a kind of physical refreshment or comfort induced by something that affected his senses and body. His writing about his garden and plants often described his sensual experience while interacting with his plants. In this regard, he, in many cases preferred scent to color. He explained in a poem about tulips that one reason that he does not in general like tulips was because they lack scent. “Non laudo florem qui nullum præbet odorem”²³⁴ translates “I do not praise the flower that does

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²³³ Pastorius and Schweitzer, 73.

²³⁴ Pastorius and Schweitzer, 60.
not give off a fragrance.”

There is an example where he described the scent of the Rose of Sharon as ‘freeing.’

Een Roose van Saron, een Lilie der Dalen, Diens Schoonheyt de Oogen des Hertens bestralen; Diens Reuk=cke de Voeten bevreyden van Dwalen: Diens Deugden de Siele ontlasten van Qualen.

[A rose of Sharon, a lily of the valley, whose beauty shines upon the eyes of the heart; whose fragrance frees the feet from erring; whose virtues unburden the soul of torments.]

He was attentive to and valued the fragrance of plants in his *Monthly Monitor* (See Appendix C, 5.0) and in his writing about roses in his *Beehive* (See Appendix D, 18.0).

“If tho wouldest Rose’s Scent / Mend, and make more excellent, / Then thou formerly hadst them, / Plant but Garlick to their Stem;”

He understood plants as a source of sensual comfort.

Pastorius would have also understood ‘recreation’ as a kind of an emotional and spiritual comfort. There are several entries in his *Beehive* that define recreation as emotional comfort. One reads: “the mind is now and then to be unbent; a glass of wine, a

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235 Pastorius and Schweitzer, 92.

236 Pastorius and Schweitzer, 46.

237 Translation Schweitzer. Pastorius and Schweitzer, 88. In this passage, he also used ‘Rose of Saron’ and ‘lily of the valley’ as symbols of Christ. This is a citation of Song of Solomon. See Chapter Two.

238 Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or, Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696,” 299 (V. 1), Upenn Ms. Codex 726.

239 “Oxford English Dictionary,” “recreation” (2b.).
Journey, a mouthful of fraish air relieves it.”

Poem “8” in his Deliciae Hortenses declares that “the Quint Essence Of Time and Patience” grows in his garden.

1. Extract the Quint Essence Of Time and Patience,
   Which grows here in my Garden;
   Jt makes hard Cases soft,
   And when applied oft,
   Does faint and soft hearts harden.

Here recreation is the result of the “Quint Essence” of his plants. The double meaning of “Quint Essence” is at the heart of this poem as an expression of ‘recreation’ as a kind of emotional and spiritual comfort. Early modern humoral theories described the body as made of four elements: earth, water, air, and fire. Paracelsus’ alchemical theories challenged this assertion and presumed that mercury, sulfur and salt were the three essential elements. ‘Quintessence’ was the fifth or fourth essential divine element present in all life. (Pastorius wrote of both humoral and Paracelsusian theories). In the figurative sense, “Quint Essence” can be understood as the essence of a metaphysical being, like Pastorius’ emotional being. Pastorius borrowed this term from Paracelsus, classical, and medieval philosophy. “Quint Essence” in classical and medieval philosophy was understood as the essential element of celestial beings. An objective of alchemy was to distill the ‘quint essence’ that was latent in things. Paracelsus’ “Quint

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240 Pastorius, “Beehive, Bee-Stock,” 658 (V. 2).
241 Pastorius and Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae, 51.
Essence” was ‘the light of nature,’ the presence of God in all things, especially plants.245 Pastorius believed in Paracelsus' understanding of quint essence as the *spiritus vitae*, “a mediating power within nature.”246 All of these meanings of ‘Garden=Recreations’ are important to understanding his interactions with other Pennsylvania gardens and gardeners like Isaac Norris, Dr. Christopher Witt, and especially Leni Lenape Native Americans.

There are three distinct aspects of Pastorius’ American life experience that influenced his own *deliciae hortenses* in Germantown: a prevalence of seventeenth-century English botany, garden design, and husbandry in Pennsylvania; his association with German Pietism and natural science in Germantownship, particularly his neighbor, Dr. Christopher Witt; and his proximity to and relationship with Delaware Native Americans.

Although Pennsylvania was governed by English law and traditions, seventeenth-century Germantown and the surrounding region was particularly diverse in its culture and language, especially when existing populations of Dutch, Swedish and Native Americans are considered.247 Pastorius did not speak English before emigrating to Pennsylvania and in the first year, relied on his French, Latin, German and Dutch to

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246 Weeks, 128.

247 By this I mean any populations of people settled in the Delaware valley before the boundaries of William Penn’s Pennsylvania were established in 1681. Many of these people remained.
communicate with his neighbors.\textsuperscript{248} Pastorius’ garden and his ideas about plants were, in part, how he learned to express himself in English and a reflection and commonplacing of this confluence of influence, language, and knowledge in colonial Pennsylvania.

This chapter will analyze Pastorius’ relationships with three different gardeners, their gardens, and ideas about plants and the natural world: Isaac Norris and his \textit{Fairhill} plantation in Germantown, Dr. Christopher Witt and his garden that shared a fence with Pastorius’ own garden; and Leni Lenapi Native Americans that lived near Germantown and their relationship with the natural world. In each narrative, I will bring to light the meaning of Pastorius’ own garden recreations, as it was influenced by these early American gardeners.

\textbf{English Garden Culture in Colonial Pennsylvania}

For the most part, English garden culture in Pennsylvania could be described as largely a transposition of seventeenth-century English ideas about gardens and plantations, the ideal of George Fox’s ‘plantations in America’, and translations of the ideals and particulars of Quaker living. An example of this three-part culture is Isaac Norris, whose plantation in Germantown aspired to translate a colonial, Quaker world-view through the design and making of gardens, orchards, fields, and architecture of \textit{Fairhill}. Norris was a devout Quaker and a very wealthy merchant. He designed \textit{Fairhill}

to be productive, ordered, and modest in its outward appearance. He modeled it after estates that he had seen and admired in England. *Fairhill* was decidedly English in its realization.

In colonial Pennsylvania, Quakerism was by its very nature a religion of lived practice. Quakers built buildings and estates according to their religious worldview that encouraged simplicity, modesty, and productivity. At the center of their colonial objectives and Quaker worldview was the plantation. George Fox clearly articulated this expectation in his *Epistle to all Planters* in 1682; “make inward Plantations with the Light and Power of God.”

William Penn further elaborated on all manners of Quaker living, including the value of country living and the making of gardens, estates, and architecture in his *Fruits of Solitude*, first published in 1693. Penn writes: “The country is both the philosopher's garden and library, in which he reads and contemplates the power, wisdom and goodness of God.” *Fairhill* was designed and built according to these ideals, particularly, “Be rather bountiful, than expensive.”

Pastorius knew Isaac Norris Sr.’s family well, corresponded and shared books with them, and visited the *Fairhill* estate as late at 1718. Pastorius dedicated his *Shipmate Ship* to Hannah Hill and Mary Norris, daughter in-laws of Norris Sr. because they

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249 George Fox (1624–1691), *An Epistle to All Planters and Such Who Are Transporting Themselves into Foreign Plantations in America & c.* (London: Printed for Ben. Clark, 1682).


251 Penn, 43.

252 Hannah Lloyd (m. Hill), Mary Lloyd (m. Norris) and Rachel Preston (died in Philadelphia before 1718) were the daughters of Thomas Lloyd.
travelled with him on the *America* from Deal, England in 1683. The dedication in the front of *Ship-mate Ship* is a letter to Hannah and Mary, and it describes his admiration for them and *Fairhill*.

For, upon Observation, that you both are Lovers of Gardens, (the One keeping the finest I hitherto have seen in the whole Countrey, filled with Abundance of Rarities, physical and Metaphysical; the Other a pretty litte Gardeken, much like unto mine own, producing chiefly Cordial, Stomachical & Culinary herbs:) and moreover, that you relish’d my last, annual paper indifferent well, thought stuffed with nothing but Rural Meditations, I resolved to entertain you for this Bout again with somewhat of the same Stamp and Complexion, to wit XXXVI. Paragraphs, Treating of Gardening Flowers, Shrubs & Trees, The Fruits whereof do feed Men, Beasts & Bees.\(^{253}\)

In this letter, *Pastorius* described two kinds of gardens at *Fairhill*. First, “the finest I hitherto have seen in the whole Countrey,” and that it was filled with exceptional plants grown for sustenance and pleasure—it was a plantation. *Pastorius* also compared a second garden of Norris’ *Fairhill* with his own garden, “the Other pretty litte Gardeken, much like unto mine own.” This garden was dedicated to cordials, medicine for the stomach, and culinary plants. Cordials are plants that speak to the heart—a recreation of comfort and consolation. It is also apparent at the end of this letter that they shared writing and books about gardens.

This letter expressed his polite admiration for *Fairhill* as it was a beautiful example of Penn and Fox’s ideal Pennsylvania plantation. *Pastorius* fully understood that it was realized as an ideal colonial Quaker plantation that was dependent on slaves to

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build and maintain. Pastorius owned and read George Fox’s “Epistle to all Planters” and William Penn’s “Fruits of Solitude.” But, in his writing he did not confirm with or see this as his own pious ideal. He was more concerned with equity in the distribution of land and resources in Pennsylvania. This concern was for the most part realized in his design of Germantown and careful distribution of land for agricultural productivity, industry, town homes, schools, markets and allocations of land for poor or elderly residents. Germantown did not rely on slave labor. He also expressed his reasoned and passionate opinion of the immorality of slavery in his public manifesto against slavery in 1688.

Pastorius also repeatedly cited and rephrased an aphorism from Virgil’s *Georgics* that advised modesty. These citations can be found throughout his *Deliciæ Hortenses* poems as something like, ‘give praise to large estates, but cultivate a small garden or farm.’

Laudes ingentia rura, Exiguum colito. Virgil*
For great Plantations / Are Incantations / And hinderence to Rest: A little and well tilled Field / Doth yield what large ones do not yield, Small and Content is best.

[*Praise the large estates, but cultivate a small garden. (Virgil, *Georgics*, 2, 412 f.)*]

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257 Pastorius and Schweitzer, *Deliciæ Hortenses, or Garden-Recreations; and Voluptates Apianae*, 87.
Even more interesting is his assertion that ‘great plantations are incantations.’ An incantation is a formula of words contrived to induce a magical effect or charm in a listener. In this regard and the fact that *Fairhill* was reliant on slave labor, Pastorius did not see *Fairhill* as a realization of the plantation that he wrote about in his *Ship-Mate Ship*. George Fox’s ‘Heavenly Plantation’ was not the same as Pastorius’ plantation. Pastorius’ was a Christian plantation of “liberty of conscience, wch [sic] is right and reasonable; here ought to be likewise liberty of ye body.”

American historians Mark Reinberger and Elizabeth McLean have published a detailed description of *Fairhill*’s gardens, landscape, and architecture. Their reconstruction is based on physical evidence, Norris’ letters and accounts, and an accounting of the English garden and husbandry books in Norris’ library. They describe *Fairhill* as a villa in the Roman classical tradition, an expression of the ideal described by Virgil but also as a seventeenth-century English garden that represented Norris’ Quakerism. They describe the estate as plain and frugal and suggest an absence of ornament until after Isaac Norris Sr.’s death. In addition to this, Pastorius gives the

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259 Plantation culture in Philadelphia used slave labor to clear land, build houses and gardens such as Norris’ *Fairhill*. There is a record of a ship carrying 150 African slaves sold in Philadelphia in December 1684. Property inventories document that the practice continued and increased between 1682 and 1705. See: Nash, Gary B. “Slave and Slaveowners in Colonial Philadelphia.” The William and Mary Quarterly 30, no. 2 (April 1973): 223–256.


261 For my description of Fairhill, I rely on Pastorius’ description, Reinberger, and McLean’s accounting.
impression in a letter, that *Fairhill* was beautiful and boasted an abundance of unusual plants; this was a garden of a kind of pleasure, ornamental, and productive because fed and comforted Norris’ extended family. Despite his personal and public criticism of slavery, he did read the Quaker austerity of *Fairhill* as pious. He thought of “piety [as] an ornament to human Nature.”

The ‘plainness’ and ‘frugality’ that Reinberger and McLean describe was actually, in Pastorius’ mind, a beautiful, ornamental garden for recreation and pleasure.

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262 Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvey or, Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696,” 741, V. 2, entry 1532, Upenn Ms. Codex 726.
Figure 3.1: John Worlidge. *Systema Horti-Culturae: Or, The Art of Gardening*. London: Printed for T. Dring, 1688, p. 16. “The Square is the most perfect and pleasant Form that you can lay your Garden into, where your Ground will afford it; every Walk that is in it begin streight, and every Plant and Tree standing in a direct Line, represents it to your Eye very pleasing.”

Reinberger and McLean point out the apparent influence of Worlidge’s *Systema Horticulturae*. Norris owned a 1688 publication of this book, as did Pastorius. Norris referred to Worlidge and was influenced by the English bourgeois ideal of the ‘virtuous country life’ culture in his design of *Fairhill*. The influence of Worlidge and England’s allegiance to the Virgilian ideal is evident in a drawing that depicts the building and gardens of *Fairhill*. This drawing was drawn by Norris Jr. sometime between 1764 and 1777.

Figure 3.2: Isaac Norris Jr. *Fairhill* (ca. 1764–77). Courtesy of Winterthur Library.

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In this view, there is a strong geometric relationship between the house’s ‘H’ form, its outbuildings, the enclosed garden and orchard spaces. The forms of *Fairhill’s* garden and orchard spaces were articulated with plantings and an orthogonal arrangement of fences and stone walls. *Fairhill* was situated at the crest of a hill, the house faced West and its primary entry was connected to Germantown Avenue. Its materials were brick, wood framed walls, glass window sashes and hardware from England, and a large weathervane placed on top of the central tower. This weathervane was extravagant in its size (over six feet tall) and appearance, but also because the wind direction could be read from inside the house.\(^{264}\) The design and construction of *Fairhill* was carefully considered and methodically planned as a productive but beautiful plantation that modelled an English plantation as described in Worlidge’s *Systema Horticultura*.

There were many kinds of productive spaces at *Fairhill*: that of the fields, orchards, garden spaces adjacent to the house, and apiaries (Norris Sr. established apiaries in 1731). Pastorius’ letter to Hannah and Mary calls attention to both the productive and sensorial qualities of its gardens. I say this because Pastorius often described the sensual dimension of particular plants in his own garden as a kind of metaphysical quality in his garden journal. Scent was important to Pastorius, not for its obvious benefits of olfactory pleasure but also because he regarded it as part of the inward (metaphysical) quality of a plant. *Fairhill’s* orchard alone would have been a magnificent display of sweetly scented blossoms in the Spring. It is apparent from Norris’

records, that the orchard was quite large, at least fifteen rows of trees. There were twelve varieties of pears, seven of cherries, nine of apricots, nine of plums of standard and espaliered trees.²⁶⁵ By 1717, when Norris permanently moved into Fairhill, the trees would have been substantial and producing fruit.

Norris, like Pastorius, was invested in the particulars of the design of his estate and orchard: he was very specific as to who in England would supply his trees, their grafting and concerned with acquiring very specific varieties of trees from England. At the end of Norris’ tree and garden tool order below is also a request for two ornamental shrubs.

To be bought of Nich:d Colehostor Gardiner at Clarkenwell near ye Ducking pond-who is desird to fasten well upon each sorts wooden tallys-and number each sort alike number cutt in Tallys w:th ye point of a knife and filld w:th Ink (for Labells roll oy) and Invoyce them accordingly_Likewise procure his directions w:ch are proper for wall & w:ch for standers-also w:ch sort of those for the asll are properest for Each position_My garden being Inclosd w:th a stone wall / ee square / one side facing south east & ye other at right angles-he should know ye our summers are hotter and winter somewhat Sharper at Least & harder or froster than England

Pear  2 Burgermy pear trees2 orange ---- 2 hamtden ----2 summer [ill]herines2 winter L2 winter boon creton---2 winter pear trees--2 brownberry2 gennelins2 Colemanos2 buree2 Buree Royalls ------Cherrys2 white hart cherry trees2 black Lillo red L[illo]--2 Early Luke2 Late Luke2 Nentisb Lillo2 May Cherry trees---Apricots2 Turky apricot trees2 orange L:-2 Macklin L-2 Newington Nectarines2 Red roman Litto---Plumbs2 orleane plumb trees2 Impereall L:-2 Mogull L-1 W:m Luroy L-2 godolphin2 genitive2 morocco2 Leiniell2 mosell---some guilded hollys----and Lillo Philoreas²⁶⁶


Pastorius and Norris shared an interest in and knowledge of plants and the making of their own orchards and gardens. This list suggests Norris was very concerned about the productivity of his orchard but also the pleasure and nourishment of many varieties of fruits for himself and extended family. What does not survive are records of Norris Senior’s interest in the particulars of gardening as a recreation of sensual, emotional, or spiritual comfort. Norris was a plantation owner who designed and planted beautiful orchards, but not a gardener like Pastorius.

**Dr. Christopher Witt and his Medicinal Garden in Germantown (ca. 1706-1765)**

One exception to the predominance of English, Quaker taste in Philadelphia, was Dr. Christopher Witt, an English intellectual and physician. He was Pastorius’ neighbor, a longstanding resident of Germantown, and an eccentric person, especially when compared to the norms of English Quaker society.

Pastorius mentioned Witt several times in his poetry, *Beehive*, and *Arztney und Kunst*. Witt was born in Wiltshire, and emigrated to Pennsylvania in 1704 as a part of a religious, millennialist group called *The Society of the Women in the Wilderness* led by a German Pietist intellectual, mystic Johannes Kelpius, and trained physicians in

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267 Christian Lehman and Joseph Lehman, “An Explanation of the Original Location and General Plan or Draught of the Lands and Lots of Germantown and Creesam Townships Copied from Matthias Zimmerman’s Original of June 26th AD 1746 and of the Several Districts and Divisions Thereof Part Extracted from Original of Former Draughts & Part Done Utaken from Actual Mensuration Drawn.” (July 28, 1766), Germantown Historical Society.

Philadelphia. He was also associated with founding members of the German, religious Ephrata community that settled sixty-five miles west of Philadelphia in 1732. Many scholars describe him as a polymath; a physician, clock and pipe organ maker, gardener, botanist, and philosopher. In this regard, he was very similar to Pastorius, except that most of his writing and library have not survived.

His influence as a naturalist and botanist in Pennsylvania is notable, particularly his gardens and dialogue with John Bartram and Peter Collinson that began in 1738. He was a legendary figure but well respected for his work as a gardener, physician, and botanist by the German and Dutch founding settlers of Germantown. Henry Muhlenberg, the first Lutheran minister in Philadelphia, wrote an endearing obituary about Witt and described him as: “famous for his praxis medica” and “In religion he was a seeker.”

Pastorius sustained a friendship with Witt although he frequently expressed reservations about the occult, judicial astrology, and alchemy that Witt is said to have conjured and ministered. This said, Pastorius wholly embraced natural astrology. Judicial astrology claimed planets influenced a pre-determined result and was often described as an occult or pagan practice. Natural astrology claimed authority over conditions of the

Religions and Religion. Pastorius directly supported and helped Kelpius and the The Society of the Women in the Wilderness acquire land for their monastic settlement (living quarters, garden, and tabernacle) just north of the Wissahickon and south of Germantown. Kelpius studied at Altdorf University, ca. 1690-1695.


environment and human health. But he read and wrote widely about witchcraft, astrology, chemistry, alchemy, and ideas about the immaterial divinity embraced by German Pietism, and always spoke of Witt in a positive light. They had a shared interest in the divine and medicinal nature of plants, piety, astrology, chemistry, and gardening, and exchanged books and plants.

Pastorius’ reservations about the occult and in particular alchemy, had everything to do with its promise to make wealth, gold, where there was none before. To Pastorius making wealth from nothing was unnatural and artificial. Wealth to Pastorius arose out of work, particularly with people, land and the raw materials of nature. He was cautious of all modes of artificial production of wealth that including alchemy, land speculation, and usury. He writes in his Beehive, “Under the solden Name of Alchymistry there lieth lurking no small Calamity, p. 259. the substances of things are not transmutable dealers in Alchymistry weary themselves weakene their bootes waste their wealth to make gold ingender gold. the fraudulent fetches of this compassing craft.” And yet, in the same entry as this one, he commonplaced: “Alchymie the very Marrow of all Philosophy, R. Scot. p. 255.” And, Pastorius’ original ideas and common-placed entries about alchemy and charms in his Beehive suggest that his interest in alchemy and occult practice was liberal. For him, it appeared that he did see alchemy as a science, acknowledged it as an art of chemistry but also translated ‘alchemy’ as an ‘intellectual chemistry.’

A better A. to convert the good words of this hive in good works, than to turn lead into gold. by Alchymicall multiplication. the art of transmuting metals. a

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271 See: Curth, English almanacs, astrology and popular medicine: 1550-1700.

Rosicrucian gold makers, sigil merchants, & c. drawn into the fallacious [[:art:]] practice of Chymistry. Of Chymistry & the Philosophers Stone to aurify & argentise meaner metals, see Mamt Vol. 1. p. 352.\(^{273}\)

He believed any artificial production of wealth was a dangerous moral proposition. Witt’s occult practices and those of the Leni Lenape that I will discuss later in this chapter were different in that they were part of their own creative projects and praxis of healing for their communities’ well-being. Pastorius appreciated Witt’s occult physic because it was focused on healing and the natural world.

Witt’s life as a physician, botanist, gardener and intellectual was a lived expression of his religious beliefs, those he shared with *The Society of the Women in the Wilderness* and German Pietism of which Pastorius was not only sympathetic, but was the basis of his own interest in nature, plants, and science. Gardening, botany, Witt’s practices, and Leni Lenapi rituals were not wealth generating enterprises, they were labors that sustained their communities, and prioritized knowledge and human health.

The most explicit impression of Pastorius’ relationship with Dr. Witt can be found in poem 17 of Pastorius’ *Deliciae hortenses*. The poem is evidence of their proximity and intellectual and friendly relationship.

17
When anno 1711. Christopher Witt removed his Flower Beds close to my Fence.

Floribus in propfijs habet et sua gaudia Pauper,
Atque in vicinis gaudia Pauper habet.

Ein armer Mann, schon hat Er wenig,
Jst gleichwol in Sei’m Eignen König;

\(^{273}\) Pastorius, 416, v.1.
Auch darff Er auff Sein’s Nachbarn Auen
Die Blumen, übern Zaun, anschauen. [on margin:]
This Maxim was for ever known
My Neighbours herbs and Flow’rs All men are Kings upon their own.
J freely may behold, And so mayst thou some hours:
With mind go [?] make more bold.
ALIQUID BONI PROPTER VICINVM BONVM.²⁷⁴

In this poem, Pastorius dates when Witt built his flower beds “close to my Fence.” He also described the joy he found in his neighbor’s flowers and the gardener, as they were both ‘poor’ men. This is likely a reference to Virgilian Georgics as an ideal, not poor in the sense of poverty, but poor as a reference to humility, a common theme in Pastorius’ poetry, but appears to be original to Pastorius and not a direct citation of Virgil. He also insisted that a poor man can be king in his own garden and that being Witt’s neighbor was a source of recreation—the flowers across the fence brought him pleasure and stimulated his intellect. Witt was one of the few people to be called out directly in Pastorius garden poetry.²⁷⁵

Pastorius also called attention to Witt’s care for him in a letter written to his own son, Henry in 1712. He closed the letter: “We are all in health as we asest [sic] to be and our kind love and salutation (as also that of Dr. Witt is unto thee and so I remain Thy

²⁷⁴ Pastorius and Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae, 63.

²⁷⁵ The only other people were Einekke (his wife), his sons, Isaac Norris, and figures from Old Testament narratives. Most of his subjects were not people but particular plants and bees.
affectionate and loving father”.\textsuperscript{276} Pastorius’ relationship with Dr. Witt was one of admiration, trust, and curiosity.

As for Witt’s influence beyond Pastorius, Julius Sachse, a German American historian, dedicated an entire chapter to Witt’s biography in his 1895 book, \textit{The German Pietists of Provincial Pennsylvania}. In this chapter he described Witt as a botanist and a \textit{hexenmeister}, which is a German expression that describes a person who is a master of witchcraft:

Dr. Witt was a skilled botanist, and upon his removal to Germantown after the death of Kelpius, he started a large garden for his own study and amusement, … This was about twenty years prior to Bartram’s purchase on the Schuylkill for a like purpose. He was adept in astronomy, having a fine large telescope. … The learned Doctor also practiced horoscopy, and would … cast nativities according to the position of celestial bodies [judicial astrology], and he was want to use the hazel rod in his divination.\textsuperscript{277}

This account is supported by several others, including those written by Christopher Lehman, a Germantown surveyor and nurseryman. Lehman knew Witt personally and wrote a brief biography in his own historical account of Germantown with a series of surveys, originally mapped in 1714. Lehman described Witt’s relationship with Kelpius and his persona as a “Professor of Medicine and Magus.”

\begin{flushright}
they [Kelpius and his group] were joined about the year 1704 by some others of whom were Courad Mathias (the last of the Ridge Hermits) a Lurteer &
\end{flushright}

\begin{flushright}
\textsuperscript{276} “Wyck Association Collection (1663-1972)” (1972 1663), Series II, Box No. 85, Folder No. 1509, Mss. Ms. Coll 52, American Philosophical Society.
\end{flushright}
Christopher Witt (sometimes called Dr. Witt of Germantown) a Professor of Medicine and a Magus or Diviner.²⁷⁸

Lehman also noted Witt’s burial ground and the lots that Witt lived and gardened until 1745 near Pastorius’ six-acre lot on a survey dated 1759 (See Figure 3.3).

²⁷⁸ Christian Lehman and Joseph Lehman, “An Explanation of the Original Location and General Plan or Draught of the Lands and Lots of Germantown and Creesam Townships Copied from Matthias Zimmerman’s Original of June 26th AD 1746 and of the Several Districts and Divisions Thereof Part Extracted from Original of Former Draughts & Part Done Utaken from Actual Mensuration Drawn.” Manuscript dated 1766 and recopied in 1824, Germantown Historical Society. Witt lived with Kelpius’ group until 1708.
Figure 3.3: Land survey of Germantown. Christopher Witt’s burial site is the small red box (inside “A”) adjacent to ‘Late Daniel Pastorius Land’ in the center of the drawing. “Christian Lehman, Survey copied Feb. 20, 1759.” Source: The Historical Society of Pennsylvania. “Christian Lehman Papers, Collection 0362.” The Historical Society of Pennsylvania, 1704-1867, Flat File 1. Key: A. Witt’s burial site; B. Site of Witt’s first garden (ca. 1705–1745); C. Approximate site of Witt’s second garden (ca. 1745–1765); D.
Witt maintained two botanical gardens in Germantown, one next to Pastorius’ lot until about 1745, and later, after 1745, on 125 acres east of Pastorius’ garden and home. After Pastorius’ death, Witt’s influence as a botanist broadened. He regularly corresponded with Peter Collinson in England between 1738 and 1761. He sent found and cultivated plant specimens to Collinson and it is clear from their correspondence that Collinson sent Witt plants, seeds, and botany books. Witt’s letters to Collinson described plants, animals, and weather conditions as they affected plants, fruit production, and field harvests. He was writing as a naturalist, sharing observations ‘from the field’, drawing conclusions about animal and plant behavior, and citing scholarly sources like Peter Miller’s *The Gardener’s Dictionary* and Carl von Linnaeus’s *Hortus Cliffortianus*.279

Witt’s belief in the divine nature of plants and animals is apparent in his narrative about the rattlesnake. In a letter to Collinson, Witt described the rattlesnake’s habit of ‘charming’ its prey and compared this power with that of “malicious wicked old women.”

The opinion may be offered that the beams of sight meeting each other in a direct Line may be a great Cause of the Power of Fascination or Charming. … I told him I thought a man had the same power over the Snake in that point and might as well Charm the Snake as the Snake him (this I never yet heard of a man that was charmed by a Snake but many women for which I think a very good reason might be given in Divinity)280

279 “Royal Society (Great Britain) Letters and Communications from Americans, 1662-1900 Mss.H.S.Film.1” (n.d.), letter dated March 24, 1738/9, found on Reel 7, frames 3692-3694.

280 “Royal Society (Great Britain) Letters and Communications from Americans, 1662-1900 Mss.H.S.Film.1,” Reel 7, Frames 3589-3593.
He was recounting his own observations and that of his friend Christopher Warmer.

Pastorius’ own thoughts on ‘charms’ can be found in his Beehive. Despite his reservations about the occult as a distraction from ‘God’s’ creation, here he acknowledged that charms and magic could heal, although this power could not be rationally explained.

1542 Of homerical Medicines & Magical Cures. …Some ill men have faith enough to do Miracles Ibid. Charms for tooth ack, agues, thefts, & c. Jd. p. 159; the Devil more skillful in Nature than any Physician, Ibid. By a Spell or Charm has been always understood a certain form of words endued with a secret unaccountable power of performing strange things, as curing of diseases, procuring Love, destroying, serpents, the Frigidus in practits Cantantdo rumpitur Angris, Virgil. …Facination or Natural Witchcraft all have Liberty to believe, that list; especially Enchanting or bewitching Eyes; (whereof he that be: holds fore Eyes may have some Experience,)....Of Nat. Witchcraft procuring Love or at least good Will & liking./. p. 350.

In this passage and others in his Artzney und Kunst we see Pastorius’ distrust of ‘physic’ and ‘physicians’ in general. However, he used vocabulary similar to Witt and seems to accept charms for what they are, a matter of faith, albeit in miracles, and accepts it as a form of knowledge, worth knowing, otherwise he would have said outright, that it is immoral or not worth knowing.

In addition to Witt’s description of the rattlesnake, he wrote letters that described conditions of fruit production in Germantown related to harsh weather, the fourteen year Locusts and botanical descriptions of many Pennsyvania plants. Witt, although a minor

281 Pastorius, “Beehive, Bee-Stock,” 742, v.2.

282 Sachse, The German Pietists of Provincial Pennsylvania: 1694-1708, 407–11. Sachse documented Witt’s names of these plants from Collinson’s letters: Lychnis, Medlar (Neapolitan sort), Lady’s Slippers, small mountain Ranunculus, white Ranunculus (named by Witt Ranunculus nemorosus, Aquilegioe foliiis, Virginianus, Asphodeli radice), Jaceas, some form of Marsh Martogon, Spiroea, Hollow-leafed Lavender,
figure compared to Bartram, actively participated in Collinson’s network of knowledge and specimen exchange and directly contributed to the development of modern botany and natural science in the Royal Society of the 18th-century.\footnote{Jean O’Neill and Elizabeth McLean, \textit{Peter Collinson and the Eighteenth-Century Natural History Exchange / Jean O’Neill and Elizabeth P. McLean.} (Philadelphia : American Philosophical Society, 2008).}

Witt also met regularly with John Bartram (1699–1777) in his Germantown garden next to Pastorius’ house and garden. Bartram described in some detail Witt’s garden and observed first-hand Witt’s interest in the occult and divine phenomena as a part of his skillful empirical habits as a naturalist, botanist and gardener. Late nineteenth century historian John Harshberger dedicated a chapter to Witt in his book, \textit{The Botanists of Philadelphia and Their Work}, and documented an account of a day in 1743 when John Bartram visited Witt in his garden in Germantown.\footnote{This account can also be found in \textit{The correspondence of John Bartram, 1734–1777}, p. 215-216. At this time, Witt was 68 years old and John Bartram was 44 and had owned his farm for 16 years: it is likely that the garden Bartram described was in the lot adjacent to Pastorius’ house and garden, because Witt did not move to his 125 acres east of High Street until 1749.} Bartram described Witt’s capacity as a botanist, gardener and philosopher.

\begin{flushright}
June 11, 1743 \\
Friend Peter: I have lately been to visit our friend Doctor Witt, where I spent four or five hours very agreeably—sometimes in his garden, where I viewed every kind of plant, I believe that grew therein, … we went into his study, which was furnished with books containing different kinds of learning; as Philosophy, Natural Magic, Divinity, nay even Mystic Divinity; all of which were the subjects of our discourse within doors, which alternately gave way to Botony, every time we walked in the garden.\footnote{John W. Harshberger, \textit{The Botanists of Philadelphia and Their Work} (Philadelphia: T.C. Davis & Sons, 1899), 44.}
\end{flushright}

\begin{itemize}
\item Side-saddle flower, Clinopodium, Lychnis with Crosswort leaves, Ginseng seed and root, Snake-root, and Carnations from seed.
\end{itemize}
In the same letter, Bartram also explained to Collinson that Witt owned a copy of Linnaeus’s *Characteres Plantarum*. “The first I saw [the book] was at the Doctor’s, and chiefly by it he hath attained the greatest knowledge in botany of any I have discoursed with.”

Earlier in the Spring of 1743, Bartram wrote to Collinson, describing many species of plants in Witt’s garden: “sweet cented gouldenrod,” “magnolia,” “hoppany,” “summer ivy is ye minespermum,” “Clematis that bears triangular pods,” to name a few. It is clear from Bartram’s correspondence with Collinson that Bartram and Witt spent time in each other’s gardens over the course of several years and that Witt was cultivating both medicinal and ornamental plants, and that Bartram would have been aware of Pastorius’ garden next door as it was still occupied by Pastorius’ son.

Witt was a significant figure in the culture of medicine and gardening in Germantown’s formative years. He and Pastorius discussed the culture of plants, especially their medicinal value, exchanged seeds and cuttings, and shared medicinal sources. Pastorius cited a manuscript in his *Artzney und Kunst*, written by Witt, as a translation made for James Logan. This citation is found between recipes for different colors of writing ink and hardening steel. “Alchem[ill]. 307. Segg. Ex Chr. Wit’s mscript translated for James L.” This is not only evidence of Pastorius’ engagement with Witt and their exchange of knowledge and resources (like books), but also their exchange with

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286 Harshberger, 44.


288 One of Pastorius’ sons continued to live next to Witt.

Quakers outside Germantown and his acceptance of Witt’s beliefs and intellectual authority.

There is one last interaction between Pastorius and Witt worth noting. It involves a fig tree. Cultivating a fig tree in Germantown in the early seventeenth-century would have been particularly challenging because *Ficus* favors warmer winters. Pastorius exchanged some neighborly letters with Witt about this fig tree. There are two lyrical letters dated October 1716 written by Pastorius and one brief reply by Witt that Pastorius recorded in his *Beehive*. (For the complete transcription and translation of this exchange see Appendix D, 17.0.)

Dein Feigenbaum, nach seinem langen prangen,
[ Your fig tree, after its long flaunting,]
Lässt alberreits [allerseits] die schlappen Ohren hangen;
[Lets everyone hang their dull ears.]
Ach! Dass er möcht den Winter nicht Vergeh'n,
[Attention! So that it doesn’t perish in winter.]
Und wir nechst Jahr sein edle früchte seh'n!
[and we next year our precious fruit will see]
Gut vor Geschweer [Geschwür] der Fersen Zeh'n,
[Good for ulcer of the heel toe]
Von hohler Zähn, und tauber Ohren Weh'n,
[Of hollow tooth, and deaf ear will blow]
Auch giff'tger thier, und Hunds-biss widersteh'n.
[withstand even poisonous animals and the bite of a dog]

[Christopher Witt’s answer thrown back over the fence]
Mein feigen-baum ich gebe raum, den Winter
[my fig tree I give room, in the winter]
zu probieren,
[to have a chance]
Vielleicht er möcht mit edler frücht zum Sommer,
[Perhaps he will make with noble fruit this summer]
sich wohl zieren.

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290 Today *Ficus* thrives in Philadelphia because of warmer urban temperatures.
His note is verbose, and Witt’s is brief and to the point. Pastorius also versified the medical value of figs in his note. This playful exchange and Pastorius’ poem about Witt written in 1711 attest to the longevity and depth of their friendship.

Pastorius’ medicinal and garden journal are steeped in early-modern beliefs in the alchemic power of plants and astrology to cure disease and maintain health, and a culture of spiritual and physical health characteristic of German Pietism and to a certain extent, Witt’s authority as a physician. Pastorius, like Witt, believed in the transformative and metamorphic capacity of plants’ immaterial and material qualities. Witt was an active part of Pastorius’ sphere of influence with respect to botany, medicine, gardens and gardening. Their gardens were important resources for the Germantown community.

**Pastorius and Leni Lenape Culture of Plants in Pennsylvania**

A German: *Dutschemān*
A Garden: *Menenachkhāsīk*
A Botanist/Herbalist: *Nanni mbisonall kichginend*
Medicine, physic: *Béson*
In the Wilderness: *Tauwatawikwe*
—Delaware Native American vocabulary as recorded in *Zeisberger’s Indian Dictionary*, 1887

Different from *Fairhill’s* decidedly English Quaker ordering of land and plants as a ‘Godly’ and productive plantation, Pastorius was interested in and admired Leni Lenape

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Native Americans’ relationship with land and plants. His ‘maniacally associative’ habits of mind embraced the particulars of the entirety of his disparate environment—European and native people, books, animals, and plants. Pennsylvania was a palimpsest of native and colonial culture and nature.

Based on Pastorius’ writing and repeated assertions that all elements of nature, especially plants and bees, are the divine material of God’s creation, I suggest that Pastorius felt an affinity to the Leni Lenape and other Delaware tribes’ in Pennsylvania, New Jersey and Delaware beliefs in the sacred nature of their environment. This is significant especially when compared to Cotton Mather’s puritanical beliefs that ‘natives’ were ‘the children of the devil.’ It is as if Pastorius believed in a sacred accordance between plants, animals, and humanity not unlike the sacred, ecological cosmologies of Delaware Native Americans. Pastorius’ ecological cosmology was part of his Pietist world view that I described in Chapter One but also his own reading of Pennsylvania’s natural world. This will be important, particularly when I later describe and document Pastorius’ garden as it was dedicated to art, God, and nature.

Pastorius’ affinity with the Delaware Native Americans was a kind of mutual dependence but also a kind of sympathy and spiritual connection. Although the published English translation of Pastorius’ description of Pennsylvania calls the ‘natives’, ‘savages’, Pastorius clearly is hesitant to use this descriptor. It is also important to note that the use of the words ‘natives’ and ‘savages’ in these publications could be explained

as biased English translations of his German and not entirely representative of his beliefs. In “Chapter XI, Concerning the Inhabitants of this Province” he lists the natives first as “the so-called savages.” In this same chapter he described their “sincere honesty”, how they dined together, cultivated plants near their homes, built their homes, and their ethical nature in general. He was always a sharp critic of immorality, especially his fellow ‘Christians,’ and suggested that the ‘natives’ were morally superior to most Christians. “I thought to myself, these savages have never in their lives heard the teaching of Jesus concerning temperance and contentment, yet they far excel the Christians in carrying it out.” He repeatedly described them as simple and pious but also took care to describe the structure of their domestic and political lives, as a civil society. It is also worth noting here one of his entries in his Beehive: “1524. Indians, the Native I: …that impious Maxim, heretofore received by the Spaniards, viz. that the Son of God, by his blood, had not redeemed the Souls of the Indians, & that no difference was to be made betwixt these, & the vilest Creatures upon the Earth, Dan. Miss. part 3. p. 37.” Pastorius rejected both the Spanish Catholic and English Puritan views about Native Americans, that ‘Indians’ were born and lived as sinners.


295 Pastorius, 384. These conclusions are also consistent with his direct criticism of and protest against the English enslavement of Africans. See: Gerbner, “‘We are against the traffik of men-body’: the Germantown Quaker protest of 1688 and the origins of American abolitionism.”

296 Pastorius, “Beehive, Bee-Stock,” 738, v. 2. The bold of ‘impious’ is my emphasis, impious meaning, not pious, wicked, irreligious.
Related to his respect for Native American culture, was Pastorius’ anthropological definition of ‘religion’ in his *Beehive*. He claimed ‘love’ as the ‘universal Religion’ but asserted in his definition, the right of all humans to choose their own religion. “Religion is necessary to the Support of human Society, CC. rights…—to be chosen by every one for himself,…the life of all true R.[eligion] is love.”\(^{297}\) In Pastorius’ mind, love was not doctrine, but a core belief of Pietism. Pietism also privileged the personal nature of belief—it must come from the heart not institutionalized doctrine. It is as if he considered the Native American’s religious beliefs and practices for what they were: their own ethical guide for living based on humility, temperance, and communal love.

No doubt, Pastorius was influenced by George Fox and William Penn’s colonial attitudes towards Native Americans, but I think he believed in equal liberty for all Native Americans based on aforementioned core beliefs of Pietists and the influence of “devoted men at the University of Cambridge” that he mentioned in his accounts of his Grand Tour. These ‘devoted men’ were what historians call the ‘Cambridge Platonists.’ It is likely that his Pietist beliefs were affirmed by the writings of Cambridge Platonists. “From their view of the relation of faith to reason, and of theology to ethics, it naturally followed that the Cambridge Platonists believed in liberty of conscience.” And “were unanimous about the need for toleration;” and acceptance of non-Christian religions and lively-oods was a pious ethic.\(^{298}\) These beliefs liberated Pastorius to see Native Americans as people, not as objects in need of colonizing or redemption.

\(^{297}\) Pastorius, 786 (V2), entry 1809.

It is also possible that his education as a lawyer informed his egalitarian sensibilities. His education would have introduced him to Hugo Grotius and Francisci de Victoria’s *De Indis et De Ivre Belli Relectiones* (a 16th-century accounting of Native Americans). The ideas of both Grotius and Victoria were the basis of ‘natural law’ and constructed arguments about human rights not unlike the logic Pastorius used to argue for the abolition of slavery in Pennsylvania.²⁹⁹ Charles Sanford has summarized ‘natural law’ as a basis of the American ethical conscious and Victoria’s arguments in his book, *The Quest for Paradise, Europe and the American Moral Imagination*. “‘Are they free? Yes, for God has given liberty to all men…’ Their right of dominion over temporal goods, even if they did not exercise property rights, was as natural as the rising sun and the falling rain.”³⁰⁰ Pastorius’ respect for, trust in, and liberal curiosity about ‘Native Indians’ meant that he was willing and able to learn from Native American beliefs in the divinity of plants and animals but also their use of plants for medicine and food and how they ‘gardened’ and harvested plants.

There are several entries in Pastorius’ *Beehive* that record ‘matter of fact’ descriptions of Delaware tribes in Maryland and Carolina states from English books. But, his entry for ‘Natives’ is general: “Natives, homeborn.” Similarly, in his letter to Germany of March 7, 1684, later published in 1700, as a part of his *Geographic Description*, he again discredited the use of ‘savage’ to describe Native Americans; “As

²⁹⁹ See Gerbner, “‘We are Against the Traffik of Men-Body’: The Germantown Quaker protest of 1688 and the Origins of American Abolitionism.”

to the inhabitants [of Pennsylvania], I cannot better classify them than into the native and the engrafted. For if I were to call the former savages and the latter Christians I should do great injustice to many of both varieties. His entry for “Maiz or Indian (:wheat:)” and his published description of their ‘agriculture,’ in effect, suggests that the ‘Native Indians’ were husbandmen who cultivated corn, beans, and squash near their homes. Nowhere in his Beehive does Pastorius describe Native Americans as ‘the devil’ or evil ‘savages.’

Maiz or Indian (:wheat:) Corn, the chief natural grain of these our American parts, …It has a benevolent aspect to humane Nature, ..Rye, Indian Corn, & Indian Pulse (: i.e. Peas & Beans:) are here-three never failing grains, if the husbandman act his part.

The ‘husbandman’ is the ideal that Pastorius adopted throughout his garden journals and descriptions of English ‘plantations’ and his own garden as the Virgilian georgic ideal.

It is also important to note that Pastorius and other Germantown citizens employed Native Americans to clear their land and build their settlements. Germantown was a very small community in great need of skilled labor because they did not rely on slave labor to fell their trees, establish and plant their fields, and build their homes. There was common ground between their two very different lives.

301 “Engrafted” (also spelled “ingrafted”) evolved from the meaning of “graft” (v.) as a practice of grafting a species of fruit tree onto/into the trunk of another to propagate and hybridize fruit varieties. The word begins to be used literally and metaphorically in the English language in the early seventeenth-century. See OED, “engraft” (v. & adj.).


303 Pastorius, “Beehive, Bee-Stock,” 774, V2), entry 1702.

Germantowners needed and trusted Leni Lenape people. This is the case despite the glaring fact that the Leni Lenape’s livelihood and relationship with plants and animals was based on oral and experiential traditions and being disrupted by colonization, and that Pastorius was a colonizer and scholar dedicated to the material of reading and writing—they cultivated and collected plants in very different ways. Their common ground was that they both envisioned an ideal spiritual and physical life in the particulars of nature.

Drawing from the work of medical anthropologists and ethnobotanists who have analyzed and documented the Delaware tribes’ use of plants as medicine and food, and their cultures of healing and nutrition, I will call attention to some universal Delaware beliefs about nature and their affinity to Pastorius’ own universal beliefs as he articulated them in his journals and poetry. In both cases, these universals represent ideals that were often invisible, intellectual and imagined cosmologies. As parts of these universal beliefs there are particular examples of plants valued for their nutritive and medicinal qualities used by both Native Americans in Pennsylvania and Pastorius. These particulars are the materials used as a part of their rituals of living that in turn affirm or test their beliefs—they are the necessary and concrete reality of their lives, and also because of this and their mutual trust, exchanged and shared between them. There are twenty-seven plants of the one hundred and fifty-nine listed in Pastorius’ *Artzney und Kunst* that were also used by Delaware tribes for food and medicine. In some cases, these plants may have been

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365 See Appendix C, 8.0 for a complete list of plants listed in Pastorius’ *Artzney und Kunst.*
entirely new to Pastorius in Pennsylvania, in others, the plants were also found in central Europe. Pastorius expressed admiration for and keen, scientific curiosity about the Leni Lenape people, their ethics, religion, language, and how they hunted and cultivated food. It is likely that they shared knowledge about plants and even plants themselves, and that the Leni Lenapi Native Americans influenced Pastorius’ ideas about gardens and botany in concrete and theoretical ways.

Pastorius’ and the Delaware tribe’s cosmologies were rational and imaginative, universal explanations of their place in their natural environments—their cosmologies oriented them in the Delaware valley and world at large through the particulars of their environments, most of which was forest and river. Historian of religion, Catherine Albanese, describes these kinds of explanations in North America as ‘nature religion.’

First, before I compare universal beliefs of Pastorius and his Leni Lenape friends, I need a definition of religion that forms the basis of what Albanese has coined ‘nature religion’. This is important to demonstrate Pastorius’ affinity to Leni Lenape. She defines religion in much the same way as Gerard van der Leeuw. Van der Leeuw asserts that “religion implies that man does not simply accept the life given to him.” And that, “In life he seeks power; and if he does not find this, or not to an extent that satisfies him, then he attempts to draw the power, in which he believes, into his own life.”

Humans seek meaning and power in this meaning through their religious beliefs. Albanese expands on this fundamental definition and considers religion in terms of a human’s place in their

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environment. “I understand religion as the way or ways that people orient themselves in the world with reference to both ordinary and extraordinary powers, meanings, and values.” Religion, to Albanese is a system of symbols that orients people to other people and their world. She also asserts that like Native American religious beliefs, that nature is one of the three great symbolic centers of Western religion. Nature, in Native American religion and Protestant Christianity, especially Pastorius’ Pietism, is part of a system of empowering symbols.

There are four universal concepts that German Pietism, particularly the mysticism of Frankfurt Pietists as it was embraced by Pastorius, coincidentally shared with the Delaware tribes’ religious beliefs. First, nature was a source of wisdom to be read or interpreted. Second, that the material of nature (animals and plants) was by its very nature divine or contained divinity. Third, they both believed in a correspondence between humanity and nature. Lastly, they both shared in their belief that nature was a vital living being. All of these universal qualities describe a kind of ecological rational that oriented them to own their natural environments and ascribed meaning to the particulars and generalities of their lives. The most glaring difference in this comparison is that Christianity was codified in written texts derived from European and classical descent and the Leni Lenape codified their religious beliefs and relationship to nature through rituals and a regional oral mythology.

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I am not suggesting that Pastorius believed in the very system of symbols or mythology that the Leni Lenape believed in or used to codify nature and their environment, only that he would have found their beliefs compatible with his own reverence for the material of nature, particularly plants. It is my opinion that Pastorius was participating in what Albanese would call a ‘nature religion’ like the Native Americans, and that he would have disagreed with his contemporary Puritan assertion that the ‘wilderness’ and Native Americans of the ‘New World’ were a threat to his own humanity or Christian cosmology. In each universal aforementioned concept, I will identify examples written by Pastorius and his contemporary German Pietists that are comparable to documented Leni Lenapi beliefs or lived practice.

Getting lost in the Pennsylvania wilderness to Pastorius was a source of pleasure, to be respected, not feared as a source of contamination or evil. His views on ‘wilderness’ as a place of Christian settlement were related to, but not the same as the English Puritan view. Puritans viewed America as a wild savage wilderness that tested their Christian purity; at any moment their Christian morality could be violated. It was a test of their morality and Christian authority—Native Americans were part of America’s potentially contaminating environment. Enclosure and containment that enforced hierarchy and codified their own ‘chain of being’ defined Puritan settlements in New England. By this I mean a vertical chain of being, the Christian humanity being above that of the American native people and environment. Pastorius view of the American wilderness was related to this, in that they were both Christian, but his cosmology could be described as more horizontal, less hierarchical and embraced the newness and wild state of its environment as a refuge from the chaos of European immorality. So Native Americans and the woods
of Pennsylvania, to him were in part a refuge from the post-Thirty Years War, European landscape of usury and immorality. Pennsylvania’s woods was a living source of wisdom.

He embraced and described the forest of Pennsylvania as primitive and actively catalogued and collected its plants with a scientific curiosity and pleasure. In Pastorius mind, a primitive state meant pure, unadulterated by war, usury, or immorality. For him, it was a source of power. Pastorius wrote in his Geographical Description: “Let one turn, however, in whichever direction he will, it is always true that: Itur in antiquam sylvam [One finds himself in the primitive forest], an all is overgrown with forest.”308 Although he was very aware that the forest was in fact occupied, settled by previous Europeans and more significantly his Leni Lenape neighbors, to him it was the ‘howling desert wilderness’ of his German Pietist imagination. He repeats this belief near the end of his life in a letter to Hannah Hill and Mary Norris. In this passage he describes a memory of himself getting lost in 1683: “the fortunate day of our arrival at Philadelphia, then consisting of 3 or 4 little cottages, all the Residue being only Woods, Underwoods, Timber and Trees, where among I several times have lost myself, travelling no farther than from the waterside to the house....But what I think now of the same I dare Ingenuously say, viz. that God omni-benevolent has made of a desert and wilderness an enclosed and well-watered GARDEN, & the Plantations about it a fruitful Field.”309 He took care to record instances of himself getting lost and his encounters with trees, plants,


grapes, and fields of strawberries in his journals. On page twenty-one of his *Monthly Monitor*, he listed plants that he has found in Pennsylvania’s woods and marshes (See Appendix C, 6.0). In is *Deliciae Hortenses* and *Beehive* he wrote a poem about a red flower that he found in the woods (See Chapter four). The flower he described could be a red *Aquilegia canadensis* (Wild columbine) as they are native to Pennsylvania. His lists of plants and this poem exemplifies his conscientious concern for all plants of Pennsylvania’s woods characteristic of Pietism.

Similarly, Johannes Kelpius and Christopher Witt, like Pastorius, were both affiliated with the Frankfurt Pietists, formed a community of believers, in the forest of Germantown and ridge along the Wissahickon river. Pastorius helped Kelpius, Witt and their monastic group, *The Society of the Women in the Wilderness* acquire land to build their gardens, tabernacle, shelter, and a celestial observatory. Kelpius believed, based on their astrological calculations and their own mystical logic that the Jesus’ second coming was eminent, in Pennsylvania, before 1700. Within this community they, by design, lived primitive, monastic lives, gardened, read, wrote hymns, sang, chanted, and educated children in the ‘wilderness’.

Their ‘settlement’ could not be described as ‘English’ or even ‘German’ in its typology but instead embraced the wooded, rocky topography of the Wisahickon as a ‘wilderness refuge’ from any formal, European institution of Christianity. In their minds, it was a new kind of monastery of Pennsylvania’s wilderness.

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310 This summary is based on Kelpius’ biographies written by Christopher Lehman in 1766, *An Explanation of the Original Location and General Plan or Draught of the Lands and Lots of Germantown and Creesam Townships* and Julius Sachse, *The German Pietists of Provincial Pennsylvania: 1694-1708*. 
They sought wisdom from their environment, actively observed the stars and planets through their telescope in their observatory, and translated its nature into their own way of living and religious beliefs. Albanese summarized some of the rituals of the Women in the Wilderness as a kind of witchcraft that was a part of the occult and metaphysical movements in early America.

The scholarly tradition of witchcraft was carried on most notably in the Pennsylvania German community in Germantown, especially in the brotherhood established under Johannes Kelpius (1673–1708) in Germantown, now part of Philadelphia. Witchcraft, as the brothers understood it, was a venerable tradition, the religion of nature that had once dominated Europe and only gradually yielded before a triumphant Christianity. The group inaugurated their settlement with the rites of summer solstice according to early German tradition. They built bonfires out of trees and bushes, raised their ritual chants, and asked the sacred powers they invoked to bless the place where they were making a home. The Women in the Wilderness, as their community came to be called, offered its inhabitants a blend of pagan, Christian, and Jewish elements. Natural symbols and natural magic were everywhere, for the brothers wore astrological amulets, used incantations in their healing rituals, and studied long hours to learn to control nature by magical means....Nature, through its fertility, was the source of sacred power, and by orienting oneself toward it and discovering its secrets, a person could change reality for the better.311

Again here, although, decidedly Christian and European in its origins, it was, in my and Albanese’s view, a ‘nature religion’ that embraced an ecological cosmology. It saw the wilderness as a place to be loved and feared only as the material authority of God. Although Pastorius, as far as I can tell, did not participate directly in the Kelpius community’s daily activities, he directly supported their efforts to live freely in their

monastery and relatively independent of the civil authority of Germantownship and Pennsylvania.

Delaware tribes had ‘coming of age’ traditions that encouraged young individuals to seek wisdom from nature and their own adult identity based on an intimate experience with nature and the wilderness.312 These rituals and traditions also sought to maintain the purity of their relationship with the resident divinities of nature. Albanese describes the Native American sense of their world as a relational cosmology. "As this relational view suggests, the well-being of Amerindian peoples depended in large measure on a correspondence between themselves and what they held sacred. The material world was a holy place; and so harmony with nature beings and natural forms was the controlling ethic, reciprocity the recognized mode of interaction."313

Gladys Tontaquidgeon, an anthropologist considered to be a primary authority on Delaware tribal traditions regarding nature, medicinal and culinary practices, describes these kinds of empowering traditions as a part of child rearing and general tribal culture directly linked to their culture of healing and nourishment.314 Young Leni Lenape were encouraged to seek out the resident spirits of nature through their dreams or during a traditional fast-vigil where they lived alone in the woods for a period of time in their adolescence.

The dream vision is of paramount importance in the life of the Delaware. This supernatural visitation is experienced during childhood, or less frequently, at the

312 Gladys Tontaquidgeon, A Study of Delaware Indian Medicine Practice and Folk Beliefs (Harrisburg, Pa.: Commonwealth of Pennsylvania Department of Public Instruction, Pennsylvania Historical Commission, 1942), 4.
313 Albanese, Nature Religion in America, From the Algonkian Indians to the New Age, 23.
314 Tontaquidgeon, A Study of Delaware Indian Medicine Practice and Folk Beliefs, 1.
age of maturity. More commonly it occurs during the fast-vigil of a youth at puberty, alone in the forests searching for a spirit guardian. ... Not always is the revelation experienced in a dream. The neophyte may be walking alone in the woods, or even in a situation of apparent danger when the presence of the spiritual agent is made known to him. A voice from a rock, a bird, an animal or even the sky is recognized, as the medium through which the coveted power is conveyed to the fortunate one.\textsuperscript{315}

Nature and its material parts—plants, rocks, trees, animals—spoke to Delaware Native Americans. A Delaware person must be humble to the authority of these ‘nature voices.’ Their interpretation of these voices in turn formed their individual identity as adults and their role in their tribe. It would determine whether the individual was an herbalist who actively employed plants to treat sick or wounded members of their tribe, or a practitioner of magic, who employed plants and ritual to intervene in healing of either mental or physical disease or discord in their tribe. All Leni Lenape were expected to seek wisdom from nature, pray, and live to conserve and revere the divine material and spirits of nature.

These traditions are not unlike that of the classical tradition of \textit{genius loci}, where the spirits embedded in the elements of nature were thought to speak directly to humans, or Pastorius’ reverence for the plants in his garden, that he believed to be divine material of God’s creation, and comparable to Paraselsus theories of the divine nature and healing power of plants. Pastorius, like Leni Lenape, gave plants a soul and a voice. Here an excerpt from poem ‘58’ in Pastorius’ \textit{Deliciæ Hortenses}.

\footnote{Tantaquidgeon, 4.}
There is no grass so insignificant that it does not prove the existence of God. / Every plant praises and extols God. / Each/Every herb together with its seed, praises and considers God's name.\footnote{Pastorius and Schweitzer, \textit{Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae}, 58 & translations, 91.}

It is also important to note here that in the cases of the Leni Lenape and Pastorius’ beliefs, it is the individual that reads the divinity of nature and in both cases, getting lost in nature is an intellectual and spiritual experience.

Related to this and like the Leni Lenape, Pastorius believed in the spiritual and healing power of plants as evidence of their divinity and that this healing power was a direct, horizontal, correspondence between plants, humans, and God and that he, and all people were morally obligated to tend nature and its healing capacity. The alternative, in his mind, was suffering and death. This explains his interest in gardening as a labor of love and morality. Both Pastorius and Leni Lenape peoples practiced and advocated temperance with respect to plants and all the elements of their ecology.

Both Albanese and Tantaquidgeon discuss the Native American belief that the material of nature—plants, rocks, animals—was occupied by guardian spirits that spoke to, protected, and provoked humans. There was a direct correspondence between how Leni Lenape cultivated and hunted food and medicine and their mythology of nature. Their ‘nature religion’ codified this correspondence and was what Albanese calls a relational or ecological cosmology.

As this relational view suggests, the well-being of Amerindian peoples depended in large measure on a correspondence between themselves and what they held sacred. The material world was a holy place; and so harmony with nature beings and natural forms was the controlling ethic, reciprocity the recognized mode of
interaction. ...What we, today, would call an ecological perspective came, for the most part, easily—if unselfconsciously—among traditional tribal peoples.317

Pastorius observed and recorded how the Leni Lenape cultivated and harvested fruit and vegetables. Albanese and Tantaquidgeon describe in detail their ritual of harvesting plants for food and medicine.

Believing that plants and animals in general are closely related to mankind and that the Creator has endowed them individually with spiritual natures equally as sensitive as our own, the Delaware herbalist is always careful to perform the formal propitiatory rites before gathering a plant or removing part of an animal for use in making medicine.318

The taking of a life, any life, be it vegetative or animal, to the Leni Lenape was cause for a ritual of gratitude because all elements of nature were living, organic beings, guarded by spirits; one must honor their vital presence. There was a prayer rite for the first plant found, the second one found was harvested. Roots and leaves were allowed to dry in the sun because the sun increased their potency. Stirring and harvesting directions were determined by how the plant was to be used. All these rituals could be easily compared to the astrological indicators for seeding and harvesting in Pastorius’ *Monthly Monitor* and his accounts of prayer and meditation in his garden. They could also be compared to both Böhme and Paracelsus’ natural theologies that theorized correspondence between both visible and invisible qualities of living and non-living beings and scalar correspondences between plants, humans, and the world—that a microscopic world could be found within the elements of the macrocosm. Related to this kind of correspondence


was the fundamental tenant that nature was an organic, living being. The concept is apparent alongside various kinds of natural correspondences in most of Pastorius’ poetry and descriptions of plants and Delaware oral and ritual traditions. For all these reasons, Pastorius would have recognized the affinity between his own kind of ecological thinking and that of the Leni Lenapi.

There are several examples of plants used by Pastorius for medicine, food, and household purposes that were also used by Leni Lenape people to heal or nourish (See Figure 3.4). Some of these plants would have been familiar to Pastorius in Europe but several are considered indigenous to Pennsylvania or the Delaware region. I have yet to find specific examples of plants that Pastorius clearly stated were given to him by Native Americans, but it is clear that Pastorius was actively collecting and cultivating plants indigenous to Pennsylvania in his garden. His *Artzny und Kunst* and *Monthly Monitor* records such examples. Figure 3.4 lists these plants by Pastorius’ common name, Delaware Leni Lenape common name, and their genus and species when possible.


**Key:** *Also listed in Pastorius’ “Seed Report” in his *Monthly Monitor.*

<table>
<thead>
<tr>
<th>Pastorius’ Common Name</th>
<th>Genus &amp; Species</th>
<th>English Common Name</th>
<th>Leni Lenape Common Name (if known)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denis</td>
<td><em>Taraxacum officinale</em></td>
<td>Common Dandelion</td>
<td><em>Salbeý</em></td>
</tr>
<tr>
<td><em>Portúlaca</em></td>
<td><em>Salvia officinalis</em></td>
<td>Purslane</td>
<td>Sage</td>
</tr>
<tr>
<td><em>Portúlaca oleracea</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Senffist  
Brassica nigra  
Mustard/Black Mustard

*Sauerampfen  
Rumex acetosa  
Sorrel

*Pimpinell  
Pimpinella saxifraga  
Burnet saxifrage

*Katzenmünztz  
Nepeta cataria  
Catnip

Rheinfarnny  
Tanacetum vulgare  
German Tansy

Hollunder  
Sambucus nigra  
Elderberry or Black Elder

*Alant. Ennula Campana  
Inula helenium  
Elecampane

*Angelica  
Angelica archangelica, atropurpurea or triquinata  
Norwegian angelica

Lobonkraut Hepatica  
Hepatica noblis  
Liverleaf or Anenome

*Nesseln  
Urtica dioica  
Nettle

Wegriest Plantago  
Plantago major or lanceolate  
Common Plantain

*Rüben golbr. Rotsr. Cutist?  
Brassica rapa  
Turnip / earth apple

Höhbeni

*Tabac  
Nicotiana  
Tabacco  
Kschátey

*Pfirsching  
Prunus persica  
Peach  
Pilkes or Pilkisch

*Kürbt  
Cucurbita  
Pumpkin or Squash  
Gëskündhack, Machakk, or Mechevey

*Pflaumen  
Prunus americana, alieganiensis, orangustifolia  
Plum  
[wild plum] Poagammawak  
[wild red plum] Pachhamáwo

Maülbeere  
Morus nigra and rubra  
Mulberry  
[mulberry fruit] Woakhättim  
[mulberry tree] Woakhättimenschi

*Mayz or Indian Corn  
Zea Mays  
Indian Corn  
[Indian Corn] Cháskwém  
[ripe corn] Wínsu  
[ear of corn] Meosákwwém  
[cornstalk] Simákwon

*Calmus  
Acorus calamus  
Sweet Flag

*Sañafras Soltz  
Sassafras albidum  
Sassafras  
[also general word for physic] Wisochis, Winach

Attig, [or] Atticsist  
Sambucus ebulus  
Dwarf Elder or Elderberry
Ein Eichenbaum
*Quercus robur or alba
Common or White Oak
[White Oak] *Pachgachgiminschi

*Kletten
Arctium lappa
Burdock
Sacksak

*traubry
Vitis
Buch of Grapes
[grape] *Wisachgim,
[grape leaves, wine] *Wisachgiminschi
combachkwall,
[a vine] *Wisachgiminschi

This list documents a shared experience between Pastorius, Germantown residents, and the Leni Lenape people. These plants were valuable because they nourished and healed people. Unlike the Puritans, and to a degree the Quakers, Pastorius embraced this shared experience in the making of his garden and in his writing about plants.

Pastorius saw the Leni Lenape as a source of knowledge, different from, but equally valuable as the knowledge from his books. His relationship with Leni Lenape people was a source of confidence in navigating, settling, and orienting himself in the Pennsylvania wilderness, and a source of knowledge that affirmed his own ‘nature religion.’ This source privileged temperance as a guiding ethic for living, gardening and what it meant to be ‘natural.’ To be ‘natural’ was to be ‘as God created you.’

Tantaquidgeon describes the Leni Lenape ritual of giving thanks to plants for their power to heal—that the first healing plant found was to be honored with prayer, preserved, deemed sacred—so as to guard the entirety of nature’s authority and value. Pastorius would have seen this ritual as pious and honorable.
CHAPTER 4: Pastorius’ Garden as a Commonplace Book—what and where he gardened.

Garden as a Commonplace

This chapter will describe the contents of Pastorius’ garden as commonplaces of his everyday life in Germantown. It will examine what he gardened in the spaces of his garden as he situated words and concepts into places in his notebooks in order to remember or elaborate on their meaning. In this context, Pastorius’ garden can be understood as an artful and conscientious arrangement of plants and bees, that in themselves are meaningful and useful. Their meaning and use were commonplaces of his life like his words and letters. In this regard, his garden is like/resembles his Beehive.

Two contexts by which Pastorius understood commonplace and commonplacing in his scholarly life have already been discussed in Chapter two. They are relevant here, but not central, so I will only briefly restate them. A commonplace can be understood as a mnemonic place, a site in one’s imagination where one puts information. This is most apparent in his obsessive notetaking found in his Beehive but also in the making of plant communities in his garden.

A commonplace can also be understood as a ‘speech within a speech.’ Pastorius appreciated plants as if they were words; for their sensorial qualities but also the meaning embodied in them. This is most apparent in his garden and bee poetry found in his Beehive, Deliciae Hortenses, and in his list of images and Latin aphorisms of his “Emblematic Recreations” of his Beehive (see Appendix B, 3.0). The commonplace in
both senses is important in reconstructing his garden because his garden bound his own intellectual and ethical ideals and habits with his everyday rituals of cultivating food, medicine, and materials that were central to his household’s economy. Herein is one aspect of his art.

His garden was exceptional in many regards, especially in how he transposed a multitude of European traditions of gardens and ideas about nature and the environment onto the Wissahickon landscape. This is especially apparent when his garden is compared to the early eighteenth-century English gardens of Williamsburg, Virginia (Governor’s Palace) and English Quaker plantations in Philadelphia like *Pennsbury* and *Fairhill* discussed in Chapter three and known by Pastorius. These gardens were more direct transpositions of nationalized style and types. It is important to remember that Pastorius’ pietism valued the everyday over and above the rites and rituals of pomp and circumstance, fashion, nationhood, and style that these gardens represented. He often described aristocratic social rituals and fashion as ‘fripperies’[^319] of life (meaning empty of meaning, silly or foolish).[^320] In making his garden, he acknowledged traditions but celebrated and favored the normalcies of his life in Germantown. His garden was commonplace in a third sense—it was a center of his everyday life in Germantown in that it was integral to his everyday routines of working, reading and writing.

This chapter will address this third dimension of commonplace as it relates to his garden. It will explain in detail, what and where he gardened and call attention to his day

[^319]: He also used the term, “fopperies,” which had similar meaning as “frippery.”
to day rituals of gardening, the timing of which will be discussed in Chapter five. He
garden every day of the year, or at least interacted with the plants and spaces of his
garden on a daily basis. Although some days were more notable and striking, and worth
writing about as mnemonic and meaningful commonplaces in his garden poetry and
Monthly Monitor, it was the everyday that sustained him. He took great care to
methodically record the ordinary of his garden in his Monthly Monitor.

The commonplaces of his garden tell us what he and his family ate, drank, what
he valued in plants (nourishment, scent, flavor, and color), and how he spent his time
when he wasn’t teaching, drafting and reading legal documents and scholarly books, or
resolving property disputes. His garden was not particularly large or grand like Norris’
Fairhill or Penn’s Pennsbury, nor did it aspire to a baroque German or English styles (see
Chapter three). He did not use slaves to do the physical work of digging, raking, or
building any part of his garden or field. Did he employ Native Americans to clear his
woods or help with the heavy lifting of building his garden and house? Yes, he says so in
his notes published in his Circumstantial Geographic Description of Pennsylvania.321 It
is also likely that his wife, Enneke Klosterman, and two sons helped in the garden and
tended the apiaries.322 This is apparent in some of his narrative poetry, but their day to day
role in the garden is not clear. They (Pastorius and Klostermann) owned the land

321 F. D. Pastorius, “Circumstantial Geographical Description of Pennsylvania, by Francis Daniel Pastorius,
1700,” in Narratives of Early Pennsylvania West New Jersey and Delaware 1630–1707, ed. Albert Cook
Meyers (New York: Scribner, 1912), 391.
322 No doubt, Enneke made substantial contributions to the making of their garden (processing and
preserving harvests, weeding, and opinions about what should be grown), but Pastorius does not elaborate
on them, although he often mentions her in his garden and bee poetry. His writing is mostly first person,
and when he indicates something specific in his Monthly Monitor, he often uses “I,” “myself,” but
sometimes “we.”
together, but he was the gardener and spent his daily life, from about 1689 till his death in 1719, tending his garden in all seasons of the year to nourish himself, his family and neighbors with healthy food, medicine, and recreation.

The commonplaces of his garden were his herbaceous and woody plants and bees. Some of his plants were indigenous to Pennsylvania, others were exotic and imported from Europe and included vines, trees, field crops, herbs, vegetables, fruits, and flowers. Also commonplace in his garden were natural resources, like soil, compost, and different kinds of water available in the Wissahickon that he deployed in the making of his garden. His bees and beehives that he placed in or near his orchard were also important elements. He was not the only Germantowner to maintain an apiary before 1719. Lastly, embodied in all of his plants, bees, and natural resources was nourishment. He believed his garden nourished his physical, intellectual and spiritual being. In his mind, nourishment was the basis of living piously.

**Germantown, A Forest Village**

Before describing in detail what and where he gardened, it is important to explain the general proximities of the land he cultivated in relation to Germantown, because he worked with plants over at least forty acres of land. In Pastorius’ lifetime, Germantown was a densely wooded, small village, with less than twenty-five houses loosely oriented to Germantown Avenue. But the town lots were quite large, so it was not dense or urban like New Amsterdam nor was it ordered as large, open, square plantations of Penn’s Philadelphia. Germantown more closely resembled a *Waldhufen*. A *Waldhufen* as a
typology would have been familiar to Pastorius as they were common in German territories of central Europe. Gutkind describes *Waldhufen* villages as typology of “forest villages, ... mostly laid out from the bottom of the valley upward” where “the houses were lined up on both sides of a river or a street, and the fields covered the slopes in long strips from the valley to the edge of the forest.”323 In the case of Germantown, the existing Native American trail and the Wissahickon wooded topography on a ridge organized the town’s linear arrangement of long, slender town and side lots.324 Germantown’s early formation was a translation of *Waldhufen* onto the eastern most edge of Pennsylvania’s Peidmont landscape.

Germantown is situated northeastern edge of the Wissahickon River, between the Wissahickon and Wingohocking Creek watersheds. "The land that greeted the earliest Europeans to arrive in Pennsylvania was primarily forested, broken only by rivers, occasional wetlands, and clearings associated with Native American villages."325 Geologically it is located on the edge of the formation called the Peidmont Province, whereas Philadelphia resides in the Atlantic Costal Plane. The seventeenth-century landscapes of Germantownship and Philadelphia were different in terms of their topography and forests. Pastorius read this difference and chose the land above the

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Wissahickon and Wingohocking because of its elevated topography, access to water, and natural resources.

Each Germantown lot supported small, ‘self-provisioning’ farms for each family.\(^{326}\) He and Enneke Klosterman (1658-1723) owned lot 16 in Germantown which included a town-lot and a side-lot, about fifty acres total. They purchased this land from the Frankfurt Land Company and built a house on their town lot after 1689.\(^{327}\) Enneke had inherited ownership of thirty acres of land from the Company in 1685 while she was still living in Germany.\(^{328}\) They were married in 1688. Pastorius and Enneke’s garden, orchard, and vineyard were situated near their house on the southwestern edge of their town-lot along Germantown Avenue at what is now 6019 Germantown Avenue. Their woods extended northeast to the back of their town-lot to what is now the southern corner of Awbury Arboretum. Their fields were in side-lot number 16, located near the northwest corner of his town lot. This chapter will begin in the woods behind their house, move to their fields in their side-lot, then move closer to their house and Germantown Avenue and discuss the plants of their orchard, vineyard, and garden. Figure 4.1 explains

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\(^{327}\) Margaret B. Tinkcom, Harry M. Tinkcom, and Grant Miles Simon, *Historic Germantown From the Founding to the Early Part of the Nineteenth Century, A Survey of the German Township*, vol. 39, Memoirs of the American Philosophical Society Held at Philadelphia for Promoting Useful Knowledge (Philadelphia: The American Philosophical Society, 1955), 82. The authors also confirm that Francis and Ennicke’s house was demolished in 1872.

the general location of Francis and Enneke’s land and their proximity to Germantown Avenue. 

Figure 4.1. Germantown, Pennsylvania showing Pastorius’ and Enneke Klostermans’ town and side lots and various landmarks. Their property was populated with oak forest and streams. Map base: Lehman, Christian, and Joseph Lehman. “An Explanation of the Original Location and General Plan or Draught of the Lands and Lots of Germantown and Creeam Townships Copied from Matthias Zimmerman’s Original of June 26th AD 1746 and of the Several Districts and Divisions Thereof Part Extracted from Original of Former Draughts & Part Done Utaken from Actual Mensuration Drawn.,” July 28, 1766. Germantown Historical Society. Lehman’s map has been annotated with details noted on Germantown’s first map, dated between 1686 and 1687 and was annotated with Pastorius’ hand. See: Duffin, James M. “The First Map of Germantown: A Neglected Source.” The Germantown Crier 44, no. 2 (Fall 1992): 4–13.

329 From this point, I will refer to all parts of their garden as Pastorius’ only, for simplicity and because Pastorius was the primary gardener and her role is not clearly described in Pastorius’ writing, even-though they both owned the land.
Herbaceous and Woody Plants of his Garden

Pastorius carefully recorded and observed plants and trees found in the woods of Pennsylvania and those found on his wooded thirty-nine acres behind his house. He had to walk over a mile through his woods\textsuperscript{330} to access his fields that were located adjacent to the back of his town lot. At the time that Pastorius settled Germantown, the forests of southeastern Pennsylvania were oak forests populated with red and white oaks, mixed with tulip trees, red maples, and hickories. These forests had a dense understory of shrubs of mountain laurel and black huckleberry.\textsuperscript{331} He likely found the ‘pretty Little Flow’r’\textsuperscript{331} with a red blossom that he described in a poem dated “the 12\textsuperscript{th} of April 1711” in the woods behind his house and garden.

\begin{quote}
I have a pretty Little Flow'r,
The same I hundred times an hour
And keep it dry as long's I will
But finally Replant it still,
Nay! when I set it on a Roof,
For my & mine Assigns behoof,
Its Colour is Vermillion red
Tho' small yet was't for man-sake bred.
In likeness of a skippers Cap,
Here th' Persian Turbant gives a tap
It after him, hap what may hap,
\end{quote}

\begin{quote}
Which in the Woods I found,
(the 12th of April 1711)
May take out of the ground,
In either of my hands;
And there full Fresh it stands.
It even then does grow,
As formerly below.
Go, give it now a Name;
To men at last it came ut supra.
Or Hat of Cardinal;
To both & bids me call
So therefore we say all.\textsuperscript{332}
\end{quote}

\textsuperscript{330} He called it his ‘woods’ rather than his ‘forest.’ Even his entry indexed as ‘forest’ in his \textit{Beehive} refers to his entry for ‘woods.’ Because of his predominant use of ‘woods’ in English, it is not clear that he saw woods and forest as different. This is likely not the case when he wrote in German.


\textsuperscript{332} Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or, Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696.” (Philadelphia, PA, 1865 1696), 158 (V1), Upenn Ms. Codex 726. He also included a refined version of this poem in his \textit{Deliciae Hortenses}. 
This flower is a Wild Columbine (*Aquilegia canadensis*). It is an herbaceous perennial native to the forests of eastern Pennsylvania. (It’s cousin *Aquilegia vulgaris* with blue, violet, pink and white flowers was found in Europe at this time, but not *A. canadensis* with red blossoms.) Its bright red blossoms would have stood out on the forest floor and resembles a hat like he described. He planted it on a roof in his garden where it thrived. Is this the roof of his garden closet, or an outdoor porch of some kind? He also recorded “Columbines” in his “Seed Report,” which means he harvested their seeds or plants from the woods and planted *A. vulgaris*.

This poem is one example of him narrating a story of how he harvested a plant from the woods, worked to identify it, and cultivated it in his garden. He also carefully recorded trees and other herbaceous plants that he found in the woods in his *Monthly Monitor*.

In the middle of his *Monthly Monitor* is a list of plants found “In the woods & marshes & of Pensilvania of their own self growing” (see Appendix C 6.0). The list is mostly deciduous trees, understory shrubs, and herbaceous plants and represents the indigenous plants that he valued most, could identify, or were found in his immediate woods and marshes, near his house. There are several kinds of trees indigenous to southeastern Pennsylvania that were prevalent in the Philadelphia region in the mid seventeenth-century that he did not include on the list: Elm, Beech, Hickory, Black Locust, Magnolias, Maples, Plum, Sweetgum, Sycamore, and evergreens like Hemlock, Pines, Hollys, Larch, Red Cedar, and White Cedar.\(^3\) The first map of Germantown dated between 1686 and 1687, used two walnut trees (*Nußbaum*), an ash (*Espenbaum*), a Spanish ash (*Spannische Eich*), and a white oak tree (*Weißer Eichbaum*) to mark the corners of Germantownship (see Figure 4.1).\(^4\) (English Surveyors called trees used to mark boundaries in land ‘marker trees,’ ‘witness trees,’ or ‘bearing trees.’ They would have been permanently inscribed or marked.) William Penn also recorded several of the

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\(^4\) Duffin, “The First Map of Germantown: A Neglected Source.”
same trees identified by Pastorius, but also included cedar, cypress, poplar, gumwood, hickory, sassafras, ash, and beech.335

Although Pastorius was connected to Philadelphia and its surrounding townships, he was very invested in Germantown and connecting his Germantown neighbors with its local resources. Most of the plants from the list above are also found in his “Seed Report” of his Monthly Monitor and Artzney und Kunst (see Figures 4.3 & 4.4).

Figure 4.3. Plants listed in “In the woods & marshes & of Pensilvania” and included in his “Seed Report” in his Monthly Monitor. This means that he collected and stored seeds and cuttings found in the wild to cultivate in his garden. These plants were listed mostly by their English common names but sometimes he used German. (Also See Appendix C, 1.0)

- Chestnuts (Castanea sativa)
- Walnuts (Juglans)
- Hazelnuts (Corylus)
- Mulberries (Morus)
- Bramble or Blackberry bush (Rubus ulminfolius)
- Strawberries (Fragaria)
- Roses, white, red, Damask, Cina wild & c. (Rosa)
- Tumerick (Curcuma longa)
- Centaury (Centaureum)
- hops (Humulus lupulus)
- Thorn apples (Datura)
- Burdock kletten (Arctium)
- Quickgrass (Elymus repens) [continue next page]
- honeysuckles. Rotr for Jeriso. (Lonicera) [continued from previous page]
- Plantane (Plantago)
- lesser Plantane lambs tongue vibwort. (Plantago lanceolata)
- Scurvey grass (Cochlearia)
- Calmus (Acorus calamus)

Figure 4.4: Plants listed in “In the woods & marshes & of Pensilvania” and found in his Artzney und Kunst. This means that Pastorius found uses for these plants as medicinals or for household purposes (like inks). He listed these plants by their German common names. (Also See Appendix C, 8.0)

- Brunkreß [Watercress] (Nasturtium officinale)
- Calmus [Sweet Flag] (Acorus calamus)
- Cochlearia, Löffelkraut, Spoonwort or Scurvy-gräß [Scurvy Grass] (Cochlearia officinalis)
- Ein Eichenbaum [English or White Oak] (Quercus robur or alba)
- Erdbeer [Strawberry] (Fragaria)
- Faren kraut [Fern]

Flöskraut [North American knotweed] (*Polygonum*)
Funf finger d grass & fünff fingerkraut [Creeping Cinquefoil] (*Potentilla reptans*)
Galläpfel [Oak Gall]
Haselnüß [Hazelnut] (*Corylus avellana*)
Hopfen [Hops] (*Humulus lupulus*)
Löffelkraut [Scurvy Grass] (*Cochlearia officinalis*)
Maulbeere [Mulberry] (*Morus nigra, rubra, or alba*)
Odermenig [Agrimony] (*Agrimonia eupatoria*)
Rosen [Rose] (*Rosa*)
St. Johańes kraut [St. John’s Wort] (*Hypericum perforatum*)
Wegriest [Plantain] (*Plantago lanceolata*)
Wegriest Plantago [Common Plantain] (*Plantago major*)
Welschenüß [Walnut tree] (*Juglans*)
Wegtritt Polygonum [prostrate Knotweed] (*Polygonum Aviculare*)

A comparison of his “In the Woods & marshes” list with his “Seed Report” and plants noted in his *Artzney und Kunst* illustrate specific examples as to how he used natural resources found in the Germantown woods.

Germantown’s first laws found in the “Gesetzbuch” and “Leges Pennsylvanianæ” governed forestry practices and clearing of the side lots and streets of underbrush and trees. The laws were regulated by ‘overseers’ appointed by Germantown council. Germantowners practiced controlled burns and regulated the removal of trees from common lands (including lands owned by the Company). Law “27” recorded in “Leges Pennsylvanianæ” in 1696 required all individuals to notify neighbors when and where they planned to burn woods or fields.

At the time when the laws of this land permit setting on fire the bush, all inhabitants in Germantown, as well as in the village communities thereunto belonging, shall be required to announce ^to the neighbors of their quarter 24 hours beforehand^, from house to house, on what day [and what time of day] they wish to burn at there [sic] places, but without this neighborly warning they may not make a fire at a fine of 2 lb. otherwise they must mak[e] satisfaction for all damage caused by such ill-timed burning. ^Furthermore, all and everyone who has or inhabits the side lands shall yearly set such on fire.^

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Landowners were also obliged to keep Germantown Avenue free of stumps and debris. Law “6” found in “Gesetzbuch” (Law Book) dated ca. 1691 describes each resident’s obligation to maintain the street in front of their lot.

Each resident shall at all times keep the long street through the town or village, in front of his lot, clean and free from stumps (knuystn [Dutch for stumps]) as well as from grown weeds and other filth.337

Related to this, according to Law “21” in the “Gesetzbuch,” each landowner was obligated to keep their trees from shading the fields of the side-lots. Maximizing productivity of the fields was important to Germantown’s industry of linen and hemp weaving.

All must clear and plow the land as far as their neighbor's [and] cut down or at least kill the trees within 4 perches on their own ground (even the corporations's share of the cross and side streets) or at least have them so that they may not shade the adjoining cultivated field.338

A perch is a unit of measure used in surveying land, equal to a rod and roughly sixteen and a half feet. (Four perches is equal to sixty-six feet.) How the woods were arranged into town and sidelots and cleared of its brush and large trees was a community priority, so that Germantown could readily establish gardens, orchards, and fields not only for their own domestic sustenance, but to establish an industrial economy of linen weaving.

Similarly, early Germantown laws regulated how town- and side-lots were occupied with buildings and fenced. These laws detailed the required height and

337 Duffin, 159.
338 Duffin, 162.
openness of fencing, all of which was regulated by ‘fence overseers.’ Law “13” in the “Gesetzbuch” reads:

All fences shall be at least 5 feet height and that the bottom be two and a half feet from the ground of 4 feet no spaces more than 6 inches wide, and the top part shall be well secured with strong rails. 339

No domestic buildings were to be built in the side-lots and the side-lots of Germantown were to be fenced as group, although individuals were permitted to partition their own fields in their side lots. These laws were established sometime between 1696 and 1702.

Law “40” of “Gesetzbuch” dated 1696 reads:

The present inhabitants of the village of Krießheim, according to their original intentions and verbal agreement like those in Germantown, shall fence in their fields together, but if these or some of them shall prefer to put up partition fences, each neighbor shall furnish half of this fence or else be required to pay for it. This law was made 17th of the 1st month 1696. 340

Similarly, the location of fencing along the back of the town lots was regulated to permit the movement of cattle. Law “54” of “Gesetzbuch” dated 1701/2 reads:

On the same, the 26th day of 12th month 1701/2, the following law was made: Behind each and every lot in Germantown the fences shall stand 40 feet away from the line, so that the cattle may pass through. But so long as the neighboring plantation does not reach the said back fence, every man in Germantown is free to fence in and use the land up to the line. 341

How the wooded landscape was ordered along the Germantown Road began to take shape by 1700. It was a loosely settled, linear village of fenced town lots, houses were oriented towards Germantown Road with large fenced fields either north or south of the

339 Duffin, 160.
340 Duffin, 165.
341 Duffin, 171.
town lots. This form was quite different from Penn’s settlement plans for Philadelphia and Pennsylvania townships. Germantown was a fenced, forest village.

It is possible that Pastorius realized the enormity of fencing the entirety of his town and side-Lots. The perimeter of the side-Lots facing Bristol where his fields were located required at least 29,040 linear feet of fencing. His own town-lot would have required at least 1500 linear feet of fencing to protect his house, garden, orchard, vineyard, and some woods for his animals to roam (this calculation does not even presume that he would have fenced his entire town-lot). To make fencing described in the early laws of Germantown was an important but burdensome task. In his Monthly Monitor, he proposed an alternative to the five-foot high rail fencing—quick hedges of white thorn, otherwise known as hawthorn.

Whereas wooden Fences are a perpetual Charge, John Reids dicto Libello gives us the following directions, To raise, train & keep Quick hedges.342 This kind of barrier would have been appropriate to enclose the side-LOTS, but also to shelter at least one edge of his orchard.

His description of “Quick hedges” continues and describes a method for quickly establishing a dense hedge of white thorn that neither a human nor animal could penetrate easily. The method he described suggests sprouting haws (the fruit of white thorns) in a nursery bed for a year then transplanting the young sprouts and planting them in two rows in a prepared linear bed. The book he was citing was The Scots Gardiner, by John

Reid, published in Edinburgh in 1683. Reid’s theories advocated enclosing and planting estates. (His texts also addressed conserving manures, using lime, and beekeeping.) Reid’s method summarized by Pastorius would take about three years to establish a functional hedge of hawthorn.

Presently, there are fifteen species of hawthorn (*Crataegus*) native to Pennsylvania, most are small trees and one (*C. uniflora*) is a small shrub. Most of the species are hybrids of one species since 1700. The hawthorn fruits are called ‘haws’ and were a food source for Native Americans. Branches, twigs and roots of the hawthorn were also used as medicine by Native Americans. The nature of the hawthorn was an ideal hedge in Pastorius’ mind in that it formed a dense thicket, but also because it produced edible fruit. He listed “white (or haw:) thorns” in a list of trees planted in Germantown gardens and orchards in his *Monthly Monitor*. This list and his entry about establishing a hedge of hawthorn is written as if he had planted these hedges and was eager to recommend them to enclose fields in his side-lot to protect them from animals or parts of his town lot, like his orchard.

Pastorius’ fields were located in his “side lot,” over a mile from his house on Germantown Road. The size of his side lot in addition to his town lot was more than enough land to produce enough crops to sustain his family and a surplus of fruit, field crops, and timber that could be sold or traded. Together they were a self-provisioning farm and garden.

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According to the detailed account of Germantown town and side lots described by surveyors Christian and Joseph Lehman assembled in July 1766, Pastorius’ side lot was 218 perches long and 8 perches and 15 feet wide (3,597 feet by 147 feet). His side lot for his field crops was about 12 acres, although Lehman’s account records acreage for his lot as 10 ½ acres. The lot is long and narrow and extended northeast in length and northwest in the short direction (See Figure 4.5).

**Figure 4.5.** Lehman, Christian, and Joseph Lehman. “An Explanation of the Original Location and General Plan or Draught of the Lands and Lots of Germantown and Creesam Townships Copied from Matthias Zimmerman’s Original of June 26th AD 1746 and of the Several Districts and Divisions Thereof Part Extracted from Original of Former Draughts & Part Done Utaken from Actual Mensuration Drawn.,” July 28, 1766. Germantown Historical Society. Excerpt showing Germantown Side Lots facing Bristol, page 33. Pastorius’ side lot was number 16 (white box) and smaller than most. The side lots were collectively surrounded by a fence or hedge.
Pastorius dedicated several pages in his *Monthly Monitor* to field crops, fertilizing and cultivating his fields. He had no experience as a farmer before settling in Germantown and trusted the agricultural theories described in books. (Most first settlers of Germantown were not experienced farmers.) For the most part, he recorded recommendations of classical authors like Columella, but also Camillo Tarello. Tarello was a Renaissance, Venetian agronomist who theorized a system of agriculture based on crop rotation that rationalized a rotation of ‘Indian corn’ and other grains to maximize yield. Tarello’s theory and the introduction of ‘Indian corn’ radically changed the agricultural landscape of northern Italy and was also adopted throughout Europe in the sixteenth-century.\footnote{Emilio Sereni, *History of the Italian Agricultural Landscape*, trans. Burr Litchfield, Agnelli (Princeton University Press, 1997), 181.} It is not surprising that Pastorius adopted Tarello’s methods as they were considered modern and a widely accepted practice.

Pastorius detailed Tarello’s methods after a long chapter about experiments with corn. He was very concerned with maximizing yield of his ‘Indian corn’ and other field crops.

**Concerning the best Improvement of our Fields.**

Camillo Tarello di Lonato in his Remarks, *Intiti=uled Ricordi Agricolторa* which about 150 years agoe he dedicated to the Signeurie of Venice demonstrates how men in tilling their ground, may as well save a deal of labour, as also of their yearly seed Corn, & yet receive a greater Encreaso from a lesser tract of land than they did before.

... Now for as much as in Italy they layout their Cornfields in two Parcels, sowing the first this year, & the second the year next ensuing, plowing in the mean while the one when the other is a bearing, the above named Author gives them these following directions, viz.
1. Imprimis to Quadripartite their arable Fields, or to lay them out in 4 distinct parcels, & hereof to sow [corn] yearly no more but one.
2. To manure this one parcel (the present years Task in hand:) seasonably & reasonably well with Compost, muck, dung or marl.
3. To plow it 7 times besides the last Plowing for seed, not withstanding they formerly plowed the half of their then Bipartited Field but 4 times in all.345

This entry suggests that he adopted crop rotation in the field in his side lot and would have recommended the same method to his Germantown neighbors as it was titled, “Concerning the best Improvemt [sic] of our Fields.” His exacting notes suggest that he would have divided his field into at least four sections, at about three acres each, to grow corn and at least two other field crops in a single season and one field was left fallow every season (see Figure 4.6).

He was very interested in the practical benefits of crop rotation and productivity of his fields. But it is not surprising that he also included several images of field crops, ploughing, and fields in his long list of “Emblematic Recreations” in his Beehive (see Appendix B, 3.0). Under the subtitle “The Earth” he lists: “Corn field,” “a fallow field,” “a plantation,” “an Hand holding a Plow,” and “an Hand Sowing seed.” The Latin motto that he recorded for “a fallow field” is “Major post otia messis,”346 meaning ‘after the great pleasure.’ His motto for “an Hand holding a Plow” reads “Fac & Spera. Spes alit agricultus,”347 meaning “Make & Trust. Nourishes hope for farmers.” He was always writing meaning into the labor of gardening and farming.

346 Pastorius, “Beehive, Bee-Stock,” 80 (V.1).
347 Pastorius, 80 (V.1).
He grew several kinds of protein rich field crops for making bread and other dietary staples but also hemp, which was very useful for its oil and other industrial uses.\textsuperscript{348}

**Figure 4.6.** Field crops listed in Pastorius’ “Seed Report” of his *Monthly Monitor*. Each species is first listed by his common name as he wrote them, then by their modern binomial name.

- Barley. Last (*Hordeum vulgare*)
- Buckwheat (*Fagopyrum esculentum*)
- Cicers or Chickpeas (*Cicer arietinum*)
- Hemp (*Cannabis sativa*)
- Indian Corn (*Zea mays*)
- Lentils (*Lens culinaris*)
- Millet. hirs (*Panicum miliaceum*)
- Oats. (*Avena sativa*)
- Winter Rye (*Secale cereale*)
- Summer Rye. (*Secale cereale*)
- Winter Wheat (*Triticum*)
- Summer Wheat (*Triticum*)

The actual rotation of crops in his field is not explicitly recorded in his *Monthly Monitor*, but his “Seed Report” and extensive notes about corn documents plantings of a wide variety of field crops and an interest in a regular planting of corn in one quadrant of his field. Chapter five will address the details and timing of his crop rotations.

Pastorius’ also cultivated a large variety of fruit and nut trees in his orchard. It was located behind his house and garden on his town-lot (see Figure 4.7). His lot was quite large, 489 perches long by 14 perches and 4 feet wide (8068 ½ feet by 235 feet). His orchard was fenced, to keep his trees safe, but also because he periodically permitted

\textsuperscript{348} It is interesting that Pastorius did not grow flax, because linen weaving was established as a primary industry in Germantown before 1700, but yet hemp is included in his list. For those interested in the importance of hemp in colonial Pennsylvania, see Budd, Thomas. *Good Order Established in Pennsylvania & New-Jersey in America Being a True Account of the Country; with Its Produce and Commodities There Made. And the Great Improvements That May Be Made by Means of Publick Store-Houses for Hemp, Flax and Linnen-Cloth; Also, the Advantages of a Publick School, the Profits of a Publick-Bank, and the Probability of Its Arising. If Those Directions Here Laid down Are Followed. With the Advantages of Publick Granaries.* Philadelphia: William Bradford, 1685.
pigs to roam and forage in his orchard. He recommended interplanting turnips in his orchard as fodder for his pigs. The pig’s manure nourished his trees.

Figure 4.7. Lehman, Christian, and Joseph Lehman. “An Explanation of the Original Location and General Plan or Draught of the Lands and Lots of Germantown and Creesam Townships ....,” July 28, 1766. Germantown Historical Society. Excerpt showing Germantown Town Lots facing Bristol, page 29. Pastorius’ town lot was number 16. Bristol Lane, noted with a dashed line just two lots southeast of his lot, is the approximate location of present-day High Street. North is at the bottom right corner of the map. Noted: V(ineyard), G(arden), H(ouse), A(piary), O(rchard), & O(ut) B(uilding). A more detailed plan of his town lot, see Appendix E, 3.0.
Pastorius documented in detail the trees and shrubs grown in Germantown orchards and gardens. Most of the plants on this list are not native to Pennsylvania, with the exceptions of plum, peach, walnut, hazelnut or filbert, and blackberry brambles. (Plum and peach are technically not native either, but were cultivated by Native American tribes throughout the Delaware valley before Pastorius arrived.)

Planted
In Orchards & gardens: Apple - Pear - Quince - Plum - Apricot - Peach - Cherry - Mulberry - Walnut - Medlar - Cornel - hazel - Filbearts, Eldar - Currant - Barberry - Box-trees.
(: Juniper-trees are still wish'd for, Stein Willows, withies or Sallow trees, sloetrees :)
Blackberry - bramble -raspberry - gooseberry -bushes.
Savine, white (or haw:) thorns, Eglantine or Sweet brier,\textsuperscript{349}

Those in this list that are also listed in Pastorius’ “Seed Report” suggest that he grew these species in his own orchard (see Figure 4.8).

\textbf{Figure 4.8.} Tree and shrubs planted in Germantown orchards not native to Pennsylvania that would have been imported. Species of plants noted with “SR” are also found listed in Pastorius’ “Seed Report.”

\begin{itemize}
\item SR-\textbf{Apple} (\textit{Malus}) Fruit tree valued for fruit and wood.
\item SR-\textbf{Apricot} (\textit{Prunus armeniaca}) Small tree that produces fruit.
\item \textbf{Box-trees} [Boxwood] (\textit{Buxus}) Broadleaf evergreen.
\item \textbf{Cornel} [Cornelian Cherry Dogwood] (\textit{Cornus mas}) Shrub in dogwood family that produces dark red fruits in July.
\item SR-\textbf{Currant} (\textit{Ribes}) Shrub that produces sweet fruit.
\item \textbf{Elder} [Elderberry] (\textit{Sambucus nigra}) Shrub that bears fruit used for jams.
\item SR-\textbf{Juniper tree} (\textit{Juniperus communis}) Coniferous evergreen that produces fruit, used as spice and to flavor gin.
\item SR-\textbf{Medlar} (\textit{Mespilus germanica}) Large shrub/ small tree that produces edible fruit in winter.
\item SR-\textbf{Pear} (\textit{Pyrus communis}) Small tree that produces fruit.
\item SR-\textbf{Quince} (\textit{Cydonia oblonga}) Small tree that produces fruit.
\item \textbf{Sallow trees} [Goat willow, pussy willow] (\textit{Salix caprea}) Shrub native to Europe, stems useful in making household objects.
\item SR-\textbf{Savine} (\textit{Savin juniper}) Low growing evergreen shrub.
\item SI\textbf{lotrees} [blackthorn] (\textit{Prunus spinosa}) Small tree/shrub that produces tart and astringent berries used in jams and for medicine.
\end{itemize}

• **SR-Stein Willow** [Rock Willow] (*Salix vestita*) Shrub native to Canada, stems useful in making household objects.

• **Sweet Briar** (*Rosa rubiginosa*) Fragrant shrub.

In comparing this list with Pastorius “Seed Report,” his orchard comes to life. He planted several kinds of trees and shrubs for their fruit and wood: medlar, juniper, savine juniper, stein willow, apple, pear, peach, apricot, cherry, quince, blackberry, raspberry, mulberry, walnut, and hawthorn. (The walnut, given its size and other characteristics, would have been planted outside of his orchard proper.) The blackberry and raspberry brambles would have occupied an area along a fence. His fruit trees like apple, pear, apricot, cherry, quince would have been planted in pairs, in rows or a quincunx pattern, with space to allow for pruning and grafting. He also maintained a nursery bed for sprouting young trees. Given the variety of plants, and the space required and need for fencing, his orchard was at least a half an acre in size. A half of an acre would have supported eleven rows of trees spaced twenty feet apart with three to four trees in each row, blackberries and raspberries along one edge and willows along another edge, and junipers placed on a third edge. The back edge of his orchard, up against his woods, was likely a hedge of white thorn with a fence gate to allow for passage into his woods.

All practicality aside, again he included over thirty images of fruit trees and the work of pomology in his “Emblematic Recreations.” Some of them consider his relationship with his orchard and others with specific trees: “an Hand planting a Tree,” “an Hand bending & trimming a young Tree,” “an Hand grafting a Tree,” “an old man setting a young Tree,” “a Chestnut,” “a Medlar,” “Apples & Pears upon the same Tree,”

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350 For a more detailed discussion of Pastorius’ “Emblematic Recreations,” see Chapter six.
and “Acorns.” As he worked in his orchard and his many fruit trees, he rephrased all the aphorisms connected to these images to his daily work in his orchard. The ‘old man setting a young tree’ was him setting his acorns and apple ‘kernels’ in his nursery beds to sprout young trees for his orchard.

Pastorius’ vineyard was also precious to him. It was planted close to his house and garden away from the woods and orchard. There are over twenty-two pages of writing dedicated to his vineyard, vines, and grapes in his Monthly Monitor. He wrote about his vineyard differently than he wrote about his orchard. In addition to general recommendations for establishing and maintaining a vineyard, he kept detailed records of his success and failures in growing grapes. (He did not account for his orchard with this much detail.) Figure 4.9 summarizes the content of his Monthly Monitor dedicated to practical advice about establishing and maintaining a vineyard, grapes, and the symbolic meaning of vineyards based on Biblical stories.

**Figure 4.9.** A summary of the content of Pastorius’ Monthly Monitor dedicated to vineyards, grapes, vines, and wine. Subjects are listed by page number as archived by HSP. Each page listed is two pages of his journal. Almost all of the writing about vines does not directly cite other books, but draws from German, Italian, English, and classical sources.


44: “Some brief instructions concerning vines”
49: “Some brief instructions concerning vines,” continued; hoeing a vineyard; “Some rare Secrets about Vines & Grapes”
50: “Some rare Secrets about Vines & Grapes,” continued; grapes in spring; graft black vine scion on a cherry tree; caterpillars; no Bay or hazel nut trees or rose beds in a vineyard
51: “Some rare Secrets about Vines & Grapes,” continued; signs of a good wine year; no fruit trees in your vineyard; importing vine cuttings from other countries

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351 Pastorius, “Beehive, Bee-Stock,” 82 (V. 1).
52: “Some rare Secrets about Vines & Grapes,” continued; *Arcanum Arcanorū Optimorū Vinitorū & Recentiorīē* (notes in German)
53: “to preserve grapes long fresh & green”; laying in your cuttings; wine harvest; “signs of good wine year”
54: “signs of good wine year,” continued; “What in vineyard to be done month by month”
55: “What in vineyard to be done month by month,” continued; “Observaciones propriæ Vineales” (observations of his personal vineyard)
56: “Observaciones propriæ Vineales,” continued; “A Scriptural Observation” (regarding vineyards)
57: “A Scriptural Observation” (regarding vineyards), continued
58: “A Scriptural Observation” (regarding vineyards), continued; references to Plinius, Columella, Virgil; varieties of grapes and wine
59: “Somewhat out of Wm Hughes Compleat Vine-yard”
70: pruning vines according to the lunar cycle

From all of this writing about his vineyard, several things are very clear. He oriented his vineyard to the south or east, separate from his garden and orchard. He situated it away from the woods, experimented with grafting vines onto fruit trees, maintained a nursery bed of cuttings and seedlings, and dedicated many years to establishing a productive vineyard, but, in the end, was only marginally successful.

Some of the entries found in these thirty-two pages, detail specifics as to how he planted his vineyard. On the fifth day of April in 1710 he planted one hundred “Rooties” in his vineyard. “Rooties” are what he called rooted vine cuttings that are two to three years old (see Appendix C, 10.0).

Dibbles will never do so well as to make a planting hole with a Spade. When you’re Setting out your Rooties and Layers, cut off the uppermost twigs or rods, called Flagella, and also the utmost of the roots, to draw the moisture of the Earth the better to themselves. Serreslis of Opinion that these Rooties & Layers should be planted down right & not slanty like the Cuttings. NB. Ano 1710. the 5th day of the 2d mo: I laid in above 100. Cuttings with a Dibble per pendicularly downwards & they grew fast & well.

Some will tye their Vines to the poles with young withies but after these are grown hard, they often hurt the tender branches. I make use of course weaver-
thrums & the Bands must not be strained too fast, least it hinder the Vines growth.  

He is speaking with authority and experience and experimented with using weaver’s thrums to tie his vines to poles. Weaver’s thrums are the ends of the warp-threads left attached to the loom at the end of a weaving. These would have been readily available waste of the linen weaving industry in Germantown. Although he relied on published sources, including Virgil, Cato, Columella, Pliny, and a lengthy citation of William Hughes Complete Vine-yard, he developed his own methods in planting and maintaining his vineyard in Germantown.

He also detailed how he arranged his vines in his vineyard. “Plant your Vines orderly & in a streight row, as a quincunx, at 4 foots distance putting some rich ground mixed with old dung upon them so that they do not Jut quite a spann high (or 2. knots:) above the Earth.”

The size, orientation, and location of his vineyard can be conjectured with this information and his details from his “Observationes propræ Vineales” found in his Monthly Monitor.

His “Observationes propræ Vineales” (see Appendix C, 11.0) is a chronological account of plantings and harvests of his vineyard. He established his vineyard in 1706 with a planting of thirty vines. At this point, his vineyard was about three hundred square feet, likely a single row of quincunx of about forty feet long. Although Pastorius did experiment with interplanting his vineyard with vegetables (cabbage, colewort, and

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353 Pastorius, 44.
Indian beans), he abandoned this practice by 1710. In 1710, he expanded his vineyard with a planting of one hundred “rooties.” In this year, his vineyard grew in size to over twelve hundred square feet, approximately thirty by forty feet in size. It was fenced to protect the vines from animals, but likely visible from Germantown Avenue as it was situated south of his house towards the front of his town-lot.

In August of that same year he celebrated the anniversary of his arrival to Pennsylvania (August 20, 1683) with a generous harvest of grapes some of which he enjoyed with Enneke and his sons. Six days later he described how he stored this large harvest:

that before the 7th mo: all my first Grapes were fully ripe; For the 26th of the 6th mo: I gather'd & hang'd em up on Strings; having dip'd their Stalks in melted Rosin. A few I laid in a Calabash under Millet seed & former under Buckwheat after some drop'd down.354

Here we see the value of field crops like millet and buckwheat beyond their use in the making of food. Sadly, by 1716 he described his vineyard as “good for nothing.” There is no mention of his vineyard after 1716. The vineyard was either reduced or used as garden space.

Although he wrote several poems and over thirty pages in his Monthly Monitor about his vineyard, only three of the images listed in his “Emblematic Recreations” consider the meaning of Vines: “a Vine full of grapes,” “a Vine bearing fruit upon an Elm tree,” and “a Vine of Virginia.” His motto for “a Vine of Virginia” reads “Crescit in

354 Pastorius, 56.
immensum”355 (bearing enormous). He wrote repeatedly about the grape vines that he found in the Pennsylvania woods and cultivated European varieties of grapes. His writing of his “Emblematic Recreations” was a rephrasing of emblems copied from European emblem books, situating these emblems in the Pennsylvania landscape, but he was also writing images and aphorisms about himself in his own garden.

Pastorius planted herbs, vegetables and ornamental flowers in his garden. He planted them for many reasons, including: for use as medicine and health tonics; for food and drink, including many kinds of wine (made from fruits other than grapes); for their industrial uses at home; for their symbolic meaning; and lastly, for recreation and pleasure. Because he believed in antipathy and sympathy between various kinds of plants, he interplanted his garden beds accordingly. He had nursery beds for his herbaceous plants that he kept separate from his other garden beds, but did not have dedicated beds for vegetables, herbs, and flowers—he intermingled utility and ornament throughout his garden.

The logic by which Pastorius ordered his garden beds was based on alchemical theories of Paracelsus and Francis Bacon’s theories of ‘Antipathy’ and ‘Sympathy’ of plants. In summary, plants that fed on the same ‘juice’ from the soil should not be planted together, as they will starve each other. In this regard, mutual sympathy or love between plants was determined by difference, not similarity.

This foregoing Disposition or Ordering of my Garden beds. / . I one thought to be the very Best; But now am of Opinion, that those plants which nourish themselves

355 Pastorius, “Beehive, Bee-Stock,” 82 (V. 1).
with the same Juice (containing either Saline, sulphureous, mercurial, bituminous, vitriolous, tartarous or metallick particles) should not stand near together; Therefore I shall hereafter avoid to set in the same place the Aromatick or Cathartick plants, and always part the bitter. & c. For, whatever the ancient Naturalists prate concerning the mutual Love or Sympathy.

and reciprocal aversion or Antipathy of Plants yet Francis Bacon (Lord Chancellor of England.) explains the whole Mystery thus, that two plants, who are nourished by the same sort of Juice, do extremely hurt each other by too near a Vicinity: To share between y.m the food, that's sufficient but for one, throws both into a languishing condition and this is the Antipathy. On the contrary two plants that for their aliment require Juices wholly different, vegetate & flourish perfectly well together and this is Philosophorum plebeiorum Sympathy or Imaginary Friendship.

So between Rosmary, Lavender, Thyme & Marjoram there is an Antipathy, because when planted together, they all requiring the like nourishing Juices, Impair prejudice and even starve one an other. But between Garlick & Roses there's a Sympathy, because the one requiring a stinking & the other an odoriferous Juice, they do not quarrel about their food, but thrive in the same ground and are as good Neighbours helpful to one another, the Rose here bearing the Sweeter Flowers. The good Intelligence between the Fig tree & Rue, because the Juice which agrees with the first, suits not the Palate of the last.

There is a raging Antipathy between Cabbages and Vines:) Cyclamens, Hemlock and Rue; Reeds & Fern. 356

In this entry he describes plants as either aromatic, cathartic, or bitter. He also considers the fact that soil has chemistry that feeds plants. In his mind, soil was made of elements like, salt, sulfur, mercury, bitumin, vitriol (sulphate of metal), tartar (bitartrate of potash) or other metals. As previously mentioned in his notes about his vineyard, he had experimented with interplanting cabbages in his vineyard a practice which eventually he abandoned. Here he reports a “raging Antipathy between Cabbages and Vines.” Another example that he wrote about is the fact that he interplanted garlic with his roses, he

thought that the bitterness of the garlic improved the sweet smell of his roses. (This will again be discussed in Chapter six.) These logics of ordering garden beds did not organize his garden into familiar categories like: kitchen garden, medicinal garden, or vegetable, herb, fruit, and ornamental flower beds. Instead, its logic encourages interplanting plants based on differences in their appearance, odor, structure, and believed chemistry. Its beauty and logic are based in theories of early modern chemistry and “imaginary friendships” between plants.

In cataloguing the plants of his garden, he was also conscious as to whether a plant was perennial or annual in its growth habits. In his Monthly Monitor, he organized a list of “Planted In Orchard & Gardens” as either “Perennantest” or annual, needing to be sown each year and those he propagated by ‘slips’ and ‘by shoots’ (see Appendix C, 6.0).

Some Plants we Propagate easiest from their Slips or By-shoots, viz. Balm, boxtree, sweet briers, burnet Catmint, celandine, Chamomil, Cives, Leeks, St. Hohns Leeks, broad Leeks, cly, columbines, comfry, Constantinople, corinths, Cowslips, Daffodils, Daisies, Earthnuts, Elders, Elicampane, feather few, fenil, flags, Garlick, pinks, & gilliflowers, goosberries, hazelnuts, holihocks, hops, honeysuckle, horseradish, houseleek, hyssop, hyacinth us tuberousus, Lavender Cotton, Lillies of the Valley, white Lillies, winter marjoram, mint, mugwort, Nettles, Peony, Raspberries, Roses, rosmary, Rue, Sage, Savin, Winter Savory, Scurvy grass, Sorrel, Southernwood, Tansie, Thyme, runinc Thyme, mother thyme, Tulips, Turmerick, Turn a bent gentleman, Vines, wild vine, Violets, Willows, worm wood, & several Shrubs & trees.357

His “Seed Report” is the most comprehensive list of all the plants he cultivated (see Appendix C, 1.0). In this list he codified each entry to indicate how much seed of each plant he had, how he stored it, and where in his ‘garden closet’ they were stored. This

357 Pastorius, 71.
knowledge and quantity of plants found in all of these lists affirms that he had hot beds (nursery beds) to nurse and propagate young plants. These beds needed warmth, sun, and protection. They would have had frames that supported cloth tents to protect plants from wind and frost, and would have been located on the south side of his town lot away from the woods.

In the above list are plants that he grew for their blossoms, sweet odors, and beauty: daffodils, roses, tulips, white lilies, lilies of the valley, violets, and *hyacinthus tuberosus*. Throughout his *Monthly Monitor* and *Beehive* he wrote about roses and lilies. (The symbolic meanings of these plants were discussed in Chapter two.) He grew several kinds of roses all of which would have been imported by way of Philadelphia or New York. But he also grew another exotic plant known for its beautiful blossoms and sweet aroma, “Hyacinthus Indicus Tuberosus” (*Polianthes tuberosa*). He loved this plant and dedicated two pages to it in his *Monthly Monitor* (see Appendix C, 5.0). He begins with a description of its “sweet Scent” and “fair Colour.”

Hyacinthus Indicus tuberosus, East Indian Jacinth is accounted the chiefest of all Flowers, not only by reason of his fair Colour, as white as Snow, & his delicate Shape, like that of Lillies, & c. but also because of the admirable sweet Scent, wherewith it tinctures your very Chamber, if but a little while putt thereinto.\(^\text{358}\)

He continued with an elaborate description of its physical form and cited Timothy von Roll’s *Blumen-Büchlein* (see Appendix B, 1.0). The plant can be identified as *Polianthes tuberosa*, a tender (exotic) plant in the *Asparagaceae* family based on Pastorius’ detailed description. One hundred years later, it was still a highly valued herbaceous exotic plant.

\(^{358}\) Pastorius, 69.
in Philadelphia gardens, collected and sold by John Bartram.\footnote{John & Son Bartram of Philadelphia, \textit{A Catalogue of Trees, Shrubs, and Herbaceous Plants, Indigenous to the United States of America; Cultivated and Disposed of by John Bartram & Son, At Their Botanical Garden, Kingsess, near Philadelphia: To Which Is Added a Catalogue of Foreign Plants, Collected from Various Parts of the Globe.} (Philadelphia: Bartram & Reynolds, 1807), 33.} In Bartram’s 1807 catalogue of plants he listed \textit{Polianthes tuberosa} as an exotic that required a greenhouse. Pastorius must have adapted an outbuilding or a room in his home or constructed some kind of cold frame to protect this plant in the winter.

Pastorius also summarized recommendations by Italian authors for propagating this plant, but concluded with an authoritative description of how he cultivated the plant in Germantown.

\begin{quote}
I find, that this Jacinto Indiano Tuberoso should be taken out yearly in the 1st month [March] in the decrease of the Moon; the By Shoots dealt with as is afore mentioned & the main Clove Replanted again by himself. And though the Leaves do not Spring till after 2 or 3 months, you ought not to make an over narrow Inquisition by stirring; Rather Cover it, that it get no harm by the rain & set it in some horse dung till it comes forth & then in the warmest Corner of your Garden; Often times watering the same all the sumer long especially in hot weather, & when it's ready to blow or blossom. NB This Eastern Plant loves rich & mild mould & to See the sun as long as he is on our hemisphere.\footnote{Pastorius, “A Monthly Monitor Briefly Showing When Our Works Ought to Be Done in Gardens, Orchards, Vineyards, Fields, Meadows, and Woods”,” 70.}
\end{quote}

Given its odor and need for warmth and sun, he would have interplanted this plant with bitter herbs like, dandelion, chamomile, or wormwood. This plant is not listed in his \textit{Artzney und Kunst} as having a medicinal application, nor is it a culinary plant, found in his “Emblematic Recreations,” or found in Biblical scripture. He cultivated this plant because of its beauty and enjoyed its sweet-smelling flowers in his home from August through September.
In addition to the *hyacinthus tuberosus*, he also cultivated daffodils as ornamentals. He lists ‘daffodils’ in his “Seed Report” and included them in his aforementioned list, “Some Plants we Propagate easiest from their Slips or By-shoots.” Earlier in his *Monthly Monitor* he describes how he maintained his daffodil bulbs: “Every third year about the End of the 5th month take up your daffodils cut off the half of their roots, let them lie almost 14 days, and replant them in the Increase of the Moon.” Every three years in July he dug up his daffodil bulbs, divided their roots (bulbs) to propagate more daffodils, left them to dry and replanted them in the increase of the moon in August. The varieties of daffodils that he cultivated were not native to North America, but tolerant of Pennsylavania soil and climate. In fact, no species of daffodils are native to North America.

He imagined his daffodils in his *Deliciae Hortenses* poems. First in his poem, “Upon my wooden Truckle-bed in the Garden”, he reminds himself not to tread on a long list of his flowers and herbs, including daffodils. In his “Etliche Emblemata”, he wrote several emblematic verses about plants in his garden, including a daffodil (see Chapter six).

beÿm Mertzenbrecher: Vere revertor. hirundinis instar.\(^{361}\)
[in the case of a daffodil: In the spring I shall return, like the swallow.]\(^{362}\)

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\(^{361}\) Francis Daniel Pastorius 1651-1719 and Christoph E. Schweitzer, *Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae*, Studies in German Literature, Linguistics, and Culture v. 2 (Columbia, S.C.: Camden House, 1982), 60.

\(^{362}\) Pastorius and Schweitzer, 92. Translation in part Schweitzer and part my own.
As much as he admired his *hyacinthus tuberousus* and worked to cultivate it in his garden as an ornamental, he did not write it into his poetry and emblems like he did his daffodils.

By the late seventeenth-century several varieties of daffodils were reasonably popular ornamentals in gardens in England and continental Europe (Figure 4.10). The Dutch were propagating several varieties of daffodils from seedlings acquired from Flemish provinces in Harlem and selling them to English and European gardeners.363 (Pastorius visited Harlem on his Grand Tour, see Appendix B, 2.0.) It would be logical to assume that daffodils would have been cultivated in the gardens of New Amsterdam before 1664, but there is no record of daffodils in Adrian van der Donck’s accounts of these gardens.364 The earliest record of daffodils cultivated as ornamental flowers in Pennsylvania is at Isaac Norris Sr.’s (*Fairhill*), but these records do not mention any kind of ornamental flowers until 1733. Pastorius’ poems and notebooks may be the earliest surviving descriptions of daffodils cultivated in Pennsylvania gardens (or for that matter, North America). His access to ornamental bulbs like daffodils, tulips, hyacinths, and his *hyacinthus tuberousus* sold by Dutch horticulturalists in Harlem is easily explained by the fact that most settlers in Germantown were Dutch.365

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364 Van Beck, 45.
365 He reported that he received his tulips from a neighbor and begrudgingly planted them in his garden (see Chapter three).
Pastorius’ Bees and Beehives

Beginning in June of 1705, Pastorius maintained an apiary with one to three or more hives. He documented his experience keeping bees in his *Beehive, Monthly Monitor, Deliciae Hortenses* bee poems, and a manuscript titled *Apiarium: oder Bienenbächlein*, now lost. This documentation is written in the form of his own original poems,
practical recommendations and observations, while others cite classical authors and early modern English, French, Dutch, and German agricultural and home economics books (see Appendices A 1.0 c & 2.0, & C 3.0).

The symbolism of the bee and the beehive as it relates to his habits of reading and writing has already been discussed in Chapter two, but their significance in German Pietism and German culture was also significant. An account of this history is important to make sense of his writing about his bees. It is also important to interpret why and how he kept bees as he did in his Germantown garden.

Pastorius’ own mythology of the bee was derived from Christian sources, Aristotle, Varro, Virgil, Pliny and is prevalent throughout his writing about his bees and beehives. For the most part, most of what he believed about the biology of bees and their hives was disproved in his lifetime, but he still subscribed to ancient and medieval ideas about how bees made honey and wax and procreated. The anatomy of the bee was studied and documented by both Robert Hooke (Micrographia, 1665) and Jan Swammerdam (Biblia naturae, 1669).366 Additionally, the reproductive apparatus of the queen bee and drones was observed and documented with a microscope in the Netherlands by Swammerdam between 1669 and 1673, but was not published until 1737.367

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367 Crane, 569.
Pastorius mostly cited German and English husbandry books: Johann Christoph. Thieme, *Haus-, Feld-, Arzney-, Koch-, Kunst- Und Wunder-Buch* (1700); Johann Coler, *Oeconomiae Ruralis & Domesticae* (1645); and John Worlidge, *Systema Agriculturae* (1669). Each of these sources, especially Coler and Thieme, rephrased ancient
mythologies of the bee and hive’s biology that was presumed as fact, most of which survived in Germany well into the eighteenth-century.368

Pastorius’ writing is a compilation of these sources, his own citations of classical sources that situated bee-keeping as a practice associated with agriculture, and his own experience. He adopted three important themes from the above sources but situates apiculture in his garden as opposed to a farm. Although he was operating a small farm in Germantown, he more often described his bees as they were situated in his garden. In this regard he breaks from classical traditions described in these sources. First, he describes four kinds of bees: workers, drones (water-carriers), the king, and robber bees. In these sources their reproduction is described as immaculate, drones are slothful, hives must be protected from ‘robber bees,’ worker bees gather honey and wax from flowers (of which falls from the sky as dew), and that the king is a noble creature and rules the hive with mercy and justice. All of these assumptions are apparent in Pastorius’ writing about his bees and beehives.

Related to these themes is the religious symbolism of the bee and beehives adopted by the German Pietists, like Spener and later the hymns written by the Moravian Brethren. Pietist mythology of the bee assumed that the pious believer was a bee able to suck the honey from Christ’s rose-like wounds. The bee was a symbol of the soul as it could be mystically united with Christ.369 The beehive was a congregation of bees and

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369 Weston, 191.
pious souls. Pastorius’ poems about his bees are written at the beginning of this long tradition of writing by German Pietists and transplants these particular ideas into Pennsylvania.

In his “Emblematic Recreations” he classified his bee and beekeeping images in the “Birds, fowls, and flying Ones” category. He saw bees as ‘flying ones’ not insects like moths and spiders. (Although, in his Deliciae Hortenses, he called them “Insectum Musicum,” musical insects.) He described six emblems about bees and beehives. One motto for “a Beehive” reads “Intus laboratur & extra,” meaning “labor inside and outside.” This is a theme that he revisits throughout his writing about his bees. A second motto for “a Beehive” reads, “Labor est non omnibus udem. FDP.” He thought of his bees as models for ethical and pious living and he often imagined himself and his garden as part of their hives. He was part of their ecology.

He also transplanted practical traditions of beekeeping to Germantown that were prevalent in Franconia, throughout northern Europe, and practiced by his father in Windsheim. As discussed in Chapter one, Melchior Pastorius’ garden was a town garden and now we now it was big enough to support a large variety of plants to feed at least one hive of bees. Pastorius wrote an assemblage of Latin poetic phrases in his “Voluptates Apianæ” (the second half of his Deliciae Hortenses) that invites the reader to consider his stories about his bees as part of his own family’s tradition.

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370 Weston, 199.
371 Pastorius and Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianæ, 75.
372 Pastorius, “Beehive, Bee-Stock,” 86 (V. 1).
373 Pastorius, 86, V1.
Stay a while foot so that watching the bees enjoying their feasts like them indeed, just as my father did before, I may accomplish as much. For zeal and constancy, work and tolerance gather together from infancy learned and elegant things, delighting the reader.\textsuperscript{374}

From this poem and other poems and notes about his bees, it is apparent that he had some experience and exposure to apiculture in Franconia before emigrating to Germantown.

One tradition of beekeeping in Franconia in the seventeenth-century is “called swarm beekeeping because it depended on the production and hiving of swarms in early summer, which stored additional honey from the late flows.”\textsuperscript{375} This kind of beekeeping (also called skep beekeeping) used upright skeps that were open on the bottom and placed on table or shelf. In Franconia it was common to use a lightweight, coiled straw skep (in German called a \textit{Strohkorb} or \textit{Stülper}) that was also covered with a hackle to protect the skep and hive from rain, snow and wind. (Figure 4.12) Swarm beekeepers made their skeps smaller (around 9–36 liters) to encourage frequent swarming. (A typical log hive of this same time and modern hives range in size between 40 and 80 liters.) They also believed that the bees could be encouraged to swarm with the banging of metal objects. Pastorius talks about this in his \textit{Monthly Monitor} notes and bee poems. "A swarm beekeeper finished the summer with several times as many hives of bees as in the spring. But he wintered only sufficient 'stock hives' (with their honey) for use in spring, allowing for the death of some colonies during winter—50-80\% in some areas."\textsuperscript{376} Pastorius’

\textsuperscript{374} Pastorius and Schweitzer, \textit{Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae}, tr. 96-97.
\textsuperscript{375} Crane, \textit{The World History of Beekeeping and Honey Hunting}, 239.
\textsuperscript{376} Crane, 239.
accounts of his bees in his poetry and practical notes beekeeping suggest that he practiced swarm (skep) beekeeping in Germantown.

Figure 4.12. Examples of common coiled straw skeps (left) and wicker hackles (right) typical in Franconia, Germany. These coiled baskets had a ‘cap’ and sometimes had a wooden base. The shape of the skeps north of the Main River tended to be rounder (as opposed to elongated). Source: Irmgard Jung-Hoffmann. *Bienenstand Und Bienenstock Die Armbrustersammlung*. Berlin: Fördererkreis der naturwissenschaftlichen Museen Berlins, 1990, pp. 51-52.

Pastorius grew all the necessary resources to tend his bees, build a shelf, and make skeps for his bees. He used woven skeps and in his *Monthly Monitor* he also suggested that one can make a glass observation window in their skep.377

The best hives are of good Wheaten-straw, bound with bramble the fittest size is of a round form & in Quantity about half a bushel and upwards. The inside ought to be smooth; and before you hive the bees rub the hive with sweet herbs, as thyme, savory, marjoram, balm, fenel, hysop, mallows, and with a branch of

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377 This tradition is discussed in at least two of Pastorius’ classical sources about bees and beehives (Aristotle & Pliny). Glass observation hives were made in England and France before 1700, most famously John Evelyn’s in his garden and the glass hives in the garden of the Paris Observatory. But these were wood framed hives with large plates of glass, not windows in a skep. See: Crane, Chapter 37. Pastorius describes a day in 1706 when his bees swarmed and they did not “have a hive of glass, stone, wood or straw” in their house, so they improvised and quickly made a hive from a hollow tree trunk. See translations of Pastorius’ “Silvula Rhytmorum Germanopolitanorum” in Erben, page 242.
hazel, or rather of that tree, whereon the swarm lighted. You may make a window of glass to your hive with a shutter of wood. /. If you are for multiplying your Stocks, make your hives the smaller; but if you would have quantity of honey, make them the greater. 378

Skeps can be made from any kind of straw, including grasses, reeds, and long-stemmed cereals like hemp, barley, buckwheat, millet, oats, grasses, rice, winter and summer wheats (see Appendix C, 1.0). The tools for binding the straw into coils can be carved from bone or wood. Leather and linen scraps could be used as coil binding and brambles and willow could be bound with the straw for strength. Coiled, straw skeps were especially favored and described in detail by German authors like Coler and Thieme. 379

Pastorius’ apiary was likely sited on the south-east edge of his town lot, near his house, vineyard, and orchard. “Make your Apiary near your home in a place, where the Bees may have the first rise of the Sun at their doors. Defend it from high winds,...plant some trees at a reasonable distance from it, where they may pitch at swarming time.” 380

The last poem in his Delicæ Hortenses describes many aspects of his own apiary and biology of his bees with similar terms as Coler and Thieme. These excerpts call attention to his ideas about bees as a species, the material making of his apiaries, and their place in his garden.

1. Come Sluggards, Lazy-ones,
   You Anti-Types of Drones,
   That eat the bread of Idleness;
   Go to my Bees, and now
   Of them be learning, ho

This Vice and Vices to suppress,
And slothful Habits to redress.

He begins this poem with a rephrasing of the common belief that drones were lazy and the bee-bread was not valuable.

2. Whereas Examples draw,
   When Precepts are of Straw;
   Look on my most Jndustrious Bees!
   For God himself does send
   Men unto Beasts, to mend
   All what with Reason disagrees;
   As he, that will in Scripture sees.

Section two describes their ‘precept’ or rule as made of straw. This is their coiled straw skep hive.

6. The King (His Majesty,)
   Extoll’d above the Sky,
   By all his loyal Subjects dear,
   Monarchically Rules;
   And they much like to Mules, Ps. 32:9.
   The Taxes, Lasts and Burdens bear,
   His Life-Guard being always near.

Section six describes the king bee as divine (“Extoll’d above the Sky,” meaning in heaven) and all of the workers and drones as his subjects. This is a common trope rephrased in early modern literature about bees. This is repeated from Aristotle’s History of Animals, despite the fact that in this same source Aristotle suggests that the king bee is actually a queen mother-bee.381 Pastorius’ rephrasing of ‘king’ suggests that he believed

381 Weston, “‘Melitto-Logo’ The Mythology of the Bee in Eighteenth-Century German Literature,” 8.
in immaculate conception of honey bees and had not yet completely rejected the traditions of aristocracy as a form of governance.

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10. Here humming their Humm, Humm,
    They gather Balm-trees-gum,
To build the Royal Palace with;
    Their private houses are
Rais’ed up with equal Care,
    As fabricated by a Smith,
Like Crannies of our Garden-Gith.

....

13. My Bees their Frame and Roof
    Have ready for Behoof,
Hence forward their best works commence,
    Which are so manifold,
That they can not be told;
    And then their matchless Diligence
Transscends the Sphere of human Sense.

Section ten describes his bees building their own private ‘Royal Palaces’ that he has placed on a raised ledge or loft that has ‘Crannies’ made by a ‘Smith’ (carpenter). Section thirteen suggests that he had a raised table with a frame and roof built for the benefit of his bees. His raised table was more like a cabinet or loft with a roof designed to protect his hives from rain, wind, and cold temperatures. (This means he likely did not place his straw skeps inside a hackle.) The next few sections of this poem includes various lists of plants, that he grew in his orchard and garden that his bees regularly visited (Figure 4.13). He designed his garden to feed his bees.

**Figure 4.13.** Plants of Pastorius’ bee garden. Source: *Deliciae Hortenses* poems and notes in *Monthly Monitor*. Common names written as he wrote them.

*Deliciae Hortenses* (pp. 73–85)
Apricocks, Thyme, Ladies=Smocks, Maravillas de Peru, Fool-stones, Cul-me-to-you, Violet, Sweet Marjoram, Rose, Mint, Alkanet, Balm, tulips, top-knots, Nep [catmint], dandelion, daisies, sassafrass,
whorts, five-leaved grass, jasmin, bishopsweed, blueblow, musk [musk okra?], anniseed, balsom herb, eglatine, bugle, borage, chamomil, gilliflower, dill, heartsease, blites, blankursine, honey suckles, cumbine, lilies of the vale, primroses, angelica, maiden hair, spike nard, marigolds, and field crops.

_Monthly Monitor_ (p. 75)
borrage [borage], fenchel [fennel], nägelein [clove dianthus], majoran [Marjoram], lavendel [lavender], jsop [Hyssop], weiße lilian [white lily]

Most of these plants are also found in his “Seed Report,” which means he cultivated these plants for the benefit of his bees. He concluded his bee poem with some of his favorite garden-variety plants favored by his bees.

... 27. This J take notice of,
    That they do mostly scoff
At things, esteemed by the great.
    And gather more, (J see,)
From Peach= and Cherry-tree,
From Fennil, Turnips and Buck wheat,
Than from the blooms of Pome-granate.

This last section of the poem reiterates his belief that the sweetness of his garden, fields, and orchard was found in common plants like his peach and cherry trees, his fennel, turnips and buckwheat.

There are several other narrative poems in his _Deliciae Hortenses_ that confirm how many hives he maintained and his success with harvesting honey and wax. He narrated an account of when and from whom he purchased his first hive of bees. “In 1705, on the 2nd of the fourth [sixth?] month (June) I bought my first beehive from Aret Klincken for ten shilling.”382 Klincken owned two lots and a fifty acre side lot in

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382 Pastorius and Schweitzer, _Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae_, tr. 97.
Germantown on the west side of Germantown Avenue. In this same poem, Pastorius expressed his desire for his bees to swarm to reproduce more hives. “There you industrious animal is wont to swarm upon the little plants; / is that which you harvest and where you wax and honey reap.” He believed that the bees harvested honey and wax from the plants in his garden and brought it back to their hive.

Various poems found in his Delicicæ Hortenses and Beehive document his success with beekeeping. He would have placed his apiary in or near his orchard and visible from his house. In May of 1706, his hives produced two swarms early in the season, that he gave to his sons, Samuel and Henry. The first swarmed on the arm of a Corinth. This swarm must have landed in his vineyard, because a Corinth is a kind of grape. “I heard the Trumpets sound about our Country Farm, / As if some Souldiers came for Injury and harm. / ....J look’d down upon a Corinth’s arm, / Behold a King of Bees surrounded by his Swarm.” He found a second swarm on an apple tree in his orchard. “My Hive again too full / Sent forth his Second Bee, / Upon an Apple-tree.” One month later, on the twenty first of June, he wrote that he had a third swarm that landed on a peach tree in his orchard. This swarm he gave to his wife, Enneke. Poems found in his

383 Like Pastorius, Klincken was very active in Germantownship’s governance between 1699-1707, serving as bailiff, overseer of the ways (streets), bailiff, and burgess. Germantown court also appointed Klincken as a supervisor of Germantown’s first school in 1702. See: Duffin, pp. 54–61, and Lehman.
384 Pastorius and Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae, tr. 97.
385 Pastorius and Schweitzer, 76.
386 Pastorius and Schweitzer, 76.
387 Pastorius and Schweitzer, 76–77.
Beehive document that he had only one swarm in 1710 but four in May of 1711 and 1712. Most years he needed to be prepared to hive bees with at least four skeps.

His stories about his beehives suggest that he practiced swarm beekeeping and made his skeps smaller (9–36 liters) to encourage swarming early in the season. Swarm beekeepers made their skeps smaller than 36 liters. A small skep hive, such as his, could produce about five kilograms (about eleven pounds) of honey and wax every season. When he maintained four hives in a season, he could have harvested at least forty pounds of honey and wax more than enough for use in his own household and some extra to sell.

Pastorius dedicated over eighteen pages to bees, beekeeping, honey and wax in his Monthly Monitor. His entries not only include a long-winded account of how he kept his bees but also how he used and processed honey and wax. The section, “The Product of Bee-hives is Honey & Wax,” explains how he extracted honey and wax from the combs that he harvested from his skeps.

The honey you best keep in glass-or-Earthen Ware. But do not set it in the Sun [ill] in a Cool & airy Place, the froth or fom which it casts up in a few days, you may either scum or take off, or let it lie a top; and feed your bees merewith[,] for it's all one

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388 Pastorius, “Beehive, Bee-Stock,” 156-7 (V.1).
389 Crane, The World History of Beekeeping and Honey Hunting, 220.
How to make Mead look to page 68. Concerning Wax page. seg.

To get the Wax out of the washed Remains mentioned pag. anteced. Break the clots in small pieces, put these in [ill] iron pot or kettle, pour water therein, & let it boyl-thorowly & so very hot hasten it into a strong Linnen bag, wring it with or between two Sticks very forcibly into a Vessel in which there is some cold water & Afterwards melt this in a clean Pot & then strain it through a Colender or Cloth into another Vessel, whose bottom is covered with warm water. But mind, that as soon as the thick stuff comes you must leave off Squeezing & wring thin out upon a dish or platter by itself. It serves to wax thred to make salve for sore Trees, & c. 390

In this entry and others in his Artzney und Kunst, and poetry he described how he used honey and wax: as a sweetener, a base for medicine, various household uses like waxing thread and objects, and healing salves. Throughout his writing he also repeated a common trope about beekeeping, “Apes dant Opes. Honey yields Money.” His apiaries were a source of income, nourishment, and pleasure.

**Everyday Nourishment**

Chapter two was primarily about how his garden nourished his intellectual and spiritual appetite. He read and wrote about his garden on a daily basis to feed his mind. This chapter describes his garden as a commonplace at the center of the rituals of his daily life that was central to his physical, spiritual, and intellectual health. Another way to analyze the meaning of his garden is to call attention to the physical nourishment and benefit that Pastorius culled from his garden. It speaks to the quality of his life in Germantown.

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Pastorius valued health. To him spiritual, intellectual, and physical health were intertwined and must be maintained every day. This, in part, was informed by his Pietism, but was also part of his enthusiastic fascination with life and nature. His garden and all of its garden variety is where all of these values were realized.

Pastorius was very concerned about the importance of exercise and diet in his daily life. His ideas about exercise and diet are mostly documented in the *calendarium* of his *Monthly Monitor*, which will be discussed in more detail in Chapter five. Figure 4.14 summarizes his diet throughout the year. The account was assembled based on a close study of all the plants that he grew in his garden, natural resources available to him in the Wissahickon and his land in Germantown, and his notes about recipes and favorite meals found in his *calendarium* and throughout his *Monthly Monitor*.

**Figure 4.14.** Assemblage of all the products of Pastorius’ garden, orchard, vineyard, fields, and apiary in the primary food groups that he used to describe his own diet.

Sources:


Notes:
• Spices for food and wine are transcribed from his recipes. Pastorius suggested infusions of these spices in wine in his Monthly Monitor, but also describes spices as a luxury in his *Beehive*:”20 or 30 new-laid eggs are more beneficial to humane nature than ounce or two of Nutmegs, Cloves, Mace & the like.”

391 Pastorius, “Beehive, Bee-Stock,” 796 (V2).
Pastorius liked salad, apple pie, and wine. In his *calendarium* he noted: “Eat your Saellet at the beginning of Supper with some Eggs.” He maintained a hot bed of saladings.
throughout the winter months. He ate fruit fresh and dried, but also made fruit pies, wine, cider and liquors.\textsuperscript{392} His diet was as varied, flavorful, and odoriferous as his garden.

Pastorius included many recipes for alcoholic drinks made from the produce of his garden, like mead, wines made from many kinds of fruits, beers, ciders, and liquors in his \textit{Monthly Monitor} and \textit{Artzney und Kunst}. He made wine from his Corinth grapes, cherries, raspberries, strawberries, gooseberries, and wormwood. Distilled wormwood was a bitter wine that he used as a medicinal to cure digestive discomfort. His recipes for all of these wines are found in his \textit{Monthly Monitor} and referenced in his \textit{Beehive}.

To make Mead that shall taste like Wine. Take 8 times as much water as honey, boil them together till half Consumed; Scum it well and when it begins to cool turn it up & let it work, when done working, stop it up close & bury it under ground for 3 months.

To make Wormwood wines Take a handful of dried wormwood for every gallon of wine stop it in a Vessel Close & so let it remain in Steep. It helps cold Stomachs, breaks, wind, kills worms, & cures the green Sickness. After the same maner you may make Eye bright wine, which wunderfully clears the Sight. A Cup of it in the morning is worth a pair of Spectacles.

To make Cherry wine. Stone your Cherries before they are too ripe press them in a Press or through a clean Cloth & let the Juice settle, then draw it off & bottle it up, with half an ounce of loaf: sugar & a piece of Cinamon in each bottle; & tying the Cork down. let it stand six weeks: And then being open'd; it will drink pleasant & brisk.

Rasberry, Strawberry & Corinth Wine may be made as that of Cherries, but the liquor being boild up with the Sugar before the Species be put in, will keep the longest.

Goosberry-wine is made the same way, only adding some blades of mace, & slices of ginger.

\textsuperscript{392} Given conventional gender roles at this time, Enneke was likely responsible for most culinary tasks, however, his writing suggests that he made the mead, wine and liquors.
Mix as much honey, with new pressed Cider that an Egg may flote in your Tub, boil this liquor long enough, Scum it well & when Cool, tun it up & let it work & c. with a handful of hops. sewed in a little bag.

That your Mead may Clear the sooner, rinse your Cooling Tub as also the barrel in which you'le keep the same with milk wherein the white of a Couple of Eggs has been battered or broken.

Neither will your Mead be the worse, when after it has done foaming so that you need not to scum it any longer, you put in a linen bag the following Ingredients, letting them seeth therein a good quarter of an hour,; viz: Alspice, Pepper, Ginger, Cynamon, nutmeg, mace, Cloves, Saffron, Rosemary, Marjoram, flowrs of Elder, and Thime.393

But he had a rule for drinking alcohol: “a Cup of good liquor the first draught is for thirst, the second for nourishmt, the third for pleasure, but the fourth for madness.”394

Very little of his diet was imported into Philadelphia from England or Germany, with the exception of some spices, sugar, and citrus fruits mentioned in his Artzney und Kunst. Honey from his hives would have been a welcome and economical substitute for sugar imported from the British West Indies. No doubt, he imported seeds and cuttings from England, Germany and likely the Netherlands, but in the end, he cultivated most of his food and medicine and even exotic flowers in his garden.

**Pastorius’ Garden as a Commonplace Book**

Pastorius’ garden and Beehive both artfully assembled useful and meaningful resources to be read and used in their present time, but also the future. Chapter two described his Beehive as a culmination of intellectual, spiritual, and professional lives. His garden is similar in that it was a culmination of all of these lives in addition to his

394 Pastorius, “Beehive, Bee-Stock,” 775 (V2).
physical life in Germantown. The only difference is that his plants and bees only survive today as written words.

Entries in his *Beehive* were indexed to help him locate and recall the meaning of words but also to elaborate on their meaning. Each entry elaborated on the meaning of words from many points of view and often referred to other words. In addition to referencing hundreds of books, it was self-referential and often referred to his own writing in other manuscripts. He made his garden to do the same. Each living and non-living being that he planted and tended in his garden referred to its outer and inner-worldly contexts: God, the sun, moon, celestial alignments, other plants, his body, and their plant communities. (These relationships will be discussed in more detail in Chapter five.) They also referred to an outer world of literary and symbolic meaning encoded in his Biblical citations and “Emblematic Recreations.” His garden was designed and planted as he wrote his *Beehive*. His plants were words, and their leaves and blossoms were letters in that their meaning could be read by him. Each had their own outward forms and inward voices that elaborated on the meaning of nature in his own everyday life.

Like his *Beehive*, this garden cannot be reproduced or replicated outside of Pastorius’ mind as it was intimately connected to him, his history, family, and neighbors in Germantown in its own particular place and time. However, its *hortenses poesis* is not lost. This can serve as an historical and philosophical source for meaning in the making of contemporary gardens in Pennsylvania.
CHAPTER 5: Keeping Time with a Garden—when he gardened.

the Time past we make to be our own by remembrance, the present by use & the future by foresight. Seneca—entry for “Time” in Pastorius’ Beehive

That ev’ry one who plows, who hows, who sows, who mows
Should fit their business always to Clime & time

Prologue

This chapter considers Pastorius’ garden as a space that he designed to predict and take advantage of the timing of ecological phenomena and events. His orchard, vineyard, fields, woods, and garden of herbaceous plants made up the totality of this ‘garden’. The ecological phenomena and events are considered as he believed them to be recurrent inter-relationships between animals, plants, and their environment. His garden work was timed to these ecological relationships.

Pastorius writing about his garden accounts for time as duration that relied on his own sensible apprehension of his environment. He did own a clock or watch, but he measured time with a seasonal calendar, his plants, the sun and moon, weather patterns, alignments of stars, and his bees. His garden time was not an absolute measure of time or duration based on mathematical truths, but was instead based on his own and others’ observations and myths recycled through early modern astrology and natural sciences. Isaac Newton called this kind of time, ‘common time,’ largely concerned with duration

395 Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or, Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696.” (Philadelphia, PA, 1865 1696), 678 (V2), Upenn Ms. Codex 726.
measured by a person and their relationship with their environment.\footnote{M. Edwards, Time and the Science of the Soul in Early Modern Philosophy, Brill’s Studies in Intellectual History 224 (Leiden: Koninklijke Brill NV, 2013), 1.} Pastorius understood common time as it was based on ‘truths’ of alchemy, astrology, Parcelsus’s \textit{materia medica}, assumptions about God’s omnipotence in nature and his own observations in Pennsylvania. Pastorius’ ‘truths’ were for the most part of a universalizing mythology of nature but also at the same time very practical and connected with Germantown as a place.

Pastorius established his garden, orchard, fields, and vineyard in Germantown after 1689. Although he was responsible for establishing Germantownship in 1683, he lived in Philadelphia until 1689. It is not clear if he gardened while living in Philadelphia. By 1701 he had established his garden, orchard and fields on their land, purchased a hive of bees by 1705, and established his vineyard by 1706 (see Figure 5.1).

\textbf{Figure 5.1.} Chronology of Pastorius’ garden work in Pennsylvania (with known dates).
\small

\begin{itemize}
\item 1683 established a dugout house on what is now 502 Front Street, Philadelphia, age 32
\item by 1685 built a house in Philadelphia (30 feet long by 15 feet wide)
\item 1685 described that he laid out Germantown, two hours from Philadelphia, with main street as 60 feet wide and plots for each house and garden
\item 1688 marries Enneke (Anne) Klosterman
\item 1689 they purchased side and town-lots 16 in Germantown (what is now 6019 Germantown Ave.), but they remained in Philadelphia to teach at the Friend’s Public School in Philadelphia until 1700.
\item 1689 established fields, house, orchard, and garden in Germantown (even-though he is living in Philadelphia)
\item 1690 John Samuel born (first son)
\item 1692 Henry born (second son)
\item 1695 begins writing \textit{Artzney und Kunst}
\item 1701 begins writing \textit{Monthly Monitor} and “Seed Report” of over 220 species of plants in his garden
\item 1701-1703 orchard likely established
\item 1705 begins writing \textit{Deliciæ Hortenses} and \textit{Voluptates Apianaæ} poems
\item 1705 acquired bees, established apiary of 1–4 hives
\end{itemize}
1706 his hives swarm three times, he gives swarms to his sons (ages 14 & 16) and wife to have as their own
1706 established vineyard (30 vines)
1709 neighbor gives Pastorius 20 tulips, he plants them in his garden, begins writing poems about tulips
1710 expanded vineyard with cuttings (+100 vines) and big grape harvest
1711 harvested Aquilegia canadensis (Wild Columbine) from woods, propagates it in his garden
1711 “Christopher Witt removed his Flower-Beds close to my Fence”
1711 described a wood bench with an inscription (Non Sum melior Patribus) in his garden
1711 wrote about his “garden dog”
1713, 1714, & 1717 he suffers from several bouts of fever and respiratory infections, but his garden work
continues (perhaps with help from his wife and two sons)
1714 Pastorius writes two humorous botanical poems for James Logan
1714 describes his tulip bed as having “ninety-nine chosen flowers”
1714 describes his blossoms as ‘parch’, bit by a March frost
1714 assembles his Ship-mate ship poems
1716 Witt moved his fig tree on the edge of Pastorius’ garden
1715–6 his vineyard mostly unproductive
1718 Pastorius and Lloyd Zachary exchange several letters about plants of his garden, with plant prints
1718 visits Issac Norris’s garden at Fairhill
1719 Pastorius dies, age 68

Postscript
1723 Enneke Klostermann dies, age 65
1748 Daniel Pastorius (grandson) builds Green Tree Tavern northeast of Francis Pastorius house
1796 Daniel Pastorius (grandson) builds a house southeast of Francis Pastorius house
1864 property at 6019 Germantown Ave. is sold out of the Pastorius family
1872 Francis D. Pastorius house demolished
1893-1898 First United Methodist Church of Germantown sanctuary built on the site of Pastorius’ house
and garden

All of Pastorius’ writing about plants and his garden in some manner considered
the past, present, and future: the past to recall Biblical gardens and their progeny as they
relate to his own garden; the present to celebrate the utility and beauty of plants of his
own life; and the future of the art of gardening in Pennsylvania. He was concerned about
longevity—he wrote about his garden and plants to share his art with his neighbors, wife,
and sons and he wanted his garden, orchard, vineyard, apiary, and fields to continue to
bloom long after his death.

Pastorius measured garden time at many scales, including: Biblical generations
(Adam, Noah, Solomon, etc.), years, seasons, months, days, astrological alignments,
sunrise and sunset, solar and lunar cycles. His ideas about gardens of Biblical generations
are found in his poetry, especially his *Ship-mate ship* poems (see Chapter six). Much of his writing about his garden that will be considered in this chapter considers the months and seasons, timeframes of astrological, solar, and lunar alignments. In this writing he prescribed when to propagate, cultivate, and harvest based on these measures of time. This information, in his mind, was as important as ‘what and where to plant’ discussed in Chapter four, and reveals a reverence for and deference to environmental measures of time. One cannot understand Pastorius’ garden from his point of view without acknowledging the authority of time.

This chapter will account for thirty years of Pastorius’ garden—when he gardened and why he did certain tasks according to various measures of time and duration. It will explain how he ordered the work of gardening as a part of his day to day life and throughout the years. First, it will analyze his monthly *calendarium* at the beginning of his *Monthly Monitor* and account for its elements. Secondly, it will analyze the importance of solar time, his sundial, and lunar phenomena in propagating, cultivating, and harvesting his plants. Similarly, it will then analyze his belief in astrology, a measure of celestial time, and its influence on when he harvested plants and resources from his garden. Lastly, it will summarize the timing of important tasks described by him as they relate to his garden: forestry, pomology, and viticulture; apiculture; soil preparation; plant propagation and planting; and harvesting. This account will summarize details found throughout his *Monthly Monitor*. Time was an important dimension of Pastorius’ garden and ultimately his ecological thinking. How he measured time, oriented himself to Pennsylvania’s environment, by way of his garden.
Germantown calendarium

Sometime after 1715, Pastorius recorded a list of manuscripts written by him in his Beehive. His list included a “Calendarium Calendariorum, or a Perpetual Almanack” and his “Monthly Monitor, Or my Firstborn Son of Husbanderia.” The “Calendarium Calendariorum” is lost but he refers to it in his Monthly Monitor. The calendarium at the beginning of his Monthly Monitor is an abbreviated version of his “Calendarium Calendariorum.” This register was his own attempt to make an account of garden work that was specific to his garden and ‘country farm’ in Pennsylvania. The simplest way to account for time in Pastorius’ garden is to read his calendarium at the beginning of his Monthly Monitor—it was a month by month account of agricultural and horticultural work to be done in his garden, beginning with January.

A calendarium was a common component of garden and husbandry books in early modern Europe. It is quite simply, a monthly register of garden and farm work and home economics information. Pastorius cited two husbandry ‘how-to’ books throughout his Monthly Monitor: Johann Coler, Oeconomiae Ruralis & Domesticæ, and John Worlidge, Systema Agriculturae. Both of these sources included elaborate calendars of work to be done in the garden and fields as a prologue to their chapters. Coler’s edition also included engravings; allegories of ancient husbandry in a ‘German’ landscape and detailed illustrations of work for each month.

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398 Pastorius, “Beehive, Bee-Stock,” 737 (V2).
399 The calendarium is twenty-four pages of his Monthly Monitor, whereas the “Calendarium Calendariorum” was an entire book.
400 Pastorius, like the calendariums found in Coler and Worlidge’s books, adopted the Gregorian calendar (placing January first), however he always referred to March as the first month, as was customary with the Julian calendar.
Figure 5.2. Left: Title page engraving that situates all the work of a farm and garden around an enclosed garden with espaliered fruit trees and a vineyard, and calls attention to Adam as the first Hausvatter and Noah as the first Veingartner. Right: Martius (March), engraving showing work to be done in the vineyard, a register of sunrise, sunset, and garden and farm work to be done in March.


He also relied on English sources like Worlidge and almanacks published in England, Boston and later Daniel Leed’s Almanacks published in Philadelphia after 1714. But, Coler’s *Oeconomia* was one of the most important German sources of practical
information about gardening and farming for Pastorius and explains why his *calendarium* was foremost in his *Monthly Monitor*.

**Figure 5.3.** Accounting of the elements found in each month of Pastorius’ *calendarium*. The work described for each month was work to be done in Germantown according to Pennsylvania weather and growing seasons. He wrote at the end of his *calendarium*: “Thus far I set down the most needful Notes of Husbandry and Physick fitting the Longitude & Latitude of all Capacities,” 401 The appearance of the pages suggests that he did not write this *calendarium* in one sitting and added and modified entries over time.

- seasonal moral aphorisms
- aphorisms about weather
- weather predictions (rain, wind, snow)
- astrology (alignments and signs)
- position of the sun
- length of days and nights
- ‘physic’ recommendations
- recommendations for diet, exercise, and sleep
- use of spices
- work in fields and meadows (mowing, plowing, planting)
- work in orchard (trees in bloom, pruning, grafting, planting, fertilizing)
- work in garden (weeding, planting, transplanting, harvest)
- work in woods (timber harvest)
- timing and work for plant propagation
- preparations and work for soil modification
- plant harvest (including storage and processing)
- collection and storage of items for household use
- fence maintenance
- insect and pest management
- timing for fishing and hunting
- animal care
- work in apiary

Pastorius’ *calendarium*, like Coler’s *Oeconomia*, is comprehensive, in that it addresses most aspects of maintaining his ‘self-provisioning’ farm in Germantown, attending to his and his family’s health and enjoying the products of his garden (see Appendix A 1.0, a & b). It includes a mix of practical suggestions and moralizing of

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garden and farm work and was his own effort to adapt the theoretical and practical knowledge of European husbandry and garden ‘how to’ books to his own farm and garden work in Pennsylvania.

There are many entries that stand out as celebrations of local resources and traditions. For example, in the month of May he reminds the reader to, every year, gather “Strawberries in old Indian fields Carry home mix with rosewater, white wine & sugar.” Later in this journal he also reminds us that we must gather strawberries in the right time as Venus governs strawberries. Venus is visible in North America as an ‘evening star’ through May, disappears, then re-appears in June as a ‘morning star.’ He would have timed gathering his strawberries with the appearance of Venus in May—at dusk? The writing found in his *Monthly Monitor* was informed by books and based on his own careful observation and consideration of the Wissahickon, its resources, weather, and solar and lunar phenomena.

**Solar and Lunar Time**

Pastorius included several entries for the sun in his “Emblematic Recreations” in his *Beehive*: “The Sun. A Numine Lumine” (Divine Light), “the Sun in the Zodiack,” “the Sun encompassed with other Planets,” “the Sun upon a garden,” and “the Sun & a Sundial.” His relationship with the sun was practical, as he measured its rising and setting in Germantown, but it was also metaphorical, in that he populated his writing and his sundial in his garden with moral aphorisms about the influence of the sun in his life.\(^\text{403}\)

\(^{402}\) Pastorius, 7.

\(^{403}\) Related to this are Pastorius’ entries in his *Beehive* for “limning.” I discuss his use of these terms in Chapter six.
In the middle and at the very end of Pastorius’ *Monthly Monitor* are registers of sunrise and sunset for almost every-day of the year (a handful of dates are missing). The first register selects the first, eleventh, and twenty-first of every month, beginning with January (labeled as the eleventh month). This chart is titled, “Hora Pennsilvaneæ / Nostræ Pennsilvaneæ.” He organized this and the second, more complete register according to the Julian calendar, meaning March was the first month and February the last. He noted the longest day of the year as June eleventh and the shortest as December eleventh. For each day he recorded sunrise, sunset, and length of day. It appears that the entire register was copied into the *Monthly Monitor* in one sitting, in that the writing and ink suggest one sitting, suggesting that his notes that recorded these times throughout the year were recorded in a different notebook. This register is meant as a reference tool, but also suggests that he was a very close observer of solar phenomena (see Appendix A, 1.0, e).

A close analysis of the times that Pastorius recorded compared with the “Sunrise / Sunset Calculator” maintained by the NOAA Earth Systems Research Laboratories reveals that Pastorius’ register is repeatedly off by at least five and sometimes twenty minutes (see Figure 5.4). This could be explained by the fact that he was likely measuring time for sunrise and sunset from his sundial in his garden and possibly a clock.

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404 Pastorius, 38.
405 He recorded this data from his own observations. If he would have copied data from D. Leeds almanacs or somebody else’s observations, he would have cited them.
or watch of his own. Additionally, his account of the number of days for each month does not always confirm to the modern calendar, so his records of days may not precisely align with NOAA’s official measurements. His accuracy is a product of the tools and information that he had in hand and his own error.

Figure 5.4. A close reading of Pastorius’ register of sunrise and sunset times at the end of his *Monthly Monitor* compared with selected days of the year 1710 with NOAA “Sunrise / Sunset Calculator.” This is a selective transcription of his register. *August 20, 1710 was the date of his celebratory, anniversary harvest of grapes of his vineyard (See Chapter four). He noted **June 11 as the longest day of the year and ***December 11 as the shortest day of the year. NOAA’s times for sunrise (SR) and sunset (SS) are described as “Apparent,” this meaning visible and apparent in the sky.

Sources:


<table>
<thead>
<tr>
<th>MONTH</th>
<th>SUNRISE</th>
<th>SUNSET</th>
<th>LENGTH OF DAY</th>
<th>NOAA SR / SS</th>
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<td>6:10</td>
<td>5:50</td>
<td>11h. 40m.</td>
<td>6:35 / 5:53</td>
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<tr>
<td>II April</td>
<td>5:30</td>
<td>6:30</td>
<td>13h. 0m.</td>
<td>5:45 / 6:25</td>
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<td>4:56</td>
<td>7.4</td>
<td>14h. 8m.</td>
<td>5:01 / 6:55</td>
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<td>4.35</td>
<td>7.25</td>
<td>14h. 50m.</td>
<td>4:32 / 7:25</td>
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<tr>
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<td>4.34</td>
<td>7.26</td>
<td>14h. 52m.</td>
<td>4:31 / 7:29</td>
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<td>4.41</td>
<td>7.19</td>
<td>14h. 3?m.</td>
<td>4:35 / 7:33</td>
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<tr>
<td>VI August</td>
<td>5.7</td>
<td>6.53</td>
<td>13h. 46m.</td>
<td>4:58 / 7:14</td>
</tr>
<tr>
<td>*20</td>
<td>5.30</td>
<td>6.30</td>
<td>13h. 0m.</td>
<td>5:16 / 6:51</td>
</tr>
<tr>
<td>VII September</td>
<td>5.46</td>
<td>6.14</td>
<td>12h. 28m.</td>
<td>5:28 / 6:32</td>
</tr>
</tbody>
</table>

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His errors do not really matter. What matters is his discipline in observing his environment and his use of this information in his garden. Because of this register and his scrutiny, he was acutely aware of solar patterns in his garden and Germantown at large.

Pastorius does not mention his sundial in his *Monthly Monitor*, but he does include a vague description of it and a prayer about it in his *Beehive*. The prayer is titled, “On the Sun Dial in my Garden.” An aphorism that he inscribed on his sundial follows: “Umbram Franciscus Daniel Pastorius umbra Aspiciens, inquit, Sun frie nihil,” which loosely translates “Francis Daniel Pastorius’ shadow casts a shadow, he looks with his eyes, the sun constantly moving.” Following this inscription and a prayer are several Biblical citations.


God is the Sun, a. mens days on Earth like Shadow b. And they themselves as Flowers in a Meadow, c. Whom evry Beast soon under foot can tread d. Or blustering winds their glory cause to fade. dd. Those many Winds referred in God's Treasure, e. Which only blow according to his pleasure, f. I pray he may from all

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four corners send, their Task in me right to begin & end. g. The East wind first, that I thereby be purged h. From sinful Lusts, and to Repentance urged; The West wind next, most able to impell i. To Fruitfulness, good Works and Doing well; Then South wind come. Come, come & warm my bosom That when at last y e. Northwind blows the Blossom. Of heart & Soul Sweet Savours to the Lord, k. And he to me his Favours de afford. Amen.


Awake o Northwind, and Come Southwind, come and blow, That in my garden beds the Spices overflow, Cant. 4. ult.

And that the Pomegranates drop down upon the grass, wh my beloved loves wch other fruits surpass.

See Cant. 6:11. & 7:12. & 8:2.

The poem is about the sun, earth, wind, flowers in the meadows, animals, and himself. He imagines his days as an ephemeral shadow (always moving) and himself “as Flowers in a Meadow.” The entire entry about his sundial is imaginative, metaphorical, and codified with Biblical citations that connects the past to his present.

It is not surprising that Pastorius would have placed a sundial in his garden and celebrated it with poetry. He studied sundials while travelling on his Grand Tour (see Appendix B, 2.0) and catalogued inscriptions found on them. But more significantly, Christopher Witt (his neighbor and gardener discussed in Chapter three), because of Witt’s associations with Johannes Kelpius and The Society of the Women in the Wilderness, came into possession of a sixteenth century sundial made by a German astronomer in 1578, Christoph Schissler of Augsburg. This sundial is now in the museum
collection of the American Philosophical Society because it was donated to the society by Witt before his death.409


**Figure 5.5.** Horologium Acha, owned by Christopher Witt. Schissler, Christoph. **Left:** Inside. **Right:** Front. Refractive Sundial Known as the “Dial of Ahaz.” 1578. German brass and alloy object. American Philosophical Society Museum.

This sundial itself mirrors Pastorius’ own interests in solar phenomena, astrology, and Biblical narratives. The astronomical device itself is considered a master-work of German astrology.

Demonstrating Schissler's mastery of ornate metalwork and mathematics, the Dial is embossed with Zodiac signs. The base illustrates the miracle described in the Bible (Isaiah 38:8) in which time was reversed and the shadow on a sundial moved backwards. Filling the sundial's bowl with water refracts light and moves the shadow cast by the gnomon back ten or twenty degrees, or approximately an hour, creating a clever optical illusion.410

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410 Schissler.
The dial was embossed with the zodiac signs. Its base was engraved with an illustration of a Biblical miracle and its bowl created a beautiful optical illusion when filled with water. It would have been a model for Pastorius’ own sundial. The poem “On the Sun Dial in my Garden” suggests that his sundial was a useful gnomon, designed to measure time with the sun, but more importantly it was a meaningful object, artfully placed in his garden.

He measured the timing of the moon as closely as he did the sun. the moon in his mind was second only to the sun—“the Moon: ano Sole minor. Lux altera mundi. Secundae gloria Lucis.” He believed that its influence on plants was as great as the sun.

Lunar phenomena prescribed when he did certain garden tasks, especially sowing of seeds, planting, grafting and pruning trees. Pastorius believed in natural astrology, which acknowledged an influential relationship between weather and health, and the position of all planets (including the moon) and plants. “Therefore, it followed that every type of plant was linked to a planet whose nature it shared, which led to a series of rules governing the planting, growing and harvesting of different crops.” Planets, including the sun and moon gave plants power. These almanacs were published in England and Philadelphia. Astrology and other occult beliefs were commonplaces of early American gardening and husbandry.

411 Pastorius, “Beehive, Bee-Stock,” 77 (V. 1).
413 Butler, 330.
All of the home economic, husbandry, almanacs, and garden books that Pastorius referenced embraced some form of natural astrology. His *Monthly Monitor* documents a transposition of these beliefs and practices in the making of his own Germantown garden. On a page titled, “Vulgar Notes to know when the Moon rises & sets,” he cited a table made by him in his *Calendarium Calendariorum* that documents moon rising and setting and Philadelphia and one that diagrams the timing of the moon and “the Time of high water at Philadelphia, New-Castle, Burlington, & c.” He was situating the natural astrology of European culture into his own daily life in Pennsylvania.

Pastorius also explained his understanding of the influence of the moon on the quality of air and how each planet influences the natural qualities and taste of the atmosphere and consequential influence on plants.

The Seven Planets are according to their

<table>
<thead>
<tr>
<th>Natural Qualities</th>
<th>Taste or Smack</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Saturn] cold &amp; dry. . .</td>
<td>. Souer, tard &amp; sharp</td>
</tr>
<tr>
<td>[Jupiter] moist &amp; hot . . .</td>
<td>. Sweet and well smelling</td>
</tr>
<tr>
<td>[Mars] hot &amp; dry magus quam ☉ [sun]</td>
<td>... bitter</td>
</tr>
<tr>
<td>[Sun] temperately hot &amp; dry . . .</td>
<td>. biting and of a good smell.</td>
</tr>
<tr>
<td>[Venus] temp: hot &amp; moist. . .</td>
<td>. felt and Spice like taste.</td>
</tr>
<tr>
<td>[Mercury] mixt with the nature of. . .</td>
<td>. mingled taste</td>
</tr>
</tbody>
</table>

[those plan: he Joins with.]

| [Moon] moist & cold. . | . saltish, and of an indifferent smell. |

The Moon is further said to be

- from the New to the first Quarter, hot & moist.
- from the First Q. to the Full, hot and dry.
- from the Full to the Last Qu: cold & dry.
- from the Last Q. to the New, cold and moist

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415 Pastorius, 80.
Because he considered the moon a planet, its power to influence the weather, qualities of air, and plants was related to its alignment with the other planets. Second to the seasons, the moon was the most important influence on the timing of work to be done in his garden. Figure 5.6 assembles a selection of notes from his *Monthly Monitor* about planting, grafting, and harvesting fruit according to the phases of the moon. He believed that this timing was important because it influenced the plant’s ability to grow but also each plant’s potency as food and medicine.
Figure 5.6. Pastorius garden work according to the phases of the moon. This diagram assembles a selection of Pastorius’ notes about garden work from his Monthly Monitor onto the lunar diagram published in Pastorius’ edition of Coleri’s Oeconomia.

Sources:


There are also examples of work to be done according to the moon found in his calendarium. In January, he recommends “Fell Timber in the Decrease, especially in the
last Quarter of Moon, as occasion requires, & it will be more durable and not subject to worm.\footnote{Pastorius, 4.} In May, he recommends “About full Moon Sow Lettuce. 2 or 3 months together to have Sallets all Sumer long.”\footnote{Pastorius, 8.} So in May, June, and July at full moon, he sowed lettuce, for a continuous harvest. In August he planted other kinds of greens and vegetables at the new moon. “Sow Corn Sallad, Chervil & the like in the New of the Moon. Carrots, parsnips, curled Endive, Scurvy grass, Angelica, Spinag.”\footnote{Pastorius, 11.} These plants could be harvested well into December. Almost all garden tasks in his Monthly Monitor are in some manner influenced by moon, except his beehives. In no place does he suggest that the moon or any of the planets have power over his bees, how he cared for his bees and maintained his hives.
Figure 5.7. “Vulgar Notes to know when the Moon rises & sets,” and explanations about the influence of all the planets on qualities of weather, atmosphere, plants, seeds, metals, gems, animals, and colors. Source: Pastorius, F. D. “A Monthly Monitor Briefly Showing When Our Works Ought to Be Done in Gardens, Orchards, Vineyards, Fields, Meadows, and Woods”, 1701. Francis Daniel Pastorius papers 1683–1719, Collection 0475, V. 7, 80. Historical Society of Pennsylvania.

**Astrology, Celestial Timing**

Pastorius was not alone in his interest in and adherence to astrology. Early modern English and German concepts of astrology are found in almost every aspect of his writing about his garden. So much so that its influence is equal to that of the Bible. Astrology was a belief system not unlike Christianity in that it was a logic that offered explanations for natural phenomena that was codified and interpreted through practice and theory. Historian John Butler goes so far as to suggest that occult beliefs, like those
of Pastoriu, Johannes Kelpius and Christopher Witt were as prevalent and more influential in day to day life than Christian theology of the English Puritans and Quakers until about 1720, although they remained an influence through the eighteenth-century.419

Historians have always treated America's earliest colonists as especially religious people....Although impressive, these studies fail to comprehend the marrow of American religious life... To understand what colonists meant by religion, historians need to move beyond the study of ecclesiology, theology, and the ministry to recover noninstitutional religious practices. .... Like their English counterparts, colonial almanacs provided all of the astronomical information—contained in a twelve-month called the 'ephemerides'—necessary to make astrological calculations.....The popularity of the almanacs was linked directly to their occult contents. Colonists insisted that almanacs contain occult material.420

The almanacs published in England and Philadelphia that Pastorius read included the occult material that Butler refers to. The Quakers openly condemned the use of the astrology that Pastorius believed in and used in the making of his garden.421

Pastorius explains astrology in his Beehive. He is very clear that he does not subscribe to judicial astrology as he ascribes this practice as “pacts with Devils.”422 In this same entry he describes ‘astrology’ as “Science of the Stars. Matters of so remote sublime & mysterious a Nature .... Stars wherever they cast their rays, there's some material emanation felt an efflu & full of hidden magick, & c.” It is in his entry for “Astrologer” that he explains his own belief in astrology that does not violate the authority of God:

421 Butler, 330. Butler cites several court cases in Pennsylvania counties between 1680 and 1720 that opposed the use or publication of astrology, geomancy and chiromancy.
422 Pastorius, “Beehive, Bee-Stock,” 690 (V. 2).
the Knowledge of future things without their Causes absolutely belongs to God only, & c. but in their Causes many arrive to that knowledge as Astrologers, Physicians, husbandmen, & c. Ergo therfore knowledge of future events (or effects.) in their Causes, as near as may be rationally conjectured, not positively affirmed, is to be exempted from the title of Divination, Conjuring & such like reflective expressions.423

His belief in astrology did not presume absolute truths but instead was a rationale that oriented himself in his environment and ordered work to be done in his garden, fields, vineyard, and orchard. In this regard it was commonplace, considered every day.

Pastorius deference to and awareness of astrology and alignments of planets influenced when he harvested his herbs, fruit, vegetables, timber, and field crops. Just like his belief that timber harvested in the last quarter of the lunar cycle was more durable and resistant to worms, he believed that plants harvested according to their ruling planet were more potent, meaning they were more nourishing and curative. The timing of his harvests required a detailed understanding of the alignments of planets.424 Page twenty of his Monthly Monitor organizes a list of plants that he grew in his garden, orchard, vineyard, and fields according to their governing planet (Figure 5.8). He explains the logic of harvesting according to planetary influence and even practical advice as to how best to dry the herbs for future use.

Gather your herbs, flowers & Seeds in the Planetary hour, i.e. Let the planet that governs the herb be angular, p. the stronger the better. In herbs of Saturn, Let Saturn be in the Ascendant, if you can. In herbs of Mars let Mars be in Mid-

423 Pastorius, 586 (V. 2).
424 His understanding of astrology, the planets, sun and moon is obviously not reality as the sun and the moon are not planets. But it was his reality. Although he was well read in current science being debated and published at the Royal Society, his understanding was antiquated. For a detailed account of the influence of astrology on the day to day life of Pennsylvania colonists at this time, see: Butler, John. “Magic, Astrology, and the Early American Religious Heritage, 1600–1760.” The American Historical Review 84, no. 2 (April 1979): 317–346.
heaven, for in those houses they delight: Let the Moon apply to them by good Aspect, & let her not be in ye houses of her Enemies. If you can not well stay till she apply to them, let her apply to a planet of the same triplicity, & if you canot wait that time neither, let her be with a fixed Star of their Nature. ... Further he bids you dry them well in the Sun & not in the Shadow, & c. Then put them up in brown papers, & c. NB Herbs full of juice dry in the Sun, others in the Shadow.425

This system is very complicated and required that he reference all the charts and notes that he kept in his Monthly Monitor and Calendarium Calendariorum. All of this detail suggests that he had access to some kind of telescope or that he used the Horologium Acha (sundial) owned by Christopher Witt to calculate celestial alignments.

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Figure 5.8. “To gather herbs, be of the right time sure, For else you undertake in vain the Cure.” This page is concerned with harvesting particular plants according to the position of their governing planet in the sky. Source: Pastorius, F. D. “A Monthly Monitor Briefly Showing When Our Works Ought to Be Done in Gardens, Orchards, Vineyards, Fields, Meadows, and Woods,” 1701. Francis Daniel Pastorius papers 1683–1719, Collection 0475, V. 7, 20. Historical Society of Pennsylvania. See Appendix C, 2.0.

There are many scales of time measured in Pastorius’ garden: the sun’s diurnal and annual presence in Germantown; the days and months of the seasons and years; the moon’s diurnal, monthly, and annual cycles; and planetary alignments of each month and year. All of these measures overlapped in his garden in some way. He did rely on various almanacs to help him (he accounts for at least eighteen in his library), but these were mostly published in England or Boston, with the exception of Daniel Leeds’s Almanacks
published between 1714 and 1720 in Philadelphia. He was interested in orienting himself to his garden in Germantown, as it was the center of his day to day life. Like he used his *Beehive* to manage his scholarly work of reading and writing, he read and wrote his *Monthly Monitor* and *Calendarium Calendariorum* to help him manage his yearly and day to day garden work. They were designed to help him remember what to do and when.

**A Re-creation of Pastorius’ *Calendarium of Garden Work***

Pastorius’ *Monthly Monitor* is a long, complicated, detailed account of his garden and all the elements of his country farm. For a contemporary reader, it is difficult to read and understand for many reasons, foremost because of its age and the fact that it is hand-written. But also because of the density of his writing, early modern vocabulary and concepts of the environment and plant world. It was his habit to write everything down, in more than one way, and he sometimes repeated himself, but more often than not, he was rephrasing ideas in many different contexts.

Appendix C, 12.0 summarizes all the tasks of his garden work accounted for in his *Monthly Monitor* onto a calendar of work for contemporary readers. A close reading of his writing suggests that from year to year, he expanded and changed parts of his garden, although some aspects remained the same from year to year. This reconstruction of his *calendarium* does not presume that his garden and the work in his garden was exactly the same every year, but is intended to summarize the totality of his garden work over thirty years (1689–1719). The calendar is organized by months as Pastorius did in his abbreviated *calendarium* in his *Monthly Monitor*. Each task is placed in a category of work by month, including: viticulture, pomology, and forestry; apiculture; soil
preparation; plant propagation and planting; and harvesting of herbs, crops, fruit, vegetables, honey and wax, and timber.

His notes on forestry in Germantown are minimal. He believed that best time to fell timber was January and December during the decrease of the moon. With regard to clearing his wooded land for fields and pasturage, he recommended girdling trees in July. To girdle a tree, one must cut through the bark of a tree in a circle around the entire tree to cut off the flow of water to kill the tree. Although, several of the first Germantown laws regulated practices of intentional burning of woods to clear land, he only discusses girdling as a technique that he used in his own woods or fields. In his *Monthly Monitor*, he was primarily concerned with harvesting wood for household use and clearing land.

Many of his notes in his *calendarium* are dedicated to his fruit trees. Every month, he lists several tasks to maintain, propagate and tend his orchard. Every month he cleaned his trees of moss and excess twigs. In January he lopped and pruned his fruit trees, lanced young trees, and uncovered the roots of his fruit trees. In February and March he covered the roots of his fruit trees with mould. In February, March, May, and October he tended his fruit tree grafts, according to the phases of the moon. He dug around each fruit tree and fertilized them with dung at least three times a year. He transplanted old fruit trees in January and young trees in February and October in the new moon. He was constantly propagating fruit and nut trees for his orchard.

Similarly, he worked in his vineyard year-round: hoeing and fertilizing several times a year; propagating vines with cuttings; binding his vines to poles, and pruning
vines to encourage fruiting. A more detailed account of his work in his vineyard can be found in Appendix C, 11.0, “Observationes propriae Vineales.” In these notes, he recorded that between 1706 and 1710 that he experimented with interplanting various vegetables with his vines, but abandoned this practice. In August of 1710, he described how he established a new nursery bed for propagating his vines; “I digged a garden Bed full 2 foot deep, carried the Clay out, and fill'd it with good black mould, to serve thereafter as a nursery, for to set my cuttings in.” These notes and others suggest that he maintained several hot and nursery beds for propagating trees, vines, shrubs, and herbaceous plants.

His notes in his *Monthly Monitor* about the timing of tending his bees are vague compared with the specificity of his notes about his orchard and vineyard. What is clear is that he practiced swarm beekeeping (see Chapter four). This method of beekeeping was busiest during the months of April, May, June, and July when bees would swarm. The work during these months was concerned with capturing swarms and establishing new hives in skeps (see Appendix C, 3.0). However, during the winter months, he fed and tended his surviving hives with food and herbs to sustain them through the cold weather.

The notes in his *calendarium* that describe soil preparation confirm that he practiced crop rotation techniques discussed in Chapter four. He always maintained at least one fallow field, plowing it and fertilizing with manure at least three times a year. He rotated several kinds of field crops in his fields, including, corn, winter and summer

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426 Pastorius, 56.
wheats, rye, buckwheat, barley, hemp, lentils, oats, and millet. He also maintained a hay field, although he made hay out of several kinds of plants in his garden as well.

His notes regarding plant propagation and planting suggest that he propagated plants using a variety of techniques (seeds, slips, rootings, and grafts) throughout the year in hot beds and possibly some kind of heated out-house or shed. In January, he set walnuts, hazelnuts, almonds, and apricots to sprout for a planting in his nursery garden beds in April. As discussed earlier in this chapter, when he planted certain plants was determined by the phases of the moon. He repeated these detailed recommendations in his calendarium. He propagated plants almost every month of the year, except November.

Most details about plant harvest from his garden are found throughout his Monthly Monitor and have been discussed earlier in this chapter. It is in his calendarium where he discussed the fact that he harvested rainwater. He dedicated an entire section of his Monthly Monitor to the qualities and recommended uses of different kinds of water, including (in order of purity): rainwater, spring water, water from wells or pits, water from streams and rivers, and lastly, water from marshes. “The purest of all is that which descends by Rain.”

No doubt, he harvested rainwater for household use. All of these notes are logical, but in an addendum to his calendarium he noted that he must be sure to harvest and save rainwater in the month of March.

Rain water ought to be gather'd from the begining to the twentieth of March, for 8 days before the Equinox, & 8 days after:) because then the air is impregnated with

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427 Pastorius, 38.
He believed the rain water that fell from the sky eight days before and eight days after the spring equinox was “impregnated” with divine seeds. He cited Nicaise Le Febvre, a French chemist appointed to the Jardin des Plantes and later the Royal Society. Le Febvre’s theories of chemistry and medical science are founded on Paracelsusian principles that argued that a universal spirit circulated in all living things. This is another example of how Pastorius’ garden was intimately connected with his belief in alchemy, astrology and the ever-presence of God in all the living beings of his garden.

Time as a dimension of Pastorius’ Ecological thinking

Pastorius did not use the word ‘ecology’ or ‘ökologie’ to describe the systematic relationships between the plants, animals, and environment of his garden. Ernst Haeckel coined the term, ökologie, almost one hundred and fifty years after Pastorius died, in his book, The General Morphology of Organisms. Haeckel defined ‘ökologie’ (ecology) as a systematic study of organisms and their organic and in-organic environments. Pastorius’s garden was just that. It was systematic, concerned with relationships between organisms and their organic and in-organic environments, the organisms being himself, his plants, and bees. The organic elements were the plant communities based on their sympathetic

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428 Pastorius, 19.
and antipathetic relationships, and his communities of plants and bees. The inorganic elements were the soil, elements of the weather, the sun, moon, and all other celestial planets known to him. He designed his garden according to these as ecological relationships. His system was based on astrology, solar and lunar cycles, the seasons, and his own observations. It was a study, like his *Beehive*, in that he was testing intellectual ideas and theories in the making of his garden. He was as concerned about his own relationship with his environment, plants, and bees as he was his plants and bees’ relationships with their own organic and inorganic worlds. In this regard, he gardened ecologically.

This chapter has called attention to several scales of time by which Pastorius methodically cultivated plants and bees in his garden. His methods and early modern theories of garden design that he referenced, although somewhat based on mythology, anticipated important concepts in the science of ecology.

There are two fundamental dimensions that contemporary theories of ecology used to measure a plant or animal’s relationships with their environments: space and time. In these theories, time is considered a resource used by plants and animals to survive. Ecologist Eric Post theorizes that, “like space, time may be available at which time is available are recognizable as the units by which we measure it.” He continues, “generally speaking, time is considered as a conceptual axis, much like space, along which we can measure ecological events and their durations.”

Similarly, Pastorius

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measured land, propagated and harvested plants at several scales of time: reproductive seasons of plants, alignments with solar, lunar, and celestial phenomena, and artificial calendars of months and days. He thought ecologically about the role of time and duration in the making of all aspects of his garden.

Pastorius designed his garden space to try to predict and take advantage of the timing and duration of ecological phenomena. Not only did he embed meaning into his garden by planting plants with symbolic meaning and nutritional value, his art of gardening celebrated time and duration of life, and death and procreation of his plants and bees.
CHAPTER 6: Drawing Francis Pastorius’ Garden

Prologue

Poesy... the loveliness of imagination. those graces of poetry

Poems & Paints can speak sometimes bold Truths, Poets & Painters are licentious youths.

Writing...Jesus stouped down & with his finger wrote on the ground, Joh. 8:6.

—Pastorius

Pastorius’s poems spoke of ‘bold truths’ about his garden and Pennsylvania’s nature and he, as a poet and artist, often deviated from common or traditional rules of grammar, orthography, and style. Through all of his writing, he narrated what he believed to be true about plants, his bees, Pennsylvania and the art of gardening, liberally reinvented European traditions in the making of his garden and how he wrote about his garden, and imagined the nature of Pennsylvania’s ecology and geography as a virtuous and pleasurable world. For these reasons, drawing Pastorius’ garden favors unconventional and imaginative methods.

He indexed many entries in his Beehive where he connected ideas about imagination with modes of making images and pictures. One of his entries for ‘imagination’ includes several citations of Paracelsus in Latin and German.
Imagination in Paracelsus’ alchemic philosophies was a kind of image making. “Paracelsus coined the German word ‘einhaltungskraft’ (the craft of image-building) to translate imagination.”435 Related to this, he proposed alchemy as one of four pillars of his theory of medicine and disease. He theorized that alchemy was not an invention of humans, but existed as a natural process in all living beings on a universal scale. Human imagination to Paracelsus, was the intermediary that read and translated alchemic natural processes of the world.436 Pastorius fully embraced these theories in his study of plants, making of his garden, and *hortenses poesis*.

The fourth pillar of Paracelsus’ theory of medicine and disease was virtue. He believed in corrupt and virtuous imaginations. Pastorius’ art (his writing, printing, and gardening), like Paracelsus’ medicine, was an ethical project, not an aesthetic exercise in style, form or proportion.437 As explained in Chapter two, for the most part, there was no clear separation between media and technique in Pastorius’ art of gardening—meaning no clear separation between the materials of his garden (plants, soil, and bees) and methods of cultivation and arrangement of plants, soil, and bees. The materials of his garden were not objects to be viewed or sensed from a distance, instead they were designed as appositions to himself as the maker, to each other, and to their environment.

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437 David Leatherbarrow, “Plastic Character, or How to Twist Morality with Plastics,” *Anthropology and Aesthetics* 21 (Spring 1992): 125. I was able to draw this conclusion based on Leatherbarrow’s conclusions about the purpose of art as theorized by the Third Earl of Shaftesbury (1671–1713): “the most important purpose of art is its ethical role rather than its ‘aesthetic’ function.” Paracelsus’ theories of medicine parallel Shaftesbury’s theories of art. They are connected by the garden as an artform.
The modes by which he gardened included writing, reading, planting, and tending. When he planted asparagus and wrote poems about his asparagus, he believed he was writing on the ground, like Jesus in John 8:6. The four drawings discussed in this chapter embrace these assumptions.

Pastorius did draw, as there are a handful of drawings and diagrams in his Beehive. More often he made images and pictures of his plants and garden in his poetry and nature printing. His entry for ‘image’ in his Beehive describes an image as “graven out of an Imagination.” To be graven is to be engraved or carved on a surface. His entry for ‘picture’ describes drawing with a pencil as intellectual and manual work: “Labours of the pencil are instructive.” Both of these describe the making of images as intellectual work of a virtuous imagination.

Entries for ‘limning’ and ‘drawing in picture’ are missing (the pages in his Beehive where these entries are found are lost). But, Pastorius used the term limning and drawing often and cited William Salmon’s Polygraphice or the art of drawing throughout his Beehive. Limn, to illuminate or paint, is a word derived from lumine, “to light up, illumine,” that was derived from medieval Latin lūmināre, meaning to illuminate manuscripts and lūmen, meaning “light, daylight, the light enjoyed by living creature, and mental illumination.” Pastorius fully understood all of these meanings and used “limning” intentionally. He did not use the word to describe drawing with a pencil, but

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438 Pastorius, “Beehive, Bee-Stock,” 618 (V2).
439 Pastorius, 470 (V2).
painting a picture or portrait, illuminating a letter or book, or adorning with light.  

Limning, drawing, and writing to Pastorius were labors of the imagination. He limned his books and letters with annotations and prints of plants (see Chapter two). His poems and pictures were graved out of his imagination and instructive to him and others. All of these terms are instructive in drawing Pastorius’ garden.

This chapter connects Pastorius’ imaginative poetry, literal descriptions of his garden, and known limits of his town lot in Germantown to reconstruct images of his garden and his art of gardening. Each original drawing described in this chapter conjectures an image of his garden based on historical analysis of his writing discussed in previous chapters, surviving reproductions of surveys of Germantown dated between 1714 and 1744, and relevant historical examples of drawings of gardens and plants.

Each drawing visualizes particular aspects of Pastorius’ modes of writing and reading about his garden, his garden as a place of recreation and work, and has its own historical context. They are drawings and limnings, in that they are methodically constructed based on evidence and in some cases measured like an architectural drawing, and employ painting and printing of plants in that manner that Pastorius illuminated his own letters, books, and notebooks. The first drawing is an emblem of Pastorius’ garden akin to the ‘Emblematic Recreations’ that he decoded in his Beehive and Deliciae Hortenses. The second is a Geistlicher Irrgarten, like the examples of German and Dutch devotional broadsides discussed in Chapter two, but has been made from Pastorius’ own

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writing and populated with images of plants cultivated in his garden. This drawing represents his garden in plan-view and, when read like a *Geistlicher Irrgarten*, walks the reader through his garden space. The third and fourth drawings are plan views of his garden, orchard, vineyard, fields, and woods of his town and side lots overlaid with drawings and prints of plants grown in his garden. These last two drawings rely on architectural drawing conventions but are also modeled upon a series of landscape and botanical drawings of gardens in Franconia published in Nuremberg between 1708 and 1714 and are inspired by techniques for writing used by Pastorius. For each of the drawings, I will analyze historical models of drawings that were familiar to Pastorius, in order to explain sources for the drawing’s content found in his writing, and describe the drawing techniques used to render his garden. Additionally, because each drawing has its own purpose and historical context, the methodology for each drawing will be explained separately.

**Emblematic Drawing of Pastorius’ *Deliciae Hortenses***

This drawing is not meant to be a complete representation of his garden or all gardens in Germantown at this time. Instead it foregrounds aspects of Pastorius’ garden that were meaningful to him in a manner that was familiar to him—an emblem. Pastorius was fully immersed in the culture of emblems before he emigrated to Pennsylvania.

Emblems were a literary genre that emerged at the beginning of the sixteenth century in Europe. David Leatherbarrow defines an emblem as “a graphic embodiment of
a thought that can be comprehended in one view." Emblems took many forms, were fluid in their use and interpretation, and were always evolving depending on their context. They were known by many names depending on their context and language of readership and were a product of and responsible for a fundamental change in how the world was read and understood from the Middle Ages to Romanticism of the late nineteenth-century. An emblem can be “variously described as imprese, emblems, iconologies, symbologies, Imagini de i Dei, Mythologia, hieroglyphs, symbola or icones, these works collectively bear witness to a systematic programme of composing, compiling, transposing and recording allegorical imagery.” Pastorius understood emblems as they were read and written as a system of symbols and symbolic philosophy that negotiated universal and local aspects of European literary, theological, political, artistic, and popular culture.

Pastorius was first exposed to emblems as a young student and read emblem books as a university student. An entry in his Beehive "tells us of Pastorius' reading of a popular and widely translated emblem book during his youth in Europe. Pastorius read this work [Saavedre Emblemata Politica (published in Italian)] during or after his stay in Jena where he had become proficient in the Italian language." He also documented in his Beehive the many forms of emblems in his European world, as it was a mode of

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443 Leatherbarrow, “Plastic Character, or How to Twist Morality with Plastics,” 127.
445 Manning, 16.
446 Manning, 16.
447 Manning, 34.
448 DeElla Victoria Tom, “The Intellectual and Literary Background of Francis Daniel Pastorius” (Evanston, Illinois, Northwestern University, 1953), 154.
writing that encoded his entire literary and experiential world: books, buildings, theology, alchemy, esoteric philosophy, visual art, and humanist pedagogy.\textsuperscript{449}

Because of this influence on his literary imagination, Pastorius dedicated a long section of his \textit{Beehive} to “Emblematic Recreations” that referred to Henry Peacham’s 1612 edition of \textit{Minerva Britanna}\textsuperscript{450}, Francis Quarles, \textit{Hieroglyphicks of the Life of Man},\textsuperscript{451} and Geffery Whitney, who published emblem books in London and Leyden in the late sixteenth century.\textsuperscript{452} He listed and defined several genres of ‘speaking pictures’ similar to emblems, including: hieroglyphiks, rebus, epitaphs, inscriptions, posies, and symbols.\textsuperscript{453} In this section he also defined ‘emblem’ at length, and wrote about his interest in and interactions with emblematic recreations while traveling on his Grand Tour and in Nuremberg. Moreover, he decoded many of the emblems from Peacham’s \textit{Minerva Britanna} book of emblems.

Pastorius borrowed Peacham’s \textit{Minerva Britanna}, from Isaac Norris. In a letter to Hannah Hill and Mary Norris in 1713, he thanked Norris for loaning him the book and acknowledged that he could not draw the images, but was interested in writing devotional, emblematic rhymes. “Cou’d I make Images, like Peacham’s dextrous hand, Then here the word of God & Sharon’s Rose shoul’d stand, with such high-flying Rimes,

\textsuperscript{449} See Manning, p. 34.  
\textsuperscript{450} The title of this book reads, ‘Britain’s Minerva.’ Pastorius also refers to Minerva in his garden in a \textit{Deliciae Hortenses} poem, see Chapter 2.  
\textsuperscript{451} Tom, “The Intellectual and Literary Background of Francis Daniel Pastorius,” 175.  
\textsuperscript{452} See Manning, \textit{The Emblem}, pp. 84, 105–7, 132–4, 198–203, 276–7, and “Select Bibliography, A List of Major Emblem Books.”  
\textsuperscript{453} All spellings Pastorius’ own. Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or, Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696.”, 75 (V. 1), Upenn Ms. Codex 726.
I underneath wou’d Scribble, that Zoilus himself thereat might hardly nibble." For the most part, he was a typical reader of emblems but in some cases, as we shall see, he transposed this tradition as commonplace in the making of his garden. In this regard he transposed the European culture of emblems to translate aspects of his world in Pennsylvania.

He dedicated over thirty pages of writing in his Beehive to this book and other emblem books and decoded the meaning of hundreds of emblematic images. He dedicated an entire section to “Buildings, Gardens & c.” For each image that he named, he included a corresponding motto in Latin. Appendix B, 3.0 lists all of the images in most of his categories that relate to the culture of gardens and plants. This account of emblems can be read as an important part of his English vocabulary about the culture of gardens that he employed throughout his writing.

The “Garden” emblem from Peacham’s Minerva Britanna is an historical model for the making of an emblem of Pastorius’ garden. The visual element of Peacham’s “Garden” emblem depicts a garden that would have been familiar to Pastorius in Franconia: symmetrical, geometric parterres, a tree allée, specimen trees that have been pruned into geometric forms, and flowering plants planted in pots. In the center of the garden is a hand placing a flower in a pot of the center parterre. All of this is contained in a picture frame made up of botanical figures and snakes. Above the image is its motto in

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454 Patrick Erben, Alfred L. Brophy, and Margo M. Lambert, eds., The Francis Daniel Pastorius Reader, Writings by an Early American Polymath, Max Kade Research Institute Series (University Park, PA: The Pennsylvania State University Press, 2019), 262. Erben notes that Zoilus (400–320 B.C.) was a severe critic of Homer. Here Pastorius is critiquing Zoilus’ cynicism. For an explanation of his reference to Rose of Sharon, see Chapter two.
Latin: “Vnum, et semel”, which can be understood as ‘One and once’ when read in context with the image and the poem about a garden below the image.

Figure 6.1. A Garden from Henry Peacham’s *Minerva Britanna* (c. 1612), page 183.

A GARDEN thinke this spatious world to be,
   Where thou by God the owners leaue dost walke,
   And art allow’d in all variete,
One only flower to crop from tender stalke,
   (As thou thinkst good) for beautie or the smell,
   Or some one else, whose beautie doth exell.

This only flower, is some one calling fit,
   And honest course wherein to lead thy life,
   Thy selfe applieng carefully to it,
Or else the heedie choosing of thy wife:
   Wherein thou wisely dost thy selfe preferre,

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Or to thy ruine ever after, erre.456

A reader, like Pastorius, read all the elements of this emblem as they were in dialogue with each-other. Additionally, a reader was expected to situate the meaning of the image, motto and poem into their own life, as they were intended to be moral lessons. The meaning of this emblem is found in the dialogue between the image, motto, poem, and the reader’s world. He extended this manner in the design of his own garden, the meaning of which can be found in its images (plant prints and narrative descriptions), botanical aphorisms and mottos, and garden poetry.

Pastorius recorded his own long-winded definition of emblem at the beginning of his “Emblematic Recreations.”

Emblems are so called ἀπὸ τοῦ ἐμβάλλειν [‘from throwing in’] from inserting or putting m.[otto] For whatsoever is laid in, embroidered, checkered or engraved of many pieces of divers Colours may properly be called an Emblem; But metaphorically (or in a figurative manner of Speech) Emblems signify Mottos or Devices, which paint at a mystical or hidden Sense of certain Pictures. Emblems are Speaking Pictures containing general Documents, Instructions & Morals, And so there must be first a Body, viz. a fair representation; secondly the Soul, to give life to the body, viz: a short but witty Motto or Word answerable to the Picture not too obscure, nor too plain. Best of all an hemistich [a 1/2 line of verse] of some different language.

Emblems require as well an artificious hand of either a Painting or Engraver as likewise a willing Brain of a Word measuring Poet.457

In this definition, he described an emblem as a ‘speaking picture’ that requires an active reader and that it must have two elements, a body (an image and a poem) and a soul (a

456 Henry Peacham, Minerva Britanna or A Garden of Heroical Deuises (London, 1612), 183.
motto) that is answerable to its body. The translation of the motto must be in dialogue with the image and poem. Elsewhere in his *Beehive*, he elaborated on these elements.

The picture which is the body must be a fair representation; and the motto, wch as the Soul giveth it life, must be witty, short & answerable thereunto; neither too obscure nor too plain, & most comended when it is an hemistich or parcel of a verse in some different language.458

This definition is Pastorius’ own commonplacing of emblem theory and ‘emblematic recreations’: a picture composed of an image or assemblage of images, a motto in dialogue with the picture, and poetic verse in ‘another’ language that collectively conveys mystical or hidden meaning. Pastorius’ ‘other languages’ were English, Italian, German, sometimes French, and his own ‘botanical language’ derived from the plants of his own garden (see Chapter two). An emblem is an image-text that he employed in making his garden. This will be the basic structure of “Pastorius’ *Deliciæ Hortenses,*” my own emblem of Pastorius’ garden.

There is one emblem in Pastorius’ *Beehive* list with an explicit connection to his Germantown garden. In his section, “12. Herbs and Flowers,” he listed several kinds of flowers and garden tools, including an emblem about a rose and garlic: “a Rose increasing her Smell by reason of garden-garlick growing under it.”459 The meaning of this emblem in his mind, can be decoded because he wrote about planting garlic underneath his roses in two sections of his *Monthly Monitor*.

To mend & augment the Smell of your Flowers.

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458 Pastorius, 524 (V. 2).
459 Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or, Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696.,” 84 (V. 1), Upenn Ms. Codex 726.
Item, Inoculate Centofolia, which comonly have but an ordinary Smell, into such Rose trees that are sweet-scented; and this the ofter the better.

Item, plant Onions, Garlick & the like strong Smelling things under your Rose-beds.⁴⁶⁰

... This foregoing Disposition or Ordering of my Garden beds. / . I one thought to be the very Best; But now am of Opinion, that those plants which nourish themselves with the same Juice (containing either Saline, sulphureous, mercurial, bituminous, vitriolous, tartarous or metallick particles) should not stand near together; Therefore I shall hereafter avoid to set in the same place the Aromatick or Cathartick plants, and always part the bitter. & c. ...between Garlick & Roses there's a Sympathy, because the one requiring a stinking & the other an odoriferous Juice, they do not quarrel about their food, but thrive in the same ground and are as good Neighbours helpful to one another, the Rose here bearing the Sweeter Flowers. The good Intelligence between the Fig tree & Rue, because the Juice which agrees with the first, suits not the Palate of the last.⁴⁶¹

In the second passage, he cited Francis Bacon as an authority for a theory of sympathy and antipathy in plant communities. From Pastorius’ explanation here, the emblem can be decoded as a symbol of this ecological phenomenon as it was understood by Pastorius and that difference and variety can be mutually beneficial and even amplify beauty in a garden. This is one example of Pastorius’ ‘emblematic recreations’ as it was applied in the making of his garden and vice versa, and another example of Pastorius’ hortenses poesis. But this time, the symbolism is rationalized by science and horticulture.

Pastorius also assembled another collection of garden emblems as a poem in his Deliciae Hortenses, “Etliche Emblemata.” In this poem he situated Latin mottos next to several kinds of garden images: ornamental and utilitarian plants, a gardener,

⁴⁶¹ Pastorius, 72.
husbandman, tree tender, and techniques for cultivating and tending plants. The mottos are not all his own original writing, as they sometimes quote others, but this list includes plants and techniques from his own garden.

Etliche Emblemata:

Beÿ einem Blumen Krantz: Gratia non Meritum
Jtem, Fair to day, to morrow hay. Gramen amoenum Cras erit foenum.
Semper parere parata. Hinter einem Palast: Rapiunt Coelestia Curae.
beÿ Mertzen Veyl: Zephyro Spirante virescunt.
beÿ einer noch geschloßenen Tulipan: Expectat Solem: Oder Sole latente latent.
beÿm Mertzenbrecher: Vere revertor. hirundinis instar.
beÿ einem der peltzt: Tandem fit Surculus Arbor.
beÿ einer Tulipan und Tuberosa: Jsta placet rutilans Oculis, haec Naribus alba.
beÿ etlichen Bienen im Baum=und Blumen Garten: Trahit Sua quemque Volutas.
beÿ einer gemahlten oder abgeschillerten Blum: Du hast eine glänzende Angesicht: doch solche Rosen riechen nicht.
Qui pingit florem, non pingit floris odorem.
beÿ Disteln: Nemo nos impune lacessit.
Steriles dominantur avenae.
Dieselben auszujetten, Daer moet ghy wel opletten. Radicitus.

Several Emblemata:

By a flower's crown: Favor, not merit.
Jtem, Fair to day, to morrow hay. Lovely grass will be hay tomorrow.
By a Heliotrop: The sun has given [me] shape and name. Splendor through compliance. Always to appear ready.
Parteres always ready. Behind a palace: Worries snatch away divine thoughts.
by many Violets: They thrive when the west wind is blowing.
by one closed Tulip: It is awaiting the sun: or It is hidden while the sun is hidden.
in the case of a daffodil: In the spring I shall return, like the swallow.
by one graft: Finally, the little twig will become a tree.
by a Gold=Lily: The white color is superior. Sincerity above Gold.

Francis Daniel Pastorius 1651-1719 and Christoph E. Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae, Studies in German Literature, Linguistics, and Culture v. 2 (Columbia, S.C.: Camden House, 1982), 60.
by a Tulip and Tuberosa: This one—the one with the reddish color—is pleasing to the eyes, that white one, to the nose.

by several beans and trees=and flower garden. His own pleasure drags each one.

by one finely ground or iridescent flowers: You have a lustrous
Face: still roses not rich
He who paints a flower doesn't paint its fragrance.

by thistle: No one challenges us with impunity.
by weeds: They thrive unbidden. [Virgil, Georgics, 1, 55]
Barren oats prevail. [Virgil, Georgics, 1, 154]
Of the present. There you must pay careful attention to. With root and all.
Ultimately wheat: The world wants to do away with the wicked, but as for you, tolerate the wicked. Matt. 13:25.463

This poem and the rose emblem discussed previously situate the culture of emblems in his own garden in Germantown and suggest another manner by which he read and wrote his garden—it documents his own system of symbols encoded in his garden.

“Pastorius’ Deliciae Hortenses” has been drawn to be an emblem that conveys a theme common in much of Pastorius’ garden poetry—that plants were the material of God (See Figure 6.2 and Appendix E, 1.0). It is this belief that compelled him to garden as he did and therefor represents the quintessence of his garden and ideas about gardening.

This belief is well expressed in five lines of verse in Latin and German found in his *Deliciae Hortenses* (*Garden Recreations* poems). Each line rephrases the same assertion in a slightly different way.

*Non levis est Cespes, quin probet esse Deum.*
*In all that grows God's honor flourishes.*

*Der bunten Blumen-pracht Zeigt Gottes Wunder-macht.*
*The colorful blossom-glory Shows God's wonder-power.*

*Laudat et extollit quaelibet herba Deum.*
*Every plant praises and extols God.*

*Jedes kraut sammt seinem Samen, Lobt und preiset Gottes Nahmen.*
*Any herb seeds his seed Love and praise God's name.*

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464 Pastorius and Schweitzer, 58.
In this short poem divine life is represented as grass, flowers (blossoms), plants (which could be any kind of plant including herbs, trees, and vines), and seeds. His mention of grass suggests that, to him, even plants deemed ‘insignificant’ or common are divine. He saw color as an outward display of divinity and power. In other poems, he described odor and scent as powerful outward qualities, but this is not represented here. And lastly, it is the plants that speak, praise, and plant the seeds of God on earth. All of these biomorphic\textsuperscript{466} metaphors explain, in part, how he interacted with plants and why he gardened as he did.

The drawing itself has several elements, assembled to make an emblematic image of his garden. There is a border of clover, flax, and grape vines to represent Germantown. This frame is an interpretation of the seal of Germantown, designed by Pastorius himself in 1691. In this seal, he included flax, grape vines, and a weaver’s spool inside a clover.\textsuperscript{467} Inside the frame, a hand of the gardener (Pastorius) draws a circle around his garden as a symbol of eternity. The emblem depicts an enclosed garden, because Pastorius enclosed his garden with a fence, but also because he wrote about the eternal inward and outward natures of his garden. Inside the circle is an asparagus shoot and fronds to represent the utility of plants and white blossoms of \textit{Polianthes tuberosa} to represent the beauty and pleasure of plants. Pastorius dedicated multiple pages to these two plants in his \textit{Monthly Monitor}, loved them, and carefully cultivated them in his garden. Embodied in these

\textsuperscript{466} Biomorphic in the sense of biomorphism as an attribution of biological qualities to God. See OED, “biomorphism.”

plants is a seed with an ‘eye of understanding’ that refers to Ephesians 1:18–19. Ephesians exemplifies Pastorius’ belief that the inward nature of plants were his guide that illuminated his intellectual and spiritual being. Below this image is his poem about the divinity of plants; “There is no grass so insignificant....Love and praise God’s name.” Lastly, there is a Latin motto quoted from the title page of Pastorius’ Deliciae Hortenses above the drawing. The motto speaks directly to the gardener and translates: “Nil semper floret. [Nothing blooms forever]” All of these elements read together describe Pastorius’ garden as he made it to be sacred, and his intellectual and spiritual relationship with plants. This is an image of his own piety as it was based on a kind of trinity: humanity, botanical life, and God.

The drawing techniques and process used in the making of this drawing include several steps that mirror the process of ‘drawing’ and publishing emblems like those of Peacham’s Minerva Britanna. The emblem’s design is based on a close reading of the aforementioned poem, sketched botanical forms that visualized the symbolism of the poem. These botanical forms were selected from and based on elements of Pastorius’ garden as he described them in his Beehive, Deliciae Hortenses and Monthly Monitor. The drawn image of the emblem was first conceived with pencil sketches of plants then

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468 Cited from Ephesians 1:18–19, The Holy Bible, Containing the Old and New Testaments. Oxford: Printed by John Baskett, 1719. “18. The eyes of your understanding being enlightened; that ye may know what is the hope of his calling, and what the riches of the glory of his inheritance in the saints, 19. And what is the exceeding greatness of his power to us ward who believe, according to the working of his mighty power;” Also see Manning, p. 30.


470 Pastorius and Schweitzer, Deliciae Hortenses, or Garden-Recreations; and Voluptates Apianae, 66 & 95. This is a citation of Cicero, Philippicae, XI, 39, found in Pastorius’ Poem 20.
composed and drafted with pen and ink. The image, poem, and motto of the emblem were connected in the second phase of the drawing. At this point, the image was scanned and transferred into a computer based graphic design program to place and design the typography of the emblem’s motto and corresponding poem. This is the modern equivalent of an etched copper plates and letterpress typography that was used in seventeenth-century publishing. The drawing and printing techniques are modern, but they emulate the making and publishing of an emblem as a media type that was familiar to Pastorius.

This drawing and its corresponding text rely almost entirely on literary and botanical metaphors (see Appendix E, 1.0). One must read Pastorius’ own writing about his garden in order to translate the emblem. It is the most allegorical of the three drawings. The second drawing also relies on symbolic images and literary metaphors, and requires an active reader, but also works to describe his garden as a place with dimension, space and orientation.

**A Germantown Geistlicher Irrgarten**

The purpose of this drawing is to visually represent some of the primary elements of Pastorius’ garden but more importantly, to walk you, the reader, through the space and dimension of his spiritual and material garden. As discussed in Chapter two, a *Geistlicher Irrgarten* is a kind of devotional media that was designed to walk a reader through a garden labyrinth and induce an intense mystical experience. This kind of drawing relied on symbolism, the ability of a reader to translate this symbolism, and typography that oriented and moved a reader along a path in a garden space so as to induce a
psychosomatic experience—to remove a reader from the outside world to his or her own inside world of a spiritual garden. To read this drawing, one must actively follow the writing with their finger and turn the paper to orient oneself to the writing. This drawing is made to walk you through Pastorius’ Germantown garden (see Figure 6.3).

Figure 6.3. “A Germantown Geistlicher Irrgarten.” Pastorius grew each of the plants that illuminate the perimeter and “Four Springs.” **Left:** entire Irrgarten. **Right:** Beginning of Irrgarten at the rose leaf and “I. The Origin and Progress of Plantation Work.” The top edge is his woods, the top section is his orchard, the four quadrants describe his garden, and the bottom right is his vineyard. It is a Geistlicher Irrgarten in the Pennsylvania woods drawn at 1”=20’-0” scale.

Because Chapter two analyzed two Geistlicher Irrgarten, this section will only restate some important details about this kind of devotional textual image and how it relates to this image of Pastorius’ Geistlicher Irrgarten. First, the making of this kind of textual image can be explained, in part, by the significant expansion of printed media in
Europe beginning in the sixteenth century. This type of devotional broadside required a sophisticated mastery of typesetting and printing techniques.

Pastorius purchased, traded, and borrowed books to read and collect, but he was also very interested in the mechanical art of typography, printing and culture of publishing. One of his letters to Lloyd Zachary was a history of printing in China and Europe. He frequently employed techniques of painting, printing, and drawing in his own making and illuminating of his books and manuscripts mentioned in Salmon’s *Polygraphice*. He also annotated Pexenfelder’s chapter on the history of printing and typography (see Figure 2.3). His interest in printing and drawing was intimately connected with his reading, writing, and gardening.

The printshop at Ephrata Cloister in Lancaster County, Pennsylvania, established ca. 1743 is an example of the influence of German printing technology and German Pietism on the establishment of a publishing and printing culture in colonial Pennsylvania. Their print shop mastered and elevated the art of printing and illumination for German-American readership in the mid eighteenth through the nineteenth century. Although they established their print shop over twenty years after Pastorius’ death, they

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472 This conclusion is based on Brandt but also my own experience setting type. To set type as a labyrinth using traditional methods required careful planning, calibration, experience and skill to achieve alignments and legibility in multiple orientations. Those that printed textual labyrinths were master printers.
were, like Pastorius, influenced by German traditions of publishing, writing, and illumination. Otto’s *Geistlicher Irrgarten* is one example of mastery of these traditions established in Pennsylvania in Pastorius’ lifetime (see Figure 2.7).

The development of this printed artform can also be explained by evangelical religious movements like German Pietism that encouraged close mystical readings and writings of Biblical scripture (see Chapter one). Readers believed that the intense concentration required to read Biblical scripture in the form of a labyrinth emulated Biblical space. As previously discussed in Chapter two, Otto described himself as actually in a garden of paradise. The reader actively walked through ‘Biblical’ space of a paradise garden so as to induce a mystical connection with God. This media also interpreted and amplified the Biblical symbolism of the garden and plants because it actively oriented the reader in time and space to the very divine beings of Biblical stories and theology.

The structure of “Pastorius’ *Geistlicher Irrgarten*” is based in part on a conjecture of how Pastorius arranged his garden in plan. The geometry of enclosed symmetrical quadrants was a familiar geometry of formal gardens in Franconia. Based on this, he would have established a reasonably symmetrical arrangement of raised beds and enclosed these ‘parterres’ with a fence. Several entries in his *Monthly Monitor*, describe how he established several kinds of raised beds, each particular to their use; plant sympathy and antipathy, sun orientation, types of plants based on size and how they were tended, soil types, and nursery beds for seeding and prorogation. In this drawing, a
labyrinth of his own words forms the quadrants of his garden space, orients the reader to these quadrants, and eventually to the entrance of his orchard.

The structure of these quadrants formed by a labyrinth can be read from two points of view: as a plan of his garden and as an experience of walking through the labyrinth of his garden. You can read the drawing in plan-view not unlike the plan views of the garden at Altdorf University (see Figures 1.4 and 1.6). Its elements have rationalized dimension at a scale of 1”=20’-0”. This reading communicates a sense of scale, orientation, and physical structure of the garden. The second point of view is a more active reading of his gardens space, your eyes and fingers will follow the text through the garden’s imaginary space. This point of view will orient you, the reader, to Pastorius’ own mystical relationship with his garden and plants. It will activate the psychosomatic (mind and body) relationship between the reader and the labyrinthian garden. This drawing is designed to demonstrate how Pastorius engaged with his garden as a spiritual and physical place.

A second basis for the structure of this drawing are the traditions of Geistlicher Irrgarten as a kind of printed devotional broadside. Brandt defines this kind of media as “printed objects incorporating a fusion of image and text intended to provide the reader with spiritual edification.” It is an image text made in the form of a garden labyrinth. “Pastorius’ Geistlicher Irrgarten” is inspired by the image text of Otto’s Geistlicher Irrgarten because it imagines a garden of paradise in Pennsylvania not unlike Pastorius.

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Pastorius often referred to his home and garden in Germantown as “an enclosed and well-watered GARDEN.” This metaphor is a direct citation of Isaiah 58:11: “And the LORD shall guide thee continually, and satisfie thy soul in drought, and make fat they bones: and thou shalt be like a watered garden, and like a spring of water whose waters fail not.”

The formal structure of Otto’s devotional broadside is described as a garden of ‘Four Springs.’ This motif was the most common type of Geistlicher Irrgarten printed in Europe and America. Its conceit is based on medieval imagery of the four rivers of paradise. The text is manipulated to form the image of the four rivers of paradise “as it twists into the form of a garden maze. While arresting the eye by combining image and text, the Four Springs broadsides engage other senses by encouraging verbalization of the rhyming story and cleverly replicating the bodily movement needed to traverse a structural labyrinth or garden maze.” The reader must trace the text with their eyes and finger, lift and turn the page multiple times to reach the end of the story. Not only is reading here a performative act, the readers mind and body trace the form and space of a labyrinthian garden.

There are two aspects that are particularly interesting about Otto’s labyrinth transposed into the image of Pastorius’ Irrgarten. Otto’s labyrinth is unicursal like most

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477 Erben, Brophy, and Lambert, The Francis Daniel Pastorius Reader, Writings by an Early American Polymath, 300.
480 Brandt, 3–4.
classical and religious images of labyrinths. It leads the reader along a singular path. The experience may be intense and uncomfortable. The reader is not given choices, as he or she is guided to the end. This is very different than the multicursal labyrinths of literary philosophies of early modern and modern European traditions. A multicursal model introduces the reader to multitudes of choice. Otto’s labyrinth is connected to traditions of classical and religious unicursal labyrinths—as was Pastorius. He saw Jesus and the Bible as the guide and talks of walking with Jesus in his garden. But Pastorius’ also had his own ideas about human liberty, reading, and nature (particularly his belief that religion was a personal choice, his inventive commonplacings found in his Beehive, and plant ecology) that suggest that he was operating in and fully understood the traditions and theories of a multicursal intellectual labyrinth. Given this contradiction, Pastorius’ Geistlicher Irrgarten has been designed as a melding of both models—there are choices, diversions, and appositions connected to a singular guided path.

The second aspect of Otto’s labyrinth transposed into this rendering of Pastorius’ Irrgarten is the fact that the labyrinth begins and ends in the same place. The end of a classical image labyrinth is usually at the center of the labyrinth, but in this case, the end is the beginning, so the labyrinth traverses the whole space of the garden in a singular reading. (This is as opposed to a reader walking through the labyrinth to its center, then retracing their steps in reverse to exit the labyrinth.) This aspect has been retained because of Pastorius’ repeated citations of Genesis 3:19 in his garden poetry (for one

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482 Doob, Chapter 2.
example see Appendix D, 3.0). “In the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it wast thou taken: for dust thou art, and unto dust shalt thou return.”483 This belief is a second foundation of his garden. (The first being that all living beings are divine.) Pastorius’ Irrgarten begins and ends in his orchard for this reason and because he planted his orchard before his garden and also because his own history of gardens begins with the Garden of Eden and ends with his own garden in Germantown.

This drawing of Pastorius’ garden used a poem found in Pastorius’ Ship-mate ship and his “Seed Report” found in his Monthly Monitor. It intentionally combines his literal with his metaphorical writing. Both texts speak to the meaning of his garden as it was central to his life in Germantown. One part of the prologue to his Ship-mate ship poems is a letter that he wrote to Hannah Hill and Mary Norris on August 20, 1718 to commemorate their arrival in Pennsylvania. The letter describes their journey as a pilgrimage to “an enclosed and well-watered GARDEN”484 of Philadelphia. It is as if he emigrated to Pennsylvania to make a garden (not to found Germantown). Otto’s Irrgarten also included a prologue to explain to the reader how to read the Irrgarten and why it was important. The Ship-mate ship poem used to make this Geistlicher Irrgarten speaks to his belief that his garden in Germantown was part of a larger history of spiritual gardens.

The first text that makes the image of his Irrgarten is his poem, “I. The Origin and Progress of Plantation-Work.” This poem can be read as a biblical history of gardens

483 The Holy Bible, Containing the Old and New Testaments [Electronic Resource], Genesis 3:19.
484 Erben, Brophy, and Lambert, The Francis Daniel Pastorius Reader, Writings by an Early American Polymath, 300.
and gardeners. It is a collection of thirty-five two lined verses to symbolize what he calls the end of their “Climacterick,” their thirty-five years together in Pennsylvania. Pastorius’ *Irrgarten* has been ordered as “Four Springs.” At the center of these “Four Springs” are images of plants described in the poem that represent Adam in the Garden of Eden, Abraham as a planter of trees, Noah as a planter of a vineyard, and Solomon’s garden of pleasure. The images of these “Four Springs” are of plants that Pastorius cultivated. Adam’s Eden is represented by seed pods of fennel and cites Genesis 2:8, 15, and 2 Esdr. 3:6. Noah’s vineyard is represented by a grape leaf (a Pennsylvania native species) and cites Genesis 9:20 and Psalms 104:15. Abraham’s orchard is represented by a leaf of a peach tree and cites Genesis 21:22 and Proverbs 33:33. Solomon’s Gardens of Pleasure are represented by a rose and cite Ecclesiastes 2:5 and 1 Kings 11:3. The poem ends in the fourth quadrant (bottom right) but the labyrinth continues with his “Reportium Seminale” (Seed Report) to complete this quadrant, the enclosure of the entire garden, and the orchard at the top. The list is of course alphabetical, an *ABC Krauter* of sorts. The labyrinth ends near where it began, near the entrance of his orchard. The form and content of this *Irrgarten* represent aspects of Pastorius’ spiritual and material garden in Germantown.

There are two kinds of drawing techniques used to render this drawing. First, the textual image was made by placing verse from his poem and plants from his “Seed

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[^485]: “Climacteric, Adj. and n.,” in *Oxford Online* (Oxford University Press, June 2020), https://www-oed-com.proxy.library.upenn.edu/view/Entry/34310?redirectedFrom=climacterick (accessed June 12, 2020). A ‘climacteric’ in this use can be understood as “a critical period or moment in history, a person’s life or career.”
“Report” along the path of a labyrinth rationalized with geometry and scale. This emulates setting thousands of pieces of type in the form of a labyrinth. A grid and larger zones of the garden (the quadrants, orchard, and enclosure) and a place for the orchard at the top of the page was established first. Second, a labyrinthian path that the text of the poem followed on the page was drawn and tested. Lastly, the typography was set along this path.

After the basic structure of the Irrgarten was set, the perimeter of the print, ‘Four Springs’ and garden was illuminated with botanical images. These images were made by printing, plants found in Pastorius’ garden in the manner that Pastorius printed plants (see Chapter two and Appendix C, 7.0). The plants were selected from Pastorius’ plant lists and entries in his Monthly Monitor. Only one edition of “Pastorius’ Geistlicher Irrgarten” was made (see Appendix E, 2.0).

This image text relies on literary and botanical metaphors but also works to describe the space, dimension, orientation and order of Pastorius’ garden. It is an allegorical and literal drawing. Similarly, the third and fourth drawings in this set describe the physical dimensions of his plants, garden, orchard, vineyard, and fields in a plan and compositions of plant prints.

A Germantown Landscape:

Plant Studies and Plan Views of Pastorius’ Garden, Orchard, Vineyard, and Fields.

These drawings have been made as palimpsests on surfaces that encourage erasure, layering, and coincidence. They represent his garden in multiple dimensions and approximate early-modern drawing and erasable writing techniques familiar to him—use
of a writing table, stylus, pencil, and metal-point drawing. These drawings represent his garden in this manner because an image of his garden can only be conjectured based on his writing and his writing exemplifies his maniacal scholarly habits obsessed with correspondence and translation (see Chapter two). His garden was always evolving and there is no physical evidence or drawings to confirm details of his garden with exactitude. These drawings are designed to represent the basic structure of his garden but more importantly, his interest in ephemeral qualities of plants, microscopic, and macroscopic dimensions of his garden.

The structure of these drawings are based on the superimposition of the physical and botanical space of his garden. The first drawing is drawn at 1”=200’-0” and shows the entirety of his town and side lots as they related to each other and Germantown Avenue. The second is drawn at 1”=20’-0” and shows the arrangement and proximity of his vineyard, apiary, garden, and orchard to his house and Germantown Avenue. They both conjecture the location and outward nature of his garden, orchard, vineyard, and fields based on his own written descriptions and surveys of Germantown. Outward nature here being their orientation, dimension, and form. The botanical dimension is layered over the plan view with prints of plants grown in his garden that represent his interest in the inward nature of plants—inward being, not visible to the naked eye and their metamorphic qualities.

These drawings are the most literal of all the drawings as they have been rationalized based on surveys, observations and accounts of plants recorded in Pastorius’ writing. However, because they are palimpsests and conjectures, evidence of associative
decisions about the form and material of his garden and plants are drawn to remain visible to the reader. Unlike the precision of Furttenbach’s typology of German town gardens, these drawings celebrate the fact that Pastorius did not think of his garden as a type fixed in time or place—his garden was made in sympathy of Adam and Genesis 3:19 and like his associative and multi-lingual intellect.

These drawings are based on two historical models. The first being a published collection of garden views with illustrations of plants published in Nuremberg between 1708 and 1714, *Nürnbergische Hesperides*. This book illustrated a selection of gardens in and around Nuremberg in two dimensions. Each garden was represented with an aerial landscape view overlaid with a detailed study of a plant specimen. The plants were specific species grown in each garden. In the case of all of these gardens, all the plants were a species of citrus fruit, hence the theme of the book, *Hesperides*. The collection of illustrations also connected these gardens, their collections of citrus fruit trees with the Lake Garda region of northern Italy. This model is appropriate because Pastorius likely visited many of these gardens but also because it emulates his interest the intimate lives of plants in a garden—the forms of their leaves, structure and form of their fruit, branching patterns of their stems, and forms of their flowers and seeds.
Figure 6.4. *Pomo d’Adamo cerato. Im Scheuerlschen garten an der Bucher-Straßen.* (garden view, parterre and productive gardens, barns etc.). Source: Johann Christoph Volkamer (1644–1720). *Nürnbergische Hesperides.* Nürnberg: Zu finden bey Johann Andreä Endters seel. Sohn & Erben, 1708, p. 170 (Digitized by: The Getty Research Institute).

The second model for this drawing is based on and deploys early-modern technology of erasable writing that encouraged sketching and practice. Although most of Pastorius’ writing that has survived is written in pen, also apparent in his manuscripts are his use of a pencil, prints, ideas about printing, an interest in cyphers, secret writing,
‘drawing in picture,’ ‘drawings of God,’ ‘drawings near to God,’ and modes of writing.\footnote{Pastorius’ index, “Beehive, Bee-Stock,” (V. 3).} Pastorius also drew shapes that animated poetic palindromes\footnote{Pastorius, 442 (V. 2).}, humorous pictures of pipes\footnote{Pastorius, 161 (V. 1).}, and sometimes visual diagrams to explain his ideas about divinity and mortality\footnote{Pastorius, “Francis Daniel Pastorius Papers 1683–1719,” (v. 8).}. He used images, icons, and diagrams in addition to words to communicate and study ideas about the world and language. Given the volume of images and writing, clarity of the writing in his notebooks and expense of paper, no doubt, he sketched pictures and diagrams, and drafted poems and aphorisms with a pencil or on an erasable writing tablet before he finalized them with pen to paper. These drawings emulate his process of writing as a constant, everchanging layering of ideas, meaning, cross references, and indexing.

He mentions the use of a writing-table in his Beehive, “Zachary athirst for pen, ink & paper, but for a writing-table.”\footnote{Pastorius, “Beehive, Bee-Stock,” 708 (V. 2).} Here he is referring to his friend and student Lloyd Zachary (see Chapter three) and his desire for lots of pen and paper because of his use of a writing table. They were a common, portable tool for writing with a stylus that allowed the writer to repeatedly write, erase and rewrite notes on the same page. Writing-tables were tablets made of prepared wood, ivory, or paper for taking notes or
They prefigured the use of pencils for sketching landscapes and taking notes.

From classical antiquity, the commonest form of writing was on an erasable surface made of wax, using a metal stylus rather than pen and ink. ...Styluses leave only a faint trace on regular paper or parchment, but leave a clear dark line when used on paper or parchment coated in gesso and glue or other special coatings. ...'Writing tables' or 'table-books' were usually composed of a printed almanac bound together with erasable leaves. Ink, metalpoint (stylus), and graphite could easily be erased from these leaves with a moist sponge.

All the textual evidence referenced so far in this dissertation was written by Pastorius with a pen, and gall, black, red, and green inks made by him, because that is what has survived and remains legible. Although Pastorius excelled at penning his intellectual and garden life so that it could be read three hundred years later, he was very much interested in transient and metamorphic modes of expression. His interest in ciphers, secret writing, and plants are cases in point.

The Renaissance method of metalpoint (or silverpoint) drawing technique was similar to a writing-table in its method and effect, but more exact in its execution. Metalpoint drawing used prepared paper or canvas and a metal stylus (most often silverpoint). The drawing surface, like a writing table, was prepared with gesso and other kinds of mediums that reacted with the metal tip of the stylus and left a dark line on the surface. The thickness and quality of the lines varied based on the stylus. The lines, especially

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492 Peter Stallybrass, Michael Mendle, and Heather Wolfe, Technologies of Writing in the Age of Print, Exhibitions at the Folger (Folger Shakespeare Library, 2006).
493 Stallybrass, Mendle, and Wolfe.
those made with a silver, patinaed beautifully. Albrecht Dürer and members of his studio worked with silverpoint.

![Columbine and Bumblebee](image)

**Figure 6.5.** *Columbine and Bumblebee*, ca. 1522-1525, silverpoint, by Hans Baldung Grien (member of Dürer’s studio). Source: Fritz Koreny. *Albrecht Dürer and the Animal and Plant Studies of the Renaissance*. Boston: Little, Brown and Company, 1985, p. 199. [SCAN BETTER IMAGE in library]

There are silverpoint drawings catalogued as a part of a retrospective exhibition in 1985 of Dürer’s studio’s animal and plant studies. They are process drawings drawn from
direct observations of plants and animals and used to develop finished paintings and prints. The method was used widely in the Netherlands and in Dürer’s studio in Nuremberg in the sixteenth-century. These methods were derived from Renaissance theory of disegno as a theoretical foundation of architecture, sculpture, and painting.

Disegno as theorized by Leon Battista Alberti is the process by which an architect used drawing as a tool to connect imaginative thinking with making—lineaments and structure. Lineamenta is that which has been derived from the mind: “let lineaments be the precise and correct outline, conceived in the mind, made up of lines and angles, and perfected in the learned intellect and imagination.” (This is like the quincunx of Pastoirus’ orchard and vineyard.) Structure is the construction of the material of nature. (This is like the plants, soil, and water of Pastorius’ garden.) The theory is thus:

first we observed that the building is a form of body, which like any other consists of lineaments and matter, the one the product of thought, the other of Nature; the one requiring the mind and the power of reason, the other dependent on preparation and selection; but we realized that neither on its own would suffice without the hand of the skilled workman to fashion the material according to its lineaments.

This summary is found in the prologue of On the Art of Building in Ten Books. This is not to suggest that Pastorius read Alberti. There is no record of this in his Beehive.

However, he did acknowledge Agrippa as “An Architect, Master builder with all the

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497 Alberti, 5.
beauty & Symetry, there order & invention could devise.”\textsuperscript{498} Pastorius’ knowledge of design and drawing was interconnected with painting, sculpture, architecture, and writing.

Renaissance methods of drawing developed by Dürer’s studio, used by Pastorius and in the design of architecture and gardens are explicitly connected to writing. “Paper and parchment were durable and expensive materials and it very likely that an artist would first study a complex composition on a reusable surface, such as a wax or wooden tablet treated with ground bone, that would be later scraped down and recycled for another project.”\textsuperscript{499} Pastorius as a Humanist scholar, fully understood and used the explicit mediation between writing and drawing in the design and making of his garden and the design of buildings like his apiary and house.\textsuperscript{500}

The “Germantown Landscape” drawings approximate both the erasable methods of a writing table and the exactitude and effect of disegno in reconstructing Pastorius’ garden—I prepared the paper and wood panel in places with layers of gesso, I drew lines with various weights of pencil, pen, and illuminated parts of the drawing were with watercolor, plant specimens, enamel paint, and layers of beeswax. In this manner, Pastorius’ garden is rendered as a melding of writing and drawing.

\textsuperscript{498} Pastorius, “Beehive, Bee-Stock,” 767 (V. 2). Found in his entry indexed “Architecture.”
\textsuperscript{500} Pastorius, “Beehive, Bee-Stock,” 572 (V. 2). “Concerning the design on fort, ünter sand [shelter or cabinet with storage]. I took the task in hand.” Here Pastorius described himself as the designer of a shelter or cabinet and later described the design of the Orphan house building in Glaucha (mentioned in Chapter one) as an intellectual undertaking in his \textit{Beehive}. 
The drawings’ content was derived from a close study of the dimensions and
details of land surveys of Germantown originally drafted by Christian and Joseph
Lehman in 1714 and 1746 and Pastorius’ own notes and poems about his garden found in
his Monthly Monitor, Beehive, and Deliciæ Hortenses. These drawings connect the
dimensions and orientation of his lots found on these surveys, his narrative poems and
descriptive entries in his notebooks. His poems and entries in his notebooks offer clues as
to how he ordered and structured his garden. Here are three examples excerpted from his
Deliciæ Hortenses (Garden Recreations poems).

Upon my wooden Truckle-bed in the Garden:
Who on this Lolling-board lays down his head and slumbers,
Between Musk-Melons lies and cumberless Cow-cumbers.\(^{501}\)

My Pot-herbs J do plant among Nurssuselies.\(^{502}\)

Here at the Entrance of my Garden There stands a Sentinel or Warden,
Whose Names are Rue, Mint and Thime, Born in our unrefined Clime:\(^{503}\)

These three excerpts suggest that he had built a bench big enough for napping inside his
garden and placed it near or in his garden bed with melons and cucumbers, that he
planted tender ‘pot-herbs’ in his nursery bed for fragile seedlings and cuttings, and that
he planted Rue, Mint, and Thyme on either side of the entrance of his garden. The
drawing also references various plant lists found in his Monthly Monitor and Artzney und
Kunst. A vague planting plan has been developed by comparing both of these kinds of
plant lists and his notes in his Monthly Monitor. These drawings collect information

\(^{501}\) Pastorius and Schweitzer, Deliciæ Hortenses, or Garden-Recreations; and Voluptates Apianae, 50.

\(^{502}\) Pastorius and Schweitzer, 65.

\(^{503}\) Pastorius and Schweitzer, 71.
found on Lehman’s surveys and Pastorius’ own writing to make a comprehensive image of his garden, orchard, vineyard, and fields calling attention to specific plants. They are drawn images that conjecture the totality of his garden and some details about plantings, enclosure, furniture, and order and arrangement of plants and paths based mostly on textual evidence.

Figure 6.6. “A Germantown Landscape” at 1”=200’-0” (drawn on cotton 100lb paper). Upper right is Pastorius’ ‘side lot’ (10 ½ acres) where he grew his field crops is in the upper right. His ‘town lot’ (39 acres) extends the entire length of the bottom of the drawing. The diagonal line along the left edge of the drawing is Germantown Avenue. His house, vineyard, apiary, garden, and orchard are on the far left of his town lot. Most of his town lot remained woods in his lifetime. Noted in his woods are marked trees and Bildbaum discussed in Chapter two.
Figure 6.7. Detail of “A Germantown Landscape” at 1”=200’-0”. Southern edge of Pastorius’ town lot. From left to right: House & yard, vineyard & apiary, garden, orchard, animal yard & outbuilding, and woods / Irnhaín. Above town lot (9 lots west) is the Germantown Upper Burial Ground. Plants shown include (bottom left) leaves of grape vine, peach, cherry, and apple trees; (above clockwise) fig, carrot, raspberry, dandelion, basil, nasturtium, and fennel leaves.

These drawings are thick and, because of their layers, enigmatic (Figures 6.6, 6.7, 6.8, & 6.9). Like Pastorius’ garden—they are layered assemblages, inscribed, and at times, printed with botanical material, pigment, and ink. Their primary surfaces are hot-press cotton, 100lb. print-making paper and prepared poplar plywood. First, the surface of the paper and board were treated with a combination of gesso, paint pigments and charcoal on select areas. After the limits of the garden, orchard, vineyard, and fields,
were drawn onto the surface, areas of the garden were rendered with watercolor and thin layers of beeswax. Later prints of plant specimens were placed near the garden.

Additionally, in some cases actual plant specimens were embedded into a thin layer of beeswax onto the paper and board. The drawings evolved to reveal layers of the drawing process, much like a garden morphs over time. They were conceived to closely resemble the expository nature of his garden and *Beehive*, in that they lay bare the extraordinary mania of his mind and sensitivity to the lives of plants and bees—they are rational, compulsive, transparent, and obsessively cite their textual sources.
Figure 6.8. “A Germantown Landscape” at 1”=20′-0” (drawing on poplar wood board). This drawing shows an arrangement of his vineyard, apiary, garden, orchard, and entrance to his woods in relation to his house and Germantown Avenue. Near the house and yard are the well and a hot bed to cultivate ‘saladings’ through the winter. Plants shown clockwise from the top: melon, raspberry, peach, apple, raspberry, cowslip, hops, grape vine, cultivated rose, dandelion, native wild rose, and fig leaves.

Figure 6.9. Detail, “A Germantown Landscape” drawn at 1”=20′-0” (drawing with pencil, charcoal plant prints, beeswax, plant specimens, enamel paints, and pen on prepared poplar wood board). Garden beds are arranged in four quadrants with a sun-dial at the center. The long beds at the far top and bottom are nursery beds. The bottom right quadrant shows the “truckle bed” bench mentioned in a poem found in his Beehive and Deliciae Hortenses. Plants embedded in the beeswax include: wormwood, basil, rose, lavender, dill, fennel, and thyme. The gold lines are 5 foot high fences that enclosed his lot and garden spaces. The double gold lines are hawthorn ‘quick hedges’ mentioned in his Monthly Monitor (see Chapter four).
Although these drawings do not appear to be as precise and definitive as the other two drawings, they are the most literal of all the drawings, as they do not rely on metaphor. They collect the material of his garden and extract details from Pastorius’ writing to make, as much as possible, a precise image of the extent and content of his garden on his fifty acres in Germantown before his death in 1719. They are also the most literal in that they rely on Pastorius’ most literal and rational writing about his garden: his narrative poems and the observations and records found in his *Monthly Monitor*.

**Drawing Gardens**

Pastorius’ writing about his garden, reminds us that gardens are spatial and temporal assemblages of living and non-living beings that circle about or even through their human makers. In Pastorius’ garden, there was no binary of man and nature. The human was not at the center of the garden, but was instead part of its ecology. Exactitude and meaning can be found in how a garden can be designed to measure inter-relationships between plants, animals, humans, and the invisible dimensions of the environment like temperature, growth, microscopic elements of soil, air, and metamorphic lives of plants.

How we choose to draw gardens can imagine and re-imagine these dimensions and their material making. Western traditions of drawing gardens that historical reconstructions of gardens and the design of new gardens are based began in the Renaissance. These conventions were founded on architectural conventions especially dependent on the plan view and tended to privilege finite, rationalized limits of garden

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space. The plan view of a garden such as Pastorius’ was not felt or experienced as a finite space described in drawings such as these, although he enclosed his garden with a fence. It was felt and experienced through duration of plant morphology, readings of the sun, moon, and planets, the space of the woods, as well as the odor and potency of plants. All of these aspects of Pastorius’ garden were the basis of his hortensis poeisis. Historians must look more closely at poetry for how mnemonic images of gardens are constructed and landscape painting for how garden space can be experienced because these two modes more closely imagine how a garden is actually read by humans.

This proposition is not just intended for the design of new gardens. It is meant to remind the garden historian that how a historic garden is reconstructed (thereby made again and re-imagined) must find modes of representation (words and images) and mediums that interpret the intentions and habits of the gardener. For a historic garden to live outside of its time, it must breathe the air of its maker(s) and odors of its ecologies. Everything about Pastorius garden was like that of ‘common time’, read and written by way of duration and inter-relationships.
Conclusion: The Art of a Garden in Colonial Pennsylvania

Pastorius was a scholarly, didactic, literary and imaginative gardener who contemplated the past and particularities of his present as he propagated and cultivated plants and tended his honey bees. His own time and place as evidence of his reading and writing, was conflicted, dispersed until he settled in Germantown, multi-lingual, allegorical, at times magical and other times rational. Patrick Erben summed up Pastorius’ writing and reading habits with one of Pastorius’ repeated citations and rephrasing of 1 Thessalonians 5:21: “Test everything. Hold onto the good.” 505 This verse in the authorized version of the Holy Bible owned by Pastorius reads, “Prove all things: hold fast that which is good.” 506 Pastorius rephrased this verse as an aphorism about commonplacing that imagined a reader as a bee and his book as it was like a garden of honey laden plants on the title page of his “Commonplace Book” (see Introduction). 507 This habit is apparent in his exhaustive writing about his garden and gardening but also in the making of his garden in Germantown. In his garden, he tested everything and held onto the good. Because of this, my methodology in writing this history has been guided by Pastorius’ own methods, habits, and ideas in a manner legible to my own contemporary readers.

This history ends where it began, like Pastorius’ “Geistlicher Irrgarten” discussed in Chapter six and his botanical palindrome that introduced this history—his art

507 “Make good use of this book, don't make any false decisions, but like a bee, suck the sweet honey out.”
of gardening was a kind of botanical orthography concerned with the outward figures and inward lives of plants and allegories of piety. Orthography can be understood as a system of writing concerned with spelling and notation. Pastorius defined it as such and synonymous with spelling in his *Beehive*: “Orthography (Add. Spelling 1612) the rale [rasping breath] of a Rationality.” But it is also a method of drawing used in garden design that projects a scheme of lineaments on land and space in order to draw images of geography and landscape in the design of maps and gardens. Pastorius’ botanical orthography was a system of botanical notation written and printed on paper and one that he inscribed on the trees of his woods, sundial and bench of his garden. But he also engrafted poetic lineaments onto the Wissahickon ridge in the design of his fields, orchard, vineyard, and garden. The botanical prints and writing in his notebooks that survive were mirrors of these schemes.

He contemplated writing on trees as a generative art, one that grows over time. As mentioned in Chapter four, he would have inscribed his trees to mark the limits of his property. But he would have also marked trees with poetry. He theorized this practice in an emblem in his “Emblematic Recreations.” “Some words engraved on a Tree: Crescitque manetque Cicatrix. Dum crescit, nomina crescant.” This Latin aphorism is a rephrasing of Virgil. It translates in English: “the scar both grows and remains. While it grows, the names grow.” (“Cicatrix” refers to a mark or incision on plants.) This

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508 Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or, Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696.” (Philadelphia, PA, 1865 1696), 557 (V. 2), Upenn Ms. Codex 726.

509 Pastorius, 82 (V. 1).

emblem and its associated Latin motto are a rephrasing of a classical theme in Greek and Roman literature that Pastorius was very familiar: “The motif, or a variant thereof, occurs in Greek literature as early as Aristophanes; ... it was in the richer and more sophisticated amatory context of Roman pastoral and elegiac poetry of the first century B.C. that Renaissance poets naturally found their inspiration to revive the topos.”511 This topos can be found in Virgil’s Eclogues and Ovid’s Heroides. Pastorius’ emblem may also refer to the writing on trees in the churchyard of the Blumenorden’s garden in Nuremberg that recalled this topos (Chapter one). He may also be referring to the Baumbild tradition of marking trees as shrines and devotional way-finders in early modern Germany. Marking trees in the Wissahichkon with poetry reimagined his relationship with the woods of Franconia in the Pennsylvania woods and the poetry so important to his life. “And this ... [bestowed] a measure of immortality upon his passion, for as the trees grow, his love, recorded in their bark, will grow.”512 This kind of writing is an example of hortenses poesis as a sister art to his poetry and botany.

The scheme of plant prints found in Pastorius’ edition of Pexenfelder’s encyclopedia discussed in Chapter two (See Figure 2.1) is an excellent example of how his botanical orthography can be read metaphorically and literally as garden space. The composition can be read as they were printed in a book and as a garden. As discussed in Chapter two, Pastorius inserted these prints and his ideas about ABC Krauters on a page about the mechanics of typography and printing. Anthony Grafton concluded that

512 Lee, 9.
Pastorius’ annotations illustrated his fascination with language, books, and the mechanics of printing and how he used his poetry to test his own mystical ideas about language. I would add to Grafton’s conclusions, that he used poetry to test his own mystical ideas about language and the natural world in his reading, writing, and making of his garden.

These annotations can be read from many points of view as it is an allusion. Most of Pastorius’ poetic writing was allegorical and a play on words—the plant figures were written as letters and syllables placed in proximity to Pexenfelder’s typography. The entire page can be read actively as a literary palindrome: forward then backwards. A reader can trace the figures of the plants with their eyes and fingers and read them clockwise and counter-clockwise. In this manner the plant figures on the left are recto (the front faces of the leaves) and the right are verso (the back faces of the leaves). This is simply a result of how he made these prints. He carefully inked both sides of the leaves, placed them in the book, and closed the book to print them. But it is not a perfectly symmetrical composition. There is an extra plant on the verso side edge three down from the top, and four extra plants on the verso bottom edge, across from his notes about ABC Krauters on the recto side. These are pauses or diversions in the reader’s path. This composition required at least two rounds of printing, the second of which he only printed one side of his plants.

As a ‘literary play’, one could also read each plant figure as a hieroglyph or collectively as a rebus, clockwise from the top of the verso (right) page, around all the edges of the book, ending at the top of the recto (left) page and then again counterclockwise. A rebus is “a series of pictures that express a series of objects in a
linguistic construction.” Pastorius defines a rebus as “European Hieroglyphiks.”

When read as a rebus, this botanical composition invites a meaningful exchange between the objects of Pastorius’ garden (his plants), the ideas embodied in each plant and their proximity to each other and the words on the pages. The meaning of each plant shown here is recorded somewhere in his poetry, Monthly Monitor, Artzney und Kunst, and Beehive. This reading requires the reader to identify the plant by their figure and assign meaning to each figure in order to construct a poem. The extra plants and writing, even though they are not perfectly mirrored, are balanced in the composition by a reflection of something on the opposite page. This literary play can be read as a rebus as it was composed intentionally on these pages. Its translation can consider the embodied meaning of all the plants that he printed on this page and their proximity to the words printed in the book: “God sees the sweetness imprinted/implanted in my garden, orchard, and vineyard as it nourishes and heals.”

There is one last way to read these botanical annotations. They can be read as a reasonably symmetrical composition of plants arranged about a courtyard of text and writing. It is quite literally an image of a garden—an example of his hortenses poesis in that it is at the same time a poem and a garden.

His garden, palindromes, botanical allusions, collections of botanical and bee poetry, practical notes about gardening and commonplaced entries in all of his notebooks collectively document and at the same time were his hortenses poesis. Both were his own

514 Pastorius, “Beehive, Bee-Stock,” 75 (V. 1).
creative making that he invested with meaning, therefore can be called an art. Because his project was his own creative making that he and others practiced (Lloyd Zachary and his own family), in many regards it could be considered a folk art. (A shared practice that pre-figured aspects of Pennsylvania German folk art. See Chapter two.) He theorized his art, ideas about gardens and gardening in his writing, which he organized into a series of manuscripts for readers other than him, which means that he aspired to document his methods and style for the making of future gardens in Pennsylvania. His garden, image texts, and poetry was a folk art, and his scholarly and literary habits theorized it as an original artform.

To conclude that Pastorius’ *hortenses poesis* was an original Pennsylvania art, his garden art needs to be considered in context with other artforms in Germantown at this time. The significance of belief and imagination in the making of his art needs to be restated and emphasized and finally the elements of style that made his *hortenses poesis* needs to be described as it was distinct from European and other colonial Pennsylvanian gardens.

These conclusions are important in that they contribute to an expanded history of art and folk art in colonial Pennsylvania that includes an art of gardening that schematized belief, imagination, language and literature. Isaac Norris’ garden at *Fairhill* and William Penn’s estate at *Penns bury* cannot be considered a wholly original Pennsylvania art in that they aspired to imitate gardens and plantations of England. Norris
in particular was concerned that *Fairhill* be made in the form of a villa\textsuperscript{515} that realized English Quaker ideals of living in the country and was modeled after Worlidge’s ideal estate and seventeenth-century estates that he visited while living in England (Chapter three).\textsuperscript{516} Other art forms made in Philadelphia during Pastorius’ life-time were part of a craft industry and included practical domestic arts like textiles, furniture and clockmaking. These art forms, although beautiful, were mostly designed to solve practical problems. Germantown contributed to this craft industry as Pennsylvania’s first manufacturer of linen which consequently supported the establishment of paper mills near Germantown, Pennsylvania’s print and publishing workshops, and Pastorius’ prodigious writing.

There are original folk art forms documented in colonial Pennsylvania connected to Pastorius’ botanical printing and language, garden poetry, and garden. These are the illuminated baptism and marriage certificates, devotional literature, and hymnals of Pennsylvania Germans. All of these art forms were developed after Pastorius’ death but were connected to Pastorius’ Pietist beliefs about the natural world and the Bible. These art forms were not found in Europe or New England although they, like Pastorius’ art, were Pennsylvania endeavors that were in dialogue with Christian Humanism and German Pietism. The manuscript illuminations discussed in Chapter two are examples of a wholly original art form described as Pennsylvania German folk art of the Ephrata Cloister and eastern Pennsylvania from the mid eighteenth-century through the late

\textsuperscript{516} Reinberger and McLean, 252.
nineteenth-century. Pastorius’ art in Germantown marks a beginning of the development of this art form. What remains to be determined is whether the gardens, orchards, vineyards, and apiaries of these Pennsylvania German sects and Ephrata Cloister resembled Pastorius’ garden.

Pastorius was not alone in Germantown in his creative endeavors. Christopher Witt has been described as a polymath and was a prodigious intellectual and maker (Chapter three). He was a physician, gardener, botanist, clock maker, organ maker, and painted a portrait of Johannes Kelpius in 1705. (One of his clocks can be viewed at the Winterthur Museum in Delaware.) The portrait is a small painting but important as it is considered the first oil painting painted by an American artist in Pennsylvania. (All other oil portraits that predate it were painted by European artists and imported into Philadelphia.) The portrait shows Kelpius seated at a desk in an arm chair. The arm chair and desk have stylized legs and details and the chair has shelves under its seat for books. There is a shelf clock painted in the upper right-hand corner. The painting, his clocks and garden alongside Pastorius’ garden, writing, and printing are examples of a rather intense creative enterprise in Germantown before 1719.

Important to appreciating Pastorius’ garden and gardening as art is a definition of craft art, because Pastorius’ garden relied on both practical and philosophical ideas: horticulture, husbandry, astrology, natural science, theology, and literature. Folk art historian John Stoudt offers a particularly relevant definition for interpreting Pastorius’ garden in his detailed study of Pennsylvania German folk art: “For Pennsylvania folk art is a craft art, dependent upon the spiritual creativity of individual work, upon the
unfettered expression of imagination in creative tasks.”

Pastorius’ garden and writing about his garden were dependent on his unfettered intellectual and spiritual creativity—unfettered in its joy and discipline. He perpetually tested everything to hold onto the good. Stoudt emphasizes that the style of Pennsylvania folk art (that came to full fruition after Pastorius’ death) came from a “power to produce” that German Pietists believed lived in everybody.

This “power to produce,” Pastorius’ scholarly and Pietist tendencies, and his relationship with the people and places of Pennsylvania’s woods resulted in a very particular style of art where ideas, images, and signs were continually considered and reconsidered as they related to each other and his garden. His style (his hortensae poesis) was a reflection of his particular world view. It was an analogical exposition of meaning.

There are several elements of style in Pastorius’ art that concerns his garden as it was poetry, and as his poetry was a garden. The most important elements are allegory, analogy and correspondence, and the commonplace and commonplacing and all of its forms. He designed the lineaments of his garden as literary and moral metaphors. They were allegories about living piously in Pennsylvania. He was always conscious of correspondences between himself, his garden work and his plants and arranged his planting beds according to believed relationships between plants. He commonplaced an exhaustive variety of ideas, techniques, and allegories in the design of his garden and

endlessly experimented, moralized, read, and wrote in his garden until he found the honey.

Central to the formation of Pastoirus’ original style of garden art were two core beliefs. One based on Paracelsus theories of imagination, science and the natural world. Second was his belief that plants were ‘living letters.’ Together they formed an ecological cosmology that was the foundation of his hortenses poesis. It was a rational and at the same time mystical world view based on mythology, his own sense of piety, and close observation of his environment and plants.

As mentioned in Chapter six, Pastorius commonplaced several citations of Paracelsus theories of humanity, nature and God (his natural philosophy) and the role of imagination in reading the divinity of the natural world. Paracelsus’ natural philosophy claimed that humans are the microcosm of the whole of nature and thereby God and that “we eat ourselves into being.” All of his theories were focused on processes, concerned with the metamorphosis of creation in time. In these theories, imagination was a powerful force in humans that had the capacity to read the inner forms of nature and God as they were perpetually becoming. To Paracelsus, science and medicine was a way to read creation’s becoming and to serve God. Pastorius realized this theory in the making of his garden.

Pastorius’ entry for ‘plants’ in his Beehive is unusually brief. (His entries for specific plants are more explicit and long-winded.) But at the end of the brief paragraph,

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mostly written in Latin, he wrote: “Botanologia teaches the exact shapes of herbs.” This could be a word of his own invention to describe his own botanizing as a rational study of plants. But, ‘botanology’ is an English word that at this time was used to describe the study of mystical characteristics of plants, similar to European theories of astrology so often cited by Pastorius. The *Oxford English Dictionary* also records its use to describe divination with plants. Pastorius’ notation of this term could be entirely his own invention because it lacks a citation. Either way, it is another explanation for his curious habit of plant printing and belief in Paracelsus’ doctrine of signatures.

In his entry for “Ideas” in his *Beehive*, he connected Paracelsus theory of imagination with building and making. “Zimmerman baut das haus zuerst in seiner Imagination, Parac. fol. 96. [A Carpenter first builds a house in his Imagination, Paracelsus, folio 96.]” In this same entry, he also cited John Locke. “All Ideas come from Sensation or Reflection. Locke.” This pairing demonstrates that while reading contemporary philosophy, he was always rethinking and considering Paracelsus as a foundation of his belief in the divinity of nature. This pairing also suggests that he was always designing and re-designing his garden based on his own sensational experience in his garden and that his writing, especially his poetry, was a reflection of its making. No doubt, Pastorius was (and thought himself to be) the builder, digger, and

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519 Pastorius, “Beehive, Bee-Stock,” 763 (V. 2).
522 Pastorius, 810 (V. 2).
maker of his garden. This building was the result of a continuous design process of reading (empirically observing) and writing (reflecting on) nature. Related to this process is the ancient idea that nature was a book.

In Pastorius’ mind, the ‘book of nature’ was a counterpart to the Bible or book of ‘Holy Scripture,’ both were equally divine and instructive. Medieval Christian tradition also described nature as the ‘book of experience’ and a ‘mirror of the mind of God.’ Paracelsus and Protestant theology further theorized this concept and began to describe nature as a book written with great letters. Paracelsus further imagined the ‘book of nature’ as a library whereby God “made and bound them ['books of nature'] and hung them from the chains of his library.” Pastorius used the vocabulary of these concepts throughout his writing about his garden: hieroglyph, secret writing, figures, and letters. His “Emblematic Recreations” theorized these beliefs and he dedicated an entire page to different forms of ‘secret writing’ in his Beehive. His botanical orthography studied plants and considered plants as letters that were a part of a secret, hidden, divine language.

His entry for ‘letter’ in his Beehive further emphasized the importance of allegory in the making of his ABC Krauters, plant prints, and his garden as a book or collection of books, each flower bed as a book with its own story, analog and set of correspondences.

523 Lee, Names on Trees, Ariosto into Art, 3.
524 Lee, 4.
525 These are only word in English, there are likely more in German, Dutch, Latin, and Greek in his poetry and Beehive.
526 Pastorius, “Beehive, Bee-Stock,” 730 (V. 2).
Letter, but a broken cipher that holds [ill] the water of life, the sheath, not the sword of the Spirit, thy husst [sic] & shell, not the kernel....they are not to be understood properly, but figuratively, mystically & spiritually. / the primitive [artists]ians were great allegorizers of the Scriptures./ making the letter or eternal words the Superficies of the body, & the hidden sense the soul.\textsuperscript{527}

His garden was a library of ‘books of nature’ written and printed with botanical ciphers that he read from his own mystical and spiritual point of view.

All of these conclusions depend on whether Pastorius believed, even as an allegory for garden work, that to write and print was to plant. As discussed in Chapter one and two, German Pietism and Pastorius’ garden poetry were profoundly influenced by the writing of Jacob Boehme, whom was influenced by Paracelsus’ ideas about imagination and nature. German Pietism began to take shape in Pastorius’ lifetime in Philipp Jakob Spener’s \textit{Pia Desideria}. This book described a more practical piety, one that depended almost entirely on human action: living with charity, loving all people, and studying the Bible. According to Spener, a true Christian expressed love in their actions. Spener thought of imagination as a human activity, not necessarily a magical power. Herdt described his theology: “Spener spoke of God's salvific work as being accomplished by means of \textit{Einpflanzen} (implanting) and \textit{Eindrücken} (imprinting), both of living faith in God's word and of true Christian virtue.”\textsuperscript{528} Both of these actions animate the work of piety as gardening, writing, and printing. Spener was a very important influence on Pastorius’ decision to emigrate to Pennsylvania. Pastorius’ gardening and nature printing in his letters, notebooks, and books realized this call to pious action in his

\textsuperscript{527} Pastorius, 456 (V. 2).
\textsuperscript{528} Herdt, \textit{Forming Humanity, Redeeming the German Bildung Tradition}, 71.
personal life. His work planning Germantown as an equitable community, his active protest against slavery in Pennsylvania, and his mentorship of both male and female students realized this call to action in his public life. Although Pastorius had acclimated to and participated in Quaker civic culture, his garden was a practical and mystical realization of his own piety that was profoundly influenced by Boehme’s mysticism, Spener’s practical piety, and Paracelsus’ natural philosophy.

Pastorius’ *Ship-mate ship* poetry best exemplifies his mystical relationship with his garden and the plants and bees in his garden. Pastorius was a mature gardener, reader, and writer when he wrote these poems. Although they are devotional, they can be read as they were a culmination of all his allegorical writing about gardening and his garden in that they explain why he gardened as he did—his garden was a personal, religious, and civic project in piety and nourishment. The first poem, “I. The Origin and Progress of Plantation-Work” discussed in Chapter six and used in the making of Pastorius’ *Geistlicher Irrgarten,* is a generational Biblical history of gardening that concludes with himself in the present. The third poem, “III. The Extent & Produce of the Inward Spiritual Farm” describes the space of his inward garden. It imagines his moral self as a garden with walls, paths, corners, beds, trees, vines, and roses. The second poem, “II. The Improvement of Ourselves on Plantations,” is also a devotional poem like first and third. It describes a mystical relationship with a garden, the plants of a garden, and his own piety but most importantly it describes gardening as a collective project—“Improvement of Ourselves on Plantations.” He writes of plants as letters and syllables that he and others can read. It explains how gardening yields profit, delight, and piety. The poem
moves back and forth between reading the Bible and reading his garden. (I have included a selection of its verses here.)

II. The Improvement of Ourselves on Plantations
1. When Mundanists let Crawl & Sprawl their Thoughts upon the Ground, Phil. 3:19.
   To God on High I mine do raise, and Heaven-wards have bound; Col. 3:1.
2. Some times it seems mine Eyes & Hands to Earthly Objects bow, 2 Thess. 3:12
   And yet my Spirit, and Mind by no means stand below. Phil. 3:20.
3. All Trees, Shrubs, Herbs, Flow’rs, Plants & Weeds are but my Microscope, Psal. 19:2.
   To spy God’s Wisdom and Great Pow’r, when Moles and blind men grope. Rom. 1:20.
   They all are living Letters, and each one, a Syllable yields, Isa. 42:11, 12.
5. By which, as in a Primmer, I do spell, Praise e the Lord, Psal. 42:11, 12.
   Praise ye His blessed, holy name: Praise Him with one Accord! Acts 4:24.
6. Then whether I base Mushrooms see, or Oaks and Cedars tall,
   I read, you’ve both your Growth of Him, who worketh all in all. Psal. 104:14.
   And read, an Apple-tree bears much, yet I do bear no less. Mark 12:41.
......
28. God’s Children know their Origin: their Bodies of the Dust, Gen. 3:19,
    Job 14:2.
    Here having Bloom’d and Fructifi’d to the’ Earth return they must.
    Eccles. 12:7.
......
32. The Flesh, (well call’d the Flow’r of Grass,) which fadeth & decays, 1 Peter 1:24.
    None but the Rose of Sharon [Jesus] can be blossoming always. Cant. 2:1.
33. At last, though we be Buried, as Seeds are in the ground, 1 Cor. 15:36, 37.
    Which rottion, moulder’d, putrif’i’d, are hardly to be found; Ibid.529

A “Mundanist” is a person who values the material world and pragmatic reasoning more than spiritual and religious belief. Like orthography only concerned with correct and

proper spelling, a mundanist’s devotion to only pragmatism and earthly things suffers from the rasping breath of rationality. According to Pastorius, their work yields poverty of imagination and therefore was not pious, worthy, or nourishing. Whereas a gardener who reverently reads and writes the earth with living seeds and cultivates a garden as an allegory of true piety, yielded pleasure, recreation, profit, and cultivated a paradise that accepted and celebrated mortality.

All of these conclusions about and analysis of the style of Pastorius’ *hortenses poesis* introduce botanical poetry and the significance of belief and imagination in the design and making of an American garden to early American history. Pastorius was Pennsylvania’s foremost “Horticola”r*”⁵³⁰ (hortus garden + collātiō putting together for comparison, simile, and analogy)—assembler of language, belief, and science in the design of a garden.

APPENDIX A: Photographs of Primary Sources.


a. Title Page (HSP Digital Tag : 8243-0475_v7_2)
b. Kalendarium, January (HSP Digital Tag: 8243-0475_v7_3)
c. Bees & Apiculture (HSP Digital Tag: 8243-0475_v7_73)
e. Records of Germantown Sunrise and Sunset (HSP Digital Tag: 8243-0475_v7_98)

a. Title Page (Courtesy of The German Society of Pennsylvania)

b. Grafting entry. (‘Penn in Hand’ Digital Page Number: p. 542, Volume 2)

a. Front Cover (Photo courtesy of Historical Society of Pennsylvania)
b. II. The Improvement of Ourselves on Plantations (Photo courtesy of Historical Society of Pennsylvania)

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Volume 7
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• p. 80, “Valgar Notes to know when the Moon rises & sets” [Chapter 5]
• p. 20 “To gather herbs, be of the right time sure, For else you undertake in vain the Cure.” [Chapter 5]
• p. 2 Title Page [Appendix A]
• p. 3 Kalendarium, January [Appendix A]
• p. 73 Bees & Apiculture [Appendix A]
• p. 85 Seed Report [Appendix A]
• p. 98 Records of Germantown Sunrise and Sunset [Appendix A]

Volume 8
• “Ship-Mate_of Ship”
• Front Cover [Chapter 2 & Appendix A] [Image taken by customer]
• Back Cover [Chapter 2 & Appendix A] [Image taken by customer]
• p. 48 II The Improvement of Ourselves on Plantations [Appendix A] [Image taken by customer]
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APPENDIX B: Pastorius’ Sources.

1.0 Selective accounting of books owned, borrowed, or referenced by Pastorius that influenced his ideas about plants, gardens, and the making of his garden in Germantown. I have organized this list by my own general subject headings, not Pastorius’ headings. It assembles books that Pastorius “was intimately acquainted with” from his Beehive, Monthly Monitor, Artzney und Kunst, Deliciae Hortenses, Ship-mate Ship, and his records of his own library listed in his Res Propriae and Alvearium. When possible, I have identified the place and year of publication for each source. Otherwise they are written as Pastorius wrote them. At the end of each bibliographic citation, I have listed in brackets where he referenced the sources (see Key below).

Sources and Notes:
To identify books that Pastorius listed and cited in the Beehive, I relied on an uncatalogued manuscript held at the Kislak Center for Special Collections at University of Pennsylvania: Riley, Lyman W. “Books from the ‘Beehive’ Manuscript of Francis Daniel Pastorius,” n.d, Ms. Codex 726.

For those books cited in the Monthly Monitor, I have only noted explicit citations in English. In this volume he also cited his own notebooks and writing. In some cases, these references no longer exist.

I have noted all books listed in the Artzney und Kunst that Patrick Erben transcribed in The Francis Daniel Pastorius Reader, 2019.

For books cited in the Deliciae Hortenses, I have relied on my own reading of the poems and Christoph Schweitzer’s transcriptions of the poems and footnotes, Deliciae Hortenses, or Garden-recreations; and Voluptates apiarie, 1982.

For those listed in the Res Propriae and Alvearium, I referenced Learned’s accountings in The Life of Francis Daniel Pastorius, 1908. Marion Dexter Learned concluded that Pastorius owned the books listed in his Alvearium.

I have relied on Donald Wing’s Short-title catalogue of books printed in England, Scotland, Ireland, Wales, and British America and of English books printed in other countries, 1641-1700 and Worldcat.org to identify editions, places and years of publication.

NATURAL SCIENCE

• Beaumont, John. *An Historical, Physiological and Theological Treatise of Spirits: Apparitions, Witchcrafts, and Other Magical Practices. Containing an Account of the Genii or Familiar Spirits, Both Good and Bad, That Are Said to Attend Men in This Life; and What Sensible Perceptions Some Persons Have Had of Them: (Particularly the Author’s Own Experience for Many Years.) Also of Appearances of Spirits after Death; Divine Dreams, Divinations, Second Sighted Persons, &c. Likewise the Power of Witches, and the Reality of Other Magical Operations, Clearly Asserted. With a Refutation of Dr. Bekker’s World Bewitch’d; and Other Authors That Have Opposed the Belief of Them.* London, 1705. [A]

• Boyle, Robert. *Medicinal Experiments, or, A collection of choice and safe remedies: for the most part simple and easily prepared: very useful in families, and fitted for the service of country people.* London, 1696–1698. [BH, AK]

• Cardanus, Geronimo. *De rerum varietate libri XVII. Adiectus est capitum, rerum et sententiarum ... index.* [bees book VII in Dererum Varietate], Basel, 1557. [DH]

• Clark, H. *A Free Enquiry into the Vulgarly Receiv’d Notion of Nature.* England, 1685. [BH]

• Le Fèvre, Nicolas. *A Compleat Body of Chymistry: Wherein Is Contained Whatsoever Is Necessary for the Attaining to the Curious Knowledge of This Art ... Laid Open in Two Books ... Rendred into English by P.D.C.* London, 1664. [BH, MM]

• Flesher, E. *Tracts Consisting of Observations about the Saltiness of the Sea.* England, 1674 & 1690. [B]

• Goad, John. *Astro-Meteorologica, or, Aphorisms and Discourses of the Bodies;Lestial, Their Natural and Influences: Discovered from the Variety of the Alterations of the Air ... and Other Secrets of Nature.* London, 1686. [BH]


• Theophr. Paracelsi Peribus. (Place of publication and year unknown.) [A]

• Schmuck, Martin. *De Occulta Magico-Magnetica Morborum Quorundam Curatione Naturali, Tractatus, Das Ist: Wie Man Auff Verborgene Natürliche Weise/ Durch Angeheneckte Aufflegungen/ Fortpflanzung in Bäume Und Thiere/ Auch Andere Magische


**MEDICINE**


- Cooke, James. Mellisicium Chirurgiae, or, The Marrow of Many Good Authours : Wherein Is Briefely Handled the Art of Chyrurgery in Its Foure Parts, with All the Severall Diseases unto Them Belonging, Their Definitions, Causes, Sigues, Prognosticks, and Cures, Both Generall and Particular : As Also an Appendix Wherein Is Methodically Set down the Cure of Th[o]Se Affects Usually Happening at Sea and in Campe, with Others Necessary to Be Known, and Lastly an Addition of Severall Magistrall Receipts Approved and Heretofo Kept Secret. London, 1648. [AK]


- Culpeper, Nicholas. Semeiotica Uranica: Or, an Astrological Judgement of Diseases, from the Decumbiture of the Sick, Much Enlarged. 1. From Aven Ezra by Way of Introduction. 2. From Nowel Duret by Way of Direction. Wherein Is Laid down the Way
and Manner of Finding out the Cause, Change, and End of the Disease. Also Whether the Sick Be Likely to Live or Die; and the Time When Recovery or Death Is to Be Expected. With the Signs of Life or Death by the Body of the Sick Party. According to the Judgement of Hippocrates. Whereunto Is Added, a Table of Logistical Logarithymes, to Find the Exact Time of the Crisis, Hermes Trismegistus upon the First Decumbiture of the Sick: Shewing the Signs and Conjectures of the Disease, and of Life and Death, by the Good or Evil Position of the Moon at the Time of the Patients Lying down, or Demanding the Question. Infallible Signs to Know of What Complexion Any Person Is Whatsoever.

With a Compendious Treatise of Urine. London, 1671. [BH, MM]

• Culpeper, Nicholas. Culpeper’s School of Physick. England, 1659. [BH, MM]
• Nylandt, Petrus. De Nederlandtse Herbarius. Amsterdam, 1673. [AK]
• Pastorius, Melchior Adam. Herbarum appellationes in den Apotheken, Manuscript. Middle Franconia, Germany, ca 1695-1702. [AK]
• Pastorius, Francis Daniel. Calendario Calendariorum, Manuscript (missing). [AK]
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2.0 Pastorius Grand Tour, ca. 1680–1682, an accounting of cities, gardens, landscapes, and institutions relevant to his interest in plants and gardens. A list of cities and sites visited by Pastorius, key to a seventeenth century map of Europe.

This account is assembled based on my own transcriptions of Pastorius’ notes in his Beehive, Circumstantial Geographical Description of Pennsylvania, and Learned’s accounting from Pastorius’ Beehive and Res Propriae. Cities are written as Pastorius wrote them (1). His complete Itinerary which he referred to frequently in his writing is lost. For all cities, I have indicated its seventeenth century country and present-day country (2). In some cases, he listed specific sites that he saw in each city (3). For some cities, I have also included notable sites consistent with his interest in gardening, hospitals, religious institutions, and town planning (4).

His complete Itinerary can only be partially reconstructed based on his notes about the cities he visited and some of the items from the list above that he recorded in his Beehive. The itinerary that I have reconstructed here accounts for the list of cities and sites that we have, the categories of sites listed above, and suggests other sites in each locality that Pastorius may have seen.

Sources and Notes:


Key:
[A] Location on Map
1. City
2. 17th Century and (Present-day Country)
3. Sites that Pastorius noted in his Beehive.
4. Notable Sites that Pastorius would have seen.
b. CITIES AND MAJOR SITES:

[A]
1. Ghent
2. Spanish Netherlands (Belgium)
3. no record
4. Sint-Baafs Gothic Cathedral, or in Dutch Sint Baafskathedraal; Halyn Hospital of Sainte-Catherine; Grand Béguinage de Sainte-Elisabet; Petit Béguinage Notre Dame; urban orchards, market gardens, public space, canals, fortifications, market place system specific to Flemish culture; and linen industry.

[B]
1. Antwerp
2. Spanish Netherlands (Belgium)
3. Bourse
4. Elaborate system of canals and bridges; fortifications; almshouses; and a city in commercial decline.

[C]
1. Oxford
2. England
3. University College in Oxford
4. Oxford Botanical Garden; Paradise, garden of the Penitentiary Friars; Gardens of Oxford Colleges and St Augustine or Austin Friary; gardens and open areas spread west toward Gloucester hall and Gloucester green; Oxford Cathedral and cloisters; and Sheldonian Theatre (Christopher Wren, 1664-69).

[D]
1. London
2. England
3. London Tower
4. Hampton Court; Hatfield House, parterres, Neptune fountain (Salomon de Caus); and Wilton House, near Salisbury, published in Hortus Pembrochianus, 1615.

[E]
1. Cambridge
2. England
3. no record
4. Library (Christopher Wren); Cambridge College gardens, bowling greens, tennis courts, meadows, and Peterhaus Gardens.

[F]
1. York
2. England
3. no record

[G]
1. Lyons
2. France
3. Fontain de Birague
4. Palace Royale; and silk industry monopoly

[H]
1. Toulouse
2. France
3. St. Saturnini Church; Pont Neuf
4. St. Pierre De Cuisines; St. Sernin; Le Taur; St. Etienne; St. Jaques; St. Nicolas; and Franciscian monasteries

[I]
1. Paris
2. France
3. Notre Dame Cathedral; Notre Dame fountain; St. Hilaire; Capucin Monastery of Fauxbourg St. Jacques; The Louvre; Pont Notre Dame; Place Royale
4. The Tuileries gardens; Luxembourg Gardens; Palais Roayal; Jardin des Plantes; Rebuilding of the Louvre; and Grand Boulevards (c. 1670 plans)
[J]
1. Narbonne
2. France
3. Cathedral Narbonne
4. Medieval fortifications; Roman ruins

[K]
1. Rochelle
2. France
3. no record

[L]
1. Orleans
2. France
3. Capucin Monastery in Orleans

[M]
1. Bordeaux
2. France
3. Bourse
4. Cathedral St. Andre; and Palace Royale

[N]
1. Avignon
2. France
3. Papal residence (Residence of Papal Court)
4. All avenues converged on the castle

[O]
1. Montaubon
2. France
3. stone bridge
4. Medieval fortifications; Protestant (Huguenot) stronghold

[P]
1. Marseilles
2. France
3. no record
4. ‘New’ Marseilles under construction; 1676 Piazza del Popolo, with converging streets

[Q]
1. Toulon
2. France
3. no record
[R]
1. St. Germain
2. France
3. Prison de l’Abbaye S. Germain
4. none

[S]
1. Frankfurt
2. Free Imperial City (Protestant) (Germany)
3. Carmelite Cloister in Frankfurt; Mainbrücke
4. Garden of Johannes Schwindt, burgomaster of Frankfurt

[T]
1. Würzburg
2. Free Imperial City (Catholic) (Germany)
3. no record

[U]
1. Hamburg
2. Free Imperial City (Germany)
3. St. Jacobs (James) school

[V]
1. Regensburg
2. Holy Roman Empire (Germany)
3. no record

[W]
1. Braunschweig
2. Holy Roman Empire (Germany)
3. no record

[X]
1. Mainz
2. Protestant Free Imperial City (Germany)
3. Schloss (school)

[Y]
1. Nürnberg
2. Protestant Free Imperial City (Germany)
3. private house
4. Christoph Peller’s garden; Blumenorden’s Irrgarten

[Z]
1. Ulm
2. Protestant Free Imperial City (Germany)
3. no record
4. Private Garden of Joseph Furttenbach

[AA]
1. Munich
2. Catholic Electorate of Bavaria (Germany)
3. no record

[BB]
1. Dort [Dortmund?]
2. Catholic Imperial Free City (Germany)
3. no record

[CC]
1. Lüneburg
2. Protestant Duchy of Saxony (Germany)
3. no record

[DD]
1. Costniz
2. Catholic Swiss Confederation (Germany)
3. no record

[EE]
1. Munster
2. Protestant Free Imperial City (Germany)
3. no record

[FF]
1. Augsburg
2. Free Imperial City (Germany)
3. no record

[GG]
1. Rome
2. Papal States (Italy)
3. Lateran; Vatican; the Curia; Fontain de Birague
4. Pantheon; Roman ruins; villa gardens; Jesuit German college

[HH]
1. Loreto
2. Papal States (Italy)
3. no record
4. Pilgrimage site for Catholics; Jesuit college
II
1. Naples
2. Kingdom of Naples (Italy)
3. no record

JJ
1. Bologna
2. Papal States (Italy)
3. palace

KK
1. Ferrara
2. Papal States (Italy)
3. no record

LL
1. Padua
2. Republic of Venice (Italy)
3. no record
4. University *Hortus Medicus*

MM
1. Ravenna
2. Papal States (Italy)
3. no record

NN
1. Mantua
2. Mantua, Gonzaga Dynasty (Italy)
3. no record

OO
1. Venice
2. Republic of Venice (Italy)
3. no record
4. extensive urban garden culture; Island of Giudecca, gardens

PP
1. Delft
2. Netherlands (Netherlands)
3. old church
4. urban street trees

QQ
1. Haerlem
2. Netherlands (Netherlands)
3. no record
4. large expansion of city and construction of city re-development; new trees and gardens planted in the city

[RR]
1. The Hague
2. Netherlands (Netherlands)
3. no record
4. urban gardens with parterres, orchards, and agricultural fields inside city; rectangular canal system

[SS]
1. Rotterdam
2. Netherlands (Netherlands)
3. no record
4. low building density; orchards and street trees in the city; individual domestic yards; canal system

[TT]
1. Amsterdam
2. Netherlands (Netherlands)
3. school
4. radio-centric city plan; significant expansion of city (1300 acres)

[UU]
1. Oppeln
2. Duchy of Silesia (Poland)
3. no record

[VV]
1. Basel
2. Swiss Confederation (Switzerland)
3. Münster
4. University of Basel

[WW]
1. Geneva
2. Swiss Confederation (Switzerland)
3. no record

[XX]
1. Danzig
2. West Pomerania (Poland)
3. Schola Mariana

[YY]
1. Ergau
2. Swiss Confederation (Switzerland)
3. Baden in the Ergau

[ZZ]
1. Schaffhausen
2. Swiss Confederation (Switzerland)
3. no record

[AAA]
1. Madrit [Madrid?]
2. Spain (Spain)
3. no record

3.0 Selective list of all the emblematic images catalogued by Pastorius in his own categories found in the “Emblematic Recreations” section of his Beehive. I have selected images that relate to his ideas about his own garden and gardening. All entries are written as he wrote them.

Source:

1. The Universe, or Whole World
The four Seasons of the Year

2. The Heavens
the heaven clear & fair, without Clouds or rain.

3. Sun, Moon & Stars
The Sun
the Sun in the Zodiac
the Sun encompassed with other Planets
the Sun upon a garden
the Sun upon a field full of thorns
the Sun & a Sun-dial
the Moon
New Moon
Encreasing [Moon]
Encreasing over against the Sun
Full Moon
Decreasing [Moon]
the Moon among the Stars
the Skie full of Stars laking the Moon
Stars

4. The Air & Etherial Regions.
the Weather-Cock
Rain
the Wind
an Astrologer
the North West wind breaking some Oaks

a Fountain, the water running in & out
a Well, pulley & bucket
a Gourd swimming

7. The Earth
Corn field
a Fallow field
a Plantation
an Hand holding a Plow
an Hand Sowing Seed
an Hand working out a way in a craggy hill with a pick ax
a Cave or Den

10. Trees & Shrubs
an Handplanting a Tree
an Hand bending & trimming a young Tree
an Hand grafting a Tree
an old man setting a young Tree
a Tree in a Fen or marsh
a Tree thick with blossoms
a Tree under great winds & blusterings, & c.
a Tree broken & Springing out again
Some words engraved on a Tree
a Man standing under a Tree, with his hat in his hand
an Almond tree
an Apple tree
an Olive-tree
a Plane-tree
a Palm-tree
a Palm-tree somewhat Suppressed
a Palm-tree wounded
two Palm-trees, male & female, near together
a Cedar-tree
An Elder growing on the Wall
a Rose bed
a Rose neglected or undrest
a Vine full of grapes
a Vine bearing fruit upon an Elm tree
a Vine of Virginia
a Willow
a Nursery of all Sorts of young Trees
a naked leafless Tree in the Winter Season
a dry Tree

11. Several Fruits
an Almond
a Pome-granate
a Poeme-granate cut asunder & full of kernels
a Pome-granate a young one
a Chesnut
a Medlar
a Bay branch about a naked Sword
Apples & Pears upon the same Tree
Acorns
Hazel-nuts hanging over the Fence
a Full ear of Corn
an Empty one
Straw-berries

12. Herbs & Flowers
Some decaying Flowers
a Flower called the Imperial Crown
a Turn-Sole
a Turn-Sole behind a rock
Two Lillies
withering Lilly
a Shutup Tulip
a Rose increasing her Smell by reason of garden-garlick growing under it
Violets
a Poppy
Tag ñ Nust blúm, Viola flamea
a Laurel-garland
Climbing Ivy about a falling-down Pillar
Bulrushes in the Water
a Thistle
a Weeding hook
Weeds
Tares among the wheat
Some making hay
a day Lilly

a Beehive
a Bee
a Bee hurting a man looses her Sting & so dieth
Some bees about a rose-bed
a Swarm of bees about their king
a Child healing honey & being stung by a bee

a Labyrinth (Buildings, Gardens & c.)
an Hermitage
a Garden
Bees about several flowers

19. Tools or Instruments
a Plough-share
an Harrow
a Watering Pot over a garden of flowers
a Sword beaten into a plough-share
an handful of Flax upon an heckle
a Weavers Loom

20. Clocks, Dials-Hourglasses
a Clock with the divers engins or Jimmals to make it go
an Hand pointing what time it is
a Watch
the Selfmover —pendulum—thereof
a Pocket-dial, the Pin or needle turning to the North Pole
a Sun-Dial the Sun being covered with Clouds
a Sun-Dial

a & w. the Emblem of Perfection
a Library
Pallas or Minerva, figuring forth or representing Wisdom, Knowledge, Arts & Wit
a,b,c. & c.
many Cyphers in a Roll
a Printing Press
FDP and a good Book before him
FDP a Pen in hand
23. Man & Woman wth their Several Trades & Occupations.
a Man Pruning Superfluious branches from his Vines
Some reaping their Corn

25. Death and Funerals
Some Corn-ears growing up out of a Skeleton
Two Corn-ears growing through the eye-holes of a Scul

Eve taking of the forbidden fruit
Adam & Eve sewing fig-leaves together
a Cherubim with a flaming sword at the door of the garden

27. Prophane Histories & Fables
Minerva
Seneca

A few Supplements to ye Biblical Histories
The Dresser of the vineyard Interceeding for the fruitless Fig tree. Luke 13.
A few Supplements to S. 27 or Profane Transactions and Histories
A Souldier, Astronomer & Ploughman
Theophrastus Paracelsus
An Indian of Pensilvania in his Match Coat
Two Flowers (the Rose & Thistle) growing together
a Husbandman splitting an old Willow with wedges made of the same
APPENDIX C: Plants of Pastorius’ Garden.

1.0 “Reportium Seminale”, “Seed Report” from Pastorius’ Monthly Monitor (c. 1701). This list includes over 220 plants. When possible, the plants are identified by other common names in brackets and its binomial name. The plants are listed by Pastorius’ names in the order and spelled as he wrote them. “[Ill]” indicates which cases where his writing is illegible. Those noted with a “*” are also listed in Leighton’s “An Appendix of the Plants Mentioned by Explorers, Settlers, Underwriters and Visitors as Growing in Seventeenth-Century New England, Either found Growing or Planted by Those who came her to Live.” These plants were found in gardens of New England before 1683.

Sources:


flos Africanus, french Marigold [African and French Marigold]
Tagetes

*Alexander [celery, carrot, parsley family]
Smyrnium olusatrum

*Angelica D. Angelica archangelica


Anenome [Anemone, Lily-of-the-Field, Windflower] Anemone

*Annis Seed [Aniseed]

Pimpinella anisum

*Apple kernels [Apple] Malus domestica

Apricot Stones [Apricot] Prunus armeniaca

Arrach. Mellons. White-red [Sweet melon?] Cucumis melo

OR

*[Arach, Orach] Atriplex hortensis

Artichokes [Cynara cardunculu]

*Asparagus Asparagus officinalis
*Balm  
[Lemon balm]  
*Melissa officinalis  
Barberry. Wtinsfäling  
[Hollygrape Barberry (host to wheat rust)]  
*Berberis  

Barley. last  
*Hordeum vulgar (beer and whisky, domestic)  
*Hordeum spontaneum (wild)  

*sweet Basil  
*Ocimum basilicum  

*great Beans faseolen[ill]  
*Phaseolus vulgaris  

french Beans  
*Phaseolus vulgaris  

Indian Beans  
*Phaseolus  

*Beets. White  
[Beetroot Mangold, Mangel-wurzel]  
*Beta vulgaris  

*Beets red.  
[Beetroot Mangold, Mangel-wurzel]  
*Beta vulgaris  

Bellflower Digitalis.  
*Digitalis  

*Betony  
[mint family]  
*Betonica macrantha  

Birlberries Saidelb[ill]  
[Bilberry, kind of Whortelberry?]  
*Vaccinium myrtillus?
*Carrots  
*Carrots  
*Carrots  

*Daucus carota

*Catmint  
*Catmint  
*

*Nepeta cataria

*Celandine  
*Celandine  
*Celandine  

[poppy family]  
[poppy family]  
[poppy family]  

*Chelidonium

*Centaury  
*Centaury  
*Centaury  

*Chamomil  
*Chamomil  
*Chamomil  

[German Chamomile]  
[German Chamomile]  
[German Chamomile]  

*Matricaria chamomilla

*Cherries  
*Cherries  
*Cherries  

[European and American Cherries]  
[European and American Cherries]  
[European and American Cherries]  

*Prunus

*Chervil  
*Chervil  
*Chervil  

*Anthriscus cerefolium

*Chestnuts  
*Chestnuts  
*Chestnuts  

*Castanea sativa

*Cicers or Cickpeast  
*Cicers or Cickpeast  
*Cicers or Cickpeast  

[Garbanzo bean, Chickpea]  
[Garbanzo bean, Chickpea]  
[Garbanzo bean, Chickpea]  

*Cicer arietinum

*Cives  
*Cives  
*Cives  

[Chives]  
[Chives]  
[Chives]  

*Allium schoenoprasum

*broad Cives  
broad Cives  
broad Cives  

[Chives]  
[Chives]  
[Chives]  

*Allium schoenoprasum

*Clary  
*Clary  
*Clary  

[Clary Sage]  
[Clary Sage]  
[Clary Sage]  

*Salvia

wild Clary  
wild Clary  
wild Clary  

*Salvia

Cleavers  
Cleavers  
Cleavers  

*Galium aparine

Coleworks. Rose.  
Coleworks. Rose.  
Coleworks. Rose.  

*Rosa

*Columbines  
*Columbines  
*Columbines  

Aquilegia

Colorabi  
Colorabi  
Colorabi  

[Kohlrabi?]  
[Kohlrabi?]  
[Kohlrabi?]  

*Brassica oleracea?

Coloquintion  
Coloquintion  
Coloquintion  

[Colocynth]  
[Colocynth]  
[Colocynth]  

*Citrullus colocynthis

*Comfrey  
*Comfrey  
*Comfrey  

[Symphrey]  
[Symphrey]  
[Symphrey]  

*Symphytum officinale

Consta[ill]ple  
Consta[ill]ple  
Consta[ill]ple  

[Constantinople nut, Hazelnut?]  
[Constantinople nut, Hazelnut?]  
[Constantinople nut, Hazelnut?]  

*Corylus?

*Coriander  
*Coriander  
*Coriander  

[Coriander, Cilantro]  
[Coriander, Cilantro]  
[Coriander, Cilantro]  

*Coriandrum

*Corn salad  
*Corn salad  
*Corn salad  

[Lamb’s Lettuce]  
[Lamb’s Lettuce]  
[Lamb’s Lettuce]  

*Valerianella oitoria

Corinths  
Corinths  
Corinths  

[currants, Black Corinth grape, Korinthe, Johannesbeere]  
[currants, Black Corinth grape, Korinthe, Johannesbeere]  
[currants, Black Corinth grape, Korinthe, Johannesbeere]  

*Vitis vinifera
*Cowslips. fuslinfolblin [ill]
[Primrose]
Primula

*Cresses
[Kresse]
Lepidium sativum

*Cucumers
[Cucumber, cow-cumbers]
Cucumis sativus

wild Cumin. see Larkspurs
Cuminum?

Daffodils
Narcissus

*[D][ill]sies. maseitby.
[Daisy?]
Chrysanthemum

[ill]nel

*[ill]l
[Dill?]
Anethum graveolens

[ill] gons

*[ill]thnuts
[Earthnut?]
Aralia?

[ill] Sweet Brier.

[ill] tree

*[E][ill]pane Alant.
[Elecampane]
Inula helenium

*[ill] Endive

Cichorium endivia
[ill] Endive

Cichorium endivia

*Fetherfew
[Feverfew]
Tanacetum parthenium

*[ill] nil
[Fennel?]
Foeniculum vulgare

Filbert
[Filbert tree]
Corylus maxima

*Five finger d grass
[Cinquefoil]
Potentilla reptans

Figs
Ficus

*Flower de Lucle
Iris

*Garlick
[Garlic]
Allium sativum

Gilliflowers.
Dianthus

[ill]

[ill]

[ill]

Guinny pepper.
[Guinea pepper, African pepper,
Ethiopian pepper]
Xylopia aethiopica
Hazelnuts
*Corylus*

hawthorn.
*Crataegus*

*hemp.
*Cannabis sativa*

*holie hocks. stock [ill]
[Garden Mallow called hollihocke]
*Althaea rosea*

holm. steispmalm.
*Quercus ilex?*

honesuckles. Rotr for Jeriso.
*Lonicera*

*hops.
*Humulus lupulus*

*horehound.
[white horehound, common horehound]
*Marrubium*

horserhadish
*Armoracia rusticana*

*houseleek.
[Houseleeke or Sengreene]
*Sempervivum Tectorum*

*hysop.
[Hyssop]
*Hyssopus*

Jacint.
[Hyacinth]
*Hyacinthus*

*Indian Corn.
*Zea mays*

Indian Peas.
*Pisum*

*Juniper berries.
*Juniperus*

Ladies thistle.

Larks Spurs. [German ill]

*Lavender Cotton. Cypooksfraút.
*Santolina*

*Lavender.*
*Lavandula*

*Leeks. I os: laús.
[Leek]
*Allium porrum*

Lentils
*Lens culinaris*

*Lettuce
*Lactuca sativa*

*crisped Lettuce
*Lactuca*

*Lilly of the Valley
*Convallaria majalis*

*white Lillies
*Lilium candidum*

Lions mouth.
*Linaria vulgaris?*

London bright.
*Lovage
  *Levisticum officinale

Lupins
  [Lupine]
  *Lupinus

[ill]

*Marigolds.
  [European Marigold]
  *Calendula

vid. flos Africanus.
  *Tagetes

*Sweet Marjoram.
  *Origanum majorana

*Winter Marjoram.
  *Origanum

Marvel of Peru.
  *Mirabilis jalapa

Medlars. Mispelie [ill]
  *Mespilus germanica

*Musk- & Water-Melons.
  (Musk) *Cucumis melo
  (Watermelon) *Citrullus lanatus

dwarf melons
  *Cucumis or *Citrullus?

Millet. hirs
  *Panicum miliaceum

*Parsley for the roots,
  *Petroselinum crispum

*Parsley for the herb
  *Petroselinum crispum

*Mint.
  *Mentha

*Mugwort. Corýfűß
  *Artemisia vulgaris

Mulberries.

*Morus?

Musk. firsum kraút.
  [Musk okra?]
  *Abelmoschus moschatus?

*Mustard.
  *Brassica cretia

Nasturtium Indian.
  *Tropaeolum majus

Nettles.
  *Urtica dioica

Oats.
  *Avena sativa

*Onions.
  *Allium


Palma [ill]

*Parsnips
  *Pastinaca sativa

[iill] Münch rhubarb
  [Munk’s Rhubarb]
  *Rumex alpinus

*Peach tree
  *Prunus persica

*Pear tree
Pyrus communis

Pisa gratiosa

*Prouncival Peas
Pisum

*sugar Peas
Pisum

Indian Peas
Pisum

told Erbstry
Pisum

*Penny royal. polry.
[species of mint, Pennyroyal]
Mentha pulegium
*Peony.
Paeonia

Pepons see Pumpions.
[Pumpkins]
Cucurbita pepo

Pepperwort. pf [ill] voukraut
[Dittander]
Lepidium sativum

Pinks.
[Carnation]
Dianthus

*Plantane.
[Wegriest]
Plantago

lesser Plantane lambs tongue vibwort.
[English Plantane, Ribwort]
Plantago lanceolata

*Plum trees.
Prunus domestica

*Poppy white, red. blue.
[opium poppy]
Papaver

*Potatoes.
Solanum tuberosum

*Pumpions & Cassavir [ill]
[Pumpkin] Cucurbita pepo
[Cassava, Tapioca Plant] Manihot

*Purslane
Portulaca oleracea

Quickgrass.
[Quack grass]
Elymus repens

Quince trees.
Cydonia oblonga

Queen’s delight.

*Rhadish
[Radish]
Raphanus sativus

*Raspberries. himberre [ill]
Rubus idaeus

Rice.
[Wild Rice]
Zizania aquatica

*Roses, white, red, Damask, Cina wild & c.
Rosa

Rose campion.
[Jerusalem cross, Tears of Christ, Meadow campion]
Lychnis chalcedonica
*Rosemary
  *Rosemarinus

*Rue
  *Ruta graveolens

Winter Rye
  *Secale cereale

Summer Rye.
  *Secale cereale

*bastard Saffron.
  [Safflower]
  *Carthamus or Crocus

*Sage.
  *Salvia

Saint Form. holy hay.

*Sallet. See Lettuce.
  *Lactuca

Sassafras
  *Sassafras albidum

Savin. Sasteubaüm.
  [Savin Juniper]
  *Juniperus sabina

Savoyre Rose.

Winter Savory.
  *Satureja montana

*Summer Savory.
  *Satureia hortensis

Slozanera

*Scurvey grass
  *Cochlearia

Sloubush

*[ill]wort Incherwúrtzol
  [St. John’s Wort?]
  *Hypericum perforatum

*[ill]age or Seleri
  [Celereac]
  *Apium graveolens

*Sorrel.
  *Rumex acetosa

*Southernwood.
  *Artemisia abrotanum

Spelt.
  *Triticum spelta

Spoloma? [ill]

*Spinage smooth
  Spinage prickly
  [Spinach]
  *Spinacia

Squashes
  *Cucurbita

*Strawberries.
  *Fragaria

*Succory.
  [Chicory and Endive]
  *Cichorium endiva

[iill]

[iill]

*garden Tansie
  *Tanacetum vulgare

Tartouisles.
*Thyme
[Thyme]
*Vines.

*_Thymus*

wild Thyme. quendel

*Violets.

*Thymus*

Thorn apples.

*Viola*

_Datura_

Walnuts

*Tobacco.*

_Juglans*

*Nicotiana tobacum*

Winter Wheat

_Datura*

Sumer Wheat.

_Tobacco.*

_Triticum*

Tuberosa.

*Viticulums*

[Tuberose]

_Polianthes tuberosa_

_Vaccinium myrtillus_

Tulips.

_Ranunculus*

Tulipa

_Wilkinia*

Turn about gentleman.

_Wilkinsl*

*Turnips.

_Viola*

Brassica rapa

Willows.

_Turnips.*

_Osier Salix*

Turnsole.

_Lipochaeta*

*Turnips.

_Winter Cherries. Ju [ill]*

_Vaíetes. Wichy.

_Lipochaeta*

*Valerian.

_Winter Gilliflowers [ill]*

[Valeriana officinalis or Polemonium caeruleum]

_Winter Gilliflowers [ill]*

Valeriana officinalis or Polemonium caeruleum

_Winter Gilliflowers [ill]*

[Valeriana officinalis or Polemonium caeruleum]

_Winter Gilliflowers [ill]*

[Valeriana officinalis or Polemonium caeruleum]

*Valerian.

_Winter Gilliflowers [ill]*

[Valeriana officinalis or Polemonium caeruleum]

_Winter Gilliflowers [ill]*

[Valeriana officinalis or Polemonium caeruleum]

*Valerian.

_Winter Gilliflowers [ill]*

[Valeriana officinalis or Polemonium caeruleum]

2.0 Gathering of Herbs according to Astrology and Luna Cycles, taken from page twenty (20) of Pastorius’ *Monthly Monitor*.

Source: (HSP Digital Tag: 8243-0475_V7_20)
[LEFT PAGE]
* Gather your herbs, flowers & Seeds in the Planetary hour, i.e. Let the planet that governs the herb be angular, , p. th stronger the better. In herbs of Saturn, Let Saturn be in the ascendart, if you can. In herbs of Mars, let Mars, be in Mid-heaven, for in those houses they delight: Let the Moon apply to them by good Aspect, & let her not be in y houses of her Enimies. If you can not well stay till she apply to them let her apply to a plant of the same, triplicity, & if you cannot wait that time neither, let her be with a fixed star of their Nature. Hao Culpepper pro Studiosis Astrologia. Further he bids you dry them well in the Sun & not in the Shadow, & c. Then put them up in brown Papers, & c. No. herbs full of Juice dry in the Sun, others in the Shadow. Some herbs lose all their Vertue when dryed, as Lettuce, Purslane, beet, arach, Cole Cresses. & c. Others, tho they may be dryed, yet are best used when green or fresh, as Wormwood, Southern wood, rue, mint, & c. these being dryed do heat too much. / . Whatever you will dry, gather them in their prime & mind that their full maturity is a begining of their decay. [Stem] by clear & fair weather, void of rain, wind, mist, dew. / . otherwise they are subject to mould iness & corruption. Dried Flowers seldom keep good above one year, except those of Chamomil.

Dry your Roots. Just before they Spring and Sprout, Or else about a month time after their seed has been ripe. Vide omnino Culpepper's English Physician Enlarged.

Melon Seed Steep'd some hours in Wine produces vinous melons and if you do dentrously open each seed at the [ill] end of it, where the Sprout is to come out, and then [ill] to macerate in melted Sugar, perfum'd with Amber. [ill] drying it afterwards in the Sun, & Sowing it [ill] earth well dung'd with goats-dung, your Mellons will have an admirable Taste, and be larger than Ordinary.

[ill] The Seeds of the middle of the Melons produce great and round ones; taken from the side that touch'd the Earth, produce sweet and more, vinous ones: The Seeds next the end where grew the Flower, bear Me, [ill] sizeable enough & well shap'd; But the Seeds next the stalks bear such that are long and good [ill] little.

[RIGHT PAGE]
To gather herbs, be of the right time sure, For else you undertake in vain the Cure.

Saturn governs the Peach tree, Quince tree, Poplar tree, Medlar, Comfry, hemp, knot-grass, dead arsmart, Mullin, Waterfevse, [ill], Snakeweed, Solomons Seal, Shepherds purse, rapture wort, darnel

Jupiter: Chestnut, red roses, billberries, quickgrass, balm, cinqfoil, docks, agrimony, liverwort, Scurvy grass, Endive, bourage, gilly flowers, sage, asparagus, succory, Chervil, hysop, houseleek
Mars. hawthorns, thistles, arsmart, nettles, barberries, Savine, hops, Rubarb garden patience, Carduus benedictus, Pepperwart, garlick, onions, Cives, Mustard, wormwood, Tobacco, rhadish, horse rhadish, Bazil.

Sol. Wallnuts, Juniper, Rosemary, Turnsole, Eye-bright, Clendine, Rue, barnet, Marygolds, Chamomil, Lovage, Centaury,

Venus Peach & Pear tree, Cherrytree, Plum, Elder, blackberried, vine, Damask-roses, Violets, Strawberries, beans, parsnips, wheat, burdock, wood-sorrel, featherfew, mint, catmint, penny royal, plantain, tansie, thyme, wild thyme, golden rod, Mallows, Columbines, Motherwort, Mugworth, Vervine, yarrow,


Luna. Willow-tree, white roses, white lillies, Lettuce, Cabbages & Coleworts, Clary, poppy, purslain, Cucumbers, Orach, water cresses, water lillies, water flags, Clover, Moonwort, Mouslar, Rattle grass, Orpine,

Hohbergs Georgica Curiosa; part 1 lib. 5 cap 1 & 5.

3.0 Bees and Apiculture (selections from pp. 33 & 73, Monthly Monitor) Pastorius’ writing about bees and apiculture can be found on pages 33, and 73 through 79. Pages 73–75 are mostly his notes from Worlidge’s Systema Agriculturæ and William Mather’s Young Man’s Compainion (See Appendix B, 1.0). In the middle of page 75 he wrote: “Now Something of mine Own, & out of Dutch Authors.” From this point to the middle of page 79 are extensive notes written in German. This section of his Monthly Monitor is the most comprehensive accounting of apiculture in early American gardens that I know of. It is important to note that honey bees (European Apis melifera) were imported into Virginia in 1622, Massachusetts by 1639, and had increased naturally by swarming in Pennsylvania by 1630.441 This source accounts for the expansion of apiculture in Pennsylvania as it was influenced by English, Dutch, and German colonists. I have only included here excerpts from his notes written in English and some Latin aphorisms about bees.

Source: (HSP Digital Tag: 8243-0475_V7_33 & 73)

[p. 33]

The Product of Bee-hives is **Honey & Wax**.

To get the former out of the honey combs, after you have smother'd your Bees with Brimstone, or Cut them secundum artem; Beat break & bruise your Combs in an Earthen Vessel with a wooden spoon as small as ye can, put them in a Sieve over a great kettle or the like & so let drop thereinto all what will. The Remains put in a Tub, & wash & squeeze the same several times with clean (:warm:) water, & keep this for your Mead. Use other more full & ample method See im main[ill] kürtz [ill], pag. 209.

The honey you best keep in glass-or-Earthen Ware. But do not set it in the Sun [ill] in a Cool & airy Place, the froth or fom which it casts up in a few days, you may either scum or take off, or let it lie a top; and feed your bees merewith,] for it's all one

How to make Mead look to page 68. Concerning Wax page. seg.

To get the Wax out of the washed Remains mentioned pag. anteced. Break the clots in small pieces, put these in [ill] iron pot or kettle, pour water therein, & let it boyl-thorowly & so very hot hasten it into a strong Linnen bag, wring it with or between two Sticks very forcibly into a Vessel in which there is some cold water & Afterwards melt this in a clean Pot & then strain it through a Colender or Cloth into another Vessel, whose bottom is covered with warm water. But mind, that as soon as the thick stuff comes you must leave off Squeezing & wring thin out upon a dish or platter by itself. It serves to wax thred to make salve for sore Trees, & c.

[excerpts from pp. 73]
The Bee is little among such as flie; but his Fruit is the Chief of Swee things.
Ecclesiastic. 11:3.
[Greek]. Sola Apis Melificat.
Seulemente les Abelles font du Miel.
Het Honigh komt alleen Van Biekens by [ill]
The Bees alone bring home Sweet Honey # to their Comb.
how be't, Apollonius [Apollonius of Tyana, Greek philosopher, c. 15-c. 100AD]) tells us that a certain people of Africa can make honey of Flowers like Bees. Colerus p. 533.
Which if it were true, I doubt not but we should have heard of'em since, & their work brought over Sea.

...
fragrant Flowers, teaching us that the greatest hardships, Sufferings & Afflictions to the Children of God are Matter of Joy, and everlasting Happiness.

4.0 Notes about Pastorius’ Asparagus (p. 18, Monthly Monitor)

Source: (HSP Digital Tag: 8243-0475_V7_18)

Asparagus, a noble herb to eat,
By the ensuing means is raised great; viz. dig a ditch or trench about 3. foot deep, 5. foot broad, & as long as you please. In this bring a Lay of brushwood cutt pretty small: here upon a Lay of Marsh or fen-ground, which has lain drying one year; On this a Lay of short Cow-dung; then an other lay of marsh-ground. Further a Lay of Combmaker Shavings & Tanner Scrapings mixt with a deal of Surreverence out of Privy house. Now all these former Ingredients are to fill up your ditch making it level with your garden: But for as much as your trench in time will sink or settle therefore put a matter of 6. or 7. Inches high of good tender mould above your last lay, & [ill]lder your Sperage beds each 5. foot square, harrow em even & plant upon every one 4 rows at one foot. distance, always 2. or 3. roots (: their extremities being cut off a little :) together in round holes, having a small hillock in the midst; Cover em near half a foot with fine earth, & keep’em from all weeds. Against Winter Cut down the Stalks, how the beds shallowly over, strew half a foot high of hens or pigeons dung upon them, & in the Spring take away the longest with a Rake.

If the afore reated method seem too tedious, Dig only a hole a foot deep, lay 4. inches high of the best & shortest dung therein & upon this 4. Inches high of good mould. Set your Asparagus with displayed roots, Cover’rn with the like earth 3. Inches high & let the rest unfill’d up till Fall, then accomplish it to the brim or top with Muck & Compost.

Some alls affirm, that if you lay all kinds of horns in your Sperage beds & 4. or 5. inches high of good mould thereupon & there plant your asparagus, they will grow the better. Stem, that its tenderness is much encreased, if you put at the springing thereof some Eldar or other such like hollow pipes over it.

NB. The best Roots for transplanting are those which are 2. or 3. years old; The best time the Increase or Full of ye Moon, in the middle of the 1st month, March. The best place where the Sun has a free access & the boistrous North winds none at all; the best Soil that which is rich, but light, ut Suprà. having planted your Asparagus on your above described beds, do not Cut any thing of them in the 3. next ensuing years. Old & decrpit Stock. you may open in the Spring & geld their roots of whatsoever is rotten & naught; and when you set them in again Cover’rn with fat mould mixed with sand. Saith Hohberg p. 497. and Thiemen p. 291. saith (4. or 5. years. But Balthasar Schnurr von Lendsidel in his künst ñ [ill] pag. 158. saith you must Cut it all the Sumer long, and not let the grow high; for this growing hurts its root. Credat Judæus Apella.
Sheep's treddles. Cow-or horse dung.)

[ill] prefers them that are but one year old.

5.0 “Hyacinthus Indicus Tuberosus”, taken from pages 69 and 70 of Pastorius’ *Monthly Monitor* (c. 1701).

Source: (HSP Digital Tag: 8243-0475_V7_69 & 70)

Hyacinthus Indicus Tuberosus, East Indian Jacinth is accounted the chiefest of all Flowers, not only by reason of his fair Colour, as white as Snow, & his delicate Shape, like that of Lillies, & c. but also because of the admirable sweet Scent, wherewith it tinctures your very Chamber, if but a little while putt thereinto. His stalk grows above a yard high, & brings 20. 30. or more flowers somewhat late in the Fall, which Continue a pretty long time one after an other. Just before he blossoms, you must water him extreme well, but not at all after he has done. Some will say, that those which newly came out of the East-Indies are of a nobler Fragrancy than these we raise in our colder Climates. Stem, that every Root or Clove doth bloom only Once and therefore the By Shoots ought the more Carefully be gathered. How you may multiply this Tuberosum by Sowing in the 7th [September] or 8th [October] mo. his black Seed very thin in a Pot or Pan & c. the German Capuchin Timoth. von Roll in his Blúmn büchlain pag. 85. Doth shew you more at large, But seeing this way is long & satisfy myself with the propagating thereof by the sd. Pag. Shoots, in manner following, viz. The main root or Clove g let stand two years unremoved and every Spring in the 1st or 2d. mo [March and April]. I take off therefrom, without shaking the same, all Cloves or Byshoots that will easily part, leaving them which stick very fast along with their Mother. The former I plant or set in my garden, at the distance of a good span, in a suny place of a rich & light mould. Against Winter I proceed with them if they were Old Ones; i.e. Planting each of' em in their per Pots, which have a hole at the bottom or beneath on the side, I spread & display their Fibres as orderly as can be and Cover'em about 2. fingers deep with the best ground I have From thence into a warm Room of the house.

About the Airing of this Exotick our Authors do not agree, Some tell us, we should take it out of its Pot in the 9th mo: & keep it in a temperate Chamber till the 12th [February] mo: then put it in the Pot again, & let this stand near the Stove, watering it but very seldom; Thus, say they, It will thrive the fatter & blowing the sooner. Others will have us take it out on the sd 9th [November] mo: but not suffer it in the free Air above four weeks, preserving the same during that time in a Room, where Frost & ice can't hurt it. If you keep it out longer say these your main Root or Clove will be apt to Rot. In the Italian instruction (: inserted in the above quoted Book p. 88. I find, that this Jacinto Indiana Tuberoso should be taken out yearly in the 1st month [March] in the decrease of the Moon; the By Shoots dealt with as is afore mentioned & the main Clove Replanted again
by himself. And though the Leaves do not Spring till after 2 or 3 months, you ought not
to make an over narrow Inquisition by stirring; Rather Cover it, that it get no harm by the
rain & set it in some horse dung till it comes forth & then in the warmest Corner of your
Garden; Often times watering the same all the sumer long especially in hot weather, &
when it's ready to blow or blossom. NB This Eastern Plant loves rich & mild mould & to
See the sun as long as he is on our hemisphere.

6.0 Plants we propagate. Taken from pages 21 and 71 of Pastorius’ Monthly Monitor
(c. 1701).

Source: (HSP Digital Tag: 8243-0475_V7_21 & 71)

In the woods & marshes & of Pensilvania are find of their own self growing: Chestnuts,
blackwallnuts, haselnuts, galls or gallnuts, acorns, Oakapples, Mulberries, wild grapes,
myrte or blackberries, Strawberries, wild Roses, Sumack, Turnerick, St. Johns wort,
Cinqfoil Fern, Agrimony, Centory, hops, Thorn-apples, Bardock, Quickgrass,
honeysuckle, knotgrass, Plantane, Arsmart, Water Cresses, Seurvygrass, Calmus.

Planted
[duplicate line]
In ORchards & gardens: Apple - Pear - Quince - Plum - Apricot - Peach -Cherry -
Mulberry - Wallnut - Medlar - Cormel - hasel - Filbearts, Eldar - Currant - Barberry -
Box-trees.
(: Juniper-trees are still wish'd for, Jlein Willows, withies or Sallow trees, sloetrees :) Blackberry - bramble -raspberry - gooseberry -bushes.
Savine, white (or haw:) thorns, Eglantine or Sweet brier,

Hops & Vines, in Order to preserve humidum radicale.
Angelica, Asparagus.
Balm, Burnet or Pimpinell.
Carraway & Cumin, Catmint, Celandine, Chamomil, Cives & other
Sorts of Crush-leeks, Clary, Columbines, Comfry, Cowslips, Constantinople
Daisies, Dracuneulus,
Elicampane, Earthnuts.
Featherfew. Fennil.
Gentlemint, Gilliflowers,
Harticchocks, holiehocks, horseradish, houseleek, hysop
Leek, white Lillies, Lovage.
winter marjoram, Mint, (Marvel of Peru.)
Nep see Catmint, Nettles.
garden Patience, Penny royal, Piony, Primrose,
Rosemary, Rue,
Sage, winter Savory, Savin, Scurvygrass, Sorrel, Southernwood, Succory, Sperage see Asparagus, Tansie, Thyme, wild thyme. Violets, Dames violets. Wormwood.

[PAGE 21, RIGHT] The Trees, Shrubs & Plants of the foregoing Page are Perennantest & need not to be sown & set every year, But the following [symbol] you must yearly Set or Sow, viz!

Garlick, Tobacco, Mustard, Dill, Coriander, Carduus benedictus, Ladies thistle, Marigold, Mallows, Cabbage, Coleworts, Burrrage, great garden (:or Rouncival:) peas, Calabashes. Annis seed, Guinny pepper, bastard Saffron, Gith, Savory, Poppy, Turnsole, Lampoil tree, Parsly, Chervil, Selery or Smallage, Spinage, Purslane, Orach or Arage, white & red; Beet white & red; Parsnips, Carrots, Onions, Potatoes, musk & water Melons, Pumptions, Lettuce, Cabbage, Lettuce, Crisped Lettuce, Cresses, Basil, Sweet Marjoram Pisa gratiosa, Sugar peas Indian peas, Beans, french beans, welsh beans. Rhadish, Winter Endive, Corn Salad, Small peas, Chick (:or three cornered:) peas, Sumer: wheat & : rye, Oat. barley, Spelt, Indian Corn, Rice, Millet, lentil, vetches, hemp, flax, buckwheat & turnips belong into the fields. However concerning the last. See also pag. 50: num.14. Add pag. 100:5th {longlived.} añual, every year to be renew'd by their Seed.

[double line] * The most usual Saladings are 1. a Sallet of Asparagus or Sperag 2. of young hops, F3. Of water Cresses, 4. of Hartichokes, 5. of Cucumbers, 6. of Goards, 7. of unripe Musk-Melons, 8. of Radishes, 9. of Earth-Chestnuts, 10. of Potatos, 11. of Selery, 12. of Cabbages, 13. of Winter Endive, F14. of Corn-salad. F 15. of Lettuce, Crisped & uncrisped. Of this I love to take Six parts, & the seventh of the quadlibetical [ill] following hotch patch of wholsom herbs, viz, a little Scurvy grass, Sorrel, burnet, garden Cresses, borage = marigold = & gilli = flowers, Balm, mint, nep, thyme, marjoram, hysop, sage, fennel, Chervil, / parsley, purslain, sweet Basil, Savory, Smallage, & c. together with the fresh sprouts of Onions, Leek or Shallots. Eat your Sallet at the beginning of Supper with some Eggs.

/ Dragons. # Adde infra p. 74. num 3.
F of Eldarsprsouts, F of Turnip sprouts. F of red-Beet-rootis

****

[PAGE 71, RIGHT]
1. Some Plants we Propagate easiest from their Slips or By-shoots, viz.
Balm, boxtree, sweet briers, burnet Catmint, celandine, Chamomil, Cives, Leeks, St.
Hohns Leeks, broad Leeks, clry, columbines, comfry, Constantinople, corinths, Cowslips,
Daffodils, Daisies, Earthnuts, Elders, Elicampane, feather few, fenil, flags, Garlick,
pinks, & gilliflowers, goosberries, hazelnuts, holihocks, hops, honeysuckle, horserhadish,
houseleek, hyos, hyacinthus tuberosus, Lavender Cotton, Lillies of the Valley, white
Lillies, winter marjoram, mint, mugwort, Nettles, Peony, Raspberries, Roses, rosmary,
Rue, Sage, Savin, Winter Savory, Scurvy grass, Sorrel, Southernwood, Tansie, Thyme,
runiting Thyme, mother thyme, Tulips, Turnermick, Turn a bent gentleman, Vines, wild
vine, Violets, Willows, worm wood, & several Shrubs & trees.

7.0 An account of Pastorius’ nature prints (how he printed plants from his garden)

Examples of Pastoriuss’ nature prints can be found in his Letter Book, Artzney und
Kunst, Ship-mate Ship, on the cover of his Lex Pennsylvaniensis in compendium redacta:
he.e. The Great Law of Pennsylvania abridged for the particular use of Francis Daniel
Pastorius, and inside a book that he owned, Apparatus eruditionis tam rerum quam
verborum per omnes artes et scientias, Michael Pexenfelder. There are no nature prints
on the cover of his Garden Recreations poetry book or his Monthly Monitor. He included
nature prints in many of his letters to his correspondents in Pennsylvania and Germany,
especially those written to friends like Lloyd Zachary.

I have closely looked at all of his nature prints and have concluded that his
methods were simple and used inks and paints that he made for himself. Of the surviving
examples, he did not use a printing or wine press. In the last pages of his Artzney und
Kunst (p. 253) are his recipes for ink, printer’s ink, and paint, including different colored
inks:

304. To make green Ink to write with, [underlined with red ink] by dysolve
verdigrise in vinegar, then strath it, & grind it upon a porphyry stone with a little
honey & macilage of Gum Tragacanth.

305. To make blue Ink, [underlined with red ink] Grind Indico with honey
mixt with glair of eggs, or glue-water, made of Jsing-[ill] dissolved in water &
strained.

306. To make writing Ink of Vermilion, [underlined with red ink] Grind
Vermilion upon a Stone with comon wa[ill][water] dry it & put it into a glass
vessel, to which put urine & st[ill] all together, let it settle, then pur off the urine;
this ref[ill] 8. or 10. times, so will the verm. be well cleansed. to this [ill] glair of
eggs, to swim on it above a fingers breadth: stir together, dold settling abstract the
glair, likewise 8. or 10. times so will the taste of urine be taken away, lastly mix it
with fresh glair, & keep it close stopt for use; using it mix it with water or
vineygr.442

His prints were made from fresh plants harvested from his garden or nearby. He
would have pressed them lightly (overnight in a book) before printing them. All the
surviving prints are black, printed with a medium thicker than ink. It was common
practice to print plants with a light mixture of carbon or ground charcoal and linseed oil.
(Like his inks, he would have made batches of this linseed oil, charcoal mixture in
advance and stored it in an air-tight jar.) After his prints dried, he sometimes colored the
prints. The prints on the cover of his Artzney und Kunst have been painted with green and
Vermilion ink. Although his methods were simple, he was adept at applying the mixture
of linseed oil and ground charcoal with a brush, the prints are even and for the most part
clear of bubbles and smudges. Some of the plants he printed were very small and
delicate. To compose and print the prints as he did, he would have used tools like
tweezers, scissors or a sharp knife, paint brushes or feathers, some kind of burnisher or
roller to apply even pressure, cloths, extra paper, and a very patient, steady hand. Most
likely he did these prints at the same desk where he wrote.

I have reconstructed a simple process for printing plants and can attest to the fact
that the practice requires trial and error, practice, a handful of tools (like those I
mentioned) at hand, a well-lit, strong table, and an assortment of inks and the linseed oil
and charcoal mixture pre-prepared.

8.0 Medicinal Plants listed in Pastorius’ Artzney und Kunst (c. 1686). There are one
hundred and fifty (150) plants listed in this notebook by their German common names.
When possible, I have identified the plant by other common names in brackets and its
binomial name. The common names are spelled as Pastorius wrote them. Translations
and plant identifications were assisted and reviewed by Meredith Hacking, Bethany
Wiggin, Sonja Dümpelmann, Chantel White, and David Hewitt.

Pennsylvania Historical Society.

442 Francis Daniel Pastorius, “Artzney Und Kunst: Ist All Umsunst Ohne Gottes Gunst 1695” (n.d.), Francis
Daniel Pastorius papers 1683–1719 (poetry, essays, Penn Germantown Charter), Collection 0475, V. 3,
Pennsylvania Historical Society.
A
Abroten Od Aabínitz
[Southernwood]
_Artemisia abrotanum_

Alant. Ennúla Campana
[Elecampane]
_Inula helenium_

Angelica D.
_Angelica archangelica_

Apfel
[Apple]
_Malus domestica_

Attich
[Dwarf Elder]
_Sambucus ebulus_

Annis
[Anise Burnet Saxifrage]
_Pimpinella anisum_

B
Basilicúm
[Basil]
_Ocimum basilicum_

Bohnen
[Broad Bean]
_Vicia faba_

Borage
_Borago officinalis_

Bertram
[Atlas Daisy]
_Anacyclus pyrethrum_

Boýfuß pad
[Beifuß, Mugwort]
_Artemisia vulgaris_

Brúnkreß
[Brunenkresse, Watercress]
_Nasturtium officinale_

C
Calmús
[Sweet Flag]
_Acorus calamus_

Camillen
[Chamomile]
_Chamaemelum nobile_

Capút kraut
[Capers]
_Capparis_

Cardobenedicten
[Holy Thistle]
_Cnicus benedictus_

Cedarbaúm
[Eastern Red Cedar]
_Juniperus virginiana_

Cicori wogwart
[Chicory]
_Cichorium intybus_

Cicsambaúm
[kind of tree]

Citifonor
[Citris fruit]
_Citrus_

Citront[i]l Pomanaytzry
[citrus fruit]
_Citrus_
Cochlearia, Löffelkraut, Spoonwort or Scurvy-gräß
[Scurvy Grass]
*Cochlearia officinalis*

Coriander
*Coriandrum sativum*

Cucumern
[Die Gurke, cucumbers]
*Cucumis*

Cyprußkraüt
[Zypresen Kraut, Lavender Cotton]
*Santolina chamaecyparissus*

D
Daündabaúm
[kind of tree]

Denis [Dens leonie?]
[Dandilion]
*Taraxacum*

Dill
*Anethum graveolens*

Dinckel
[Spelt]
*Triticum spelta*

E
Ein Eichenbaúm
[English or White Oak]
*Quercus robur or alba*

Enúmoun
[Chickweed]
*Stellaria*

Erbesen
[Peas]
*Pisum sativum*

Erdbeer
[Strawberry]
*Fragaria*

F
Farnen kraút
[Fern]

Faseolen
[Schminkbohnen, Green Bean]
*Phaseolus vulgaris*

Flöskraút
[North American knotweed]
*Polygonum*

Fünf finger d grass & fünff fingerkraut
[Kriechendes Fingerkraut, Creeping Cinquefoil]
*Potentilla reptans*

Fenchel
[Fennel]
*Foeniculum vulgare*

Fraúnz Distel

G
Galläpfel
[An Oak Gall]

Gartenkreß
[Garden Cress]
*Lepidium sativum*

got[ill]aid

Grieß
[Semolina]
*Triticum durum*

Gtrollto grasten
H
Hafour guirß
[Cultivated Oat]
*Avena sativa*

Haselnuß
[Hazelnut]
*Corylus avellana*

hirs
[Millet]
*Panicum miliaceum*

hollünder
[ Elderberry]
*Sambucus nigra or canadensis*

hyßop
[Hyssop]
*Hyssopus*

Heidelbeer
[blueberry]
*Vaccinium*

geschröttenes
Heidenkorn
[buckwheat]
*Fagopyrum esculentum*

Indianj
Tünckinsilen Pfeffer
[black Pepper]
*Piper nigrum*

Iüncholod Spoltz
[kind of grain]

Johannisbeer
[Johannisbeere, Currant]
*Ribes*

Hopfen
[Hops]
*Humulus lupulus*

Hauswurtz
[Goldenmoss Stonecrop]
*Sedum acre*

K
katzenmüntz
[Catnip]
*Nepeta cataria*

kästen

kichern
[Chickpea]
Cicer arietinum

klappenmohn blätten / Papaver erraticún
[seed pods & leaves of common poppy]
*Papaver*

Kleiner Centaúen
*Centaurea*

Kletten
[Stickywilly]
*Galium aparine*

knobloch
[Garlic]
*Allium sativum*

Koiß

körbel
[Kerbel, Chervil]
*Anthriscus*

kümmel
[Caraway]
*Carum carvi*
kürbt
[Squash]
Cucurbita

L
lašč

Lattis
[Lattiche, Lettuce]
Lactuca

Laúč ř.
Schnittlaúč Cives
[Leeks & Chives]
Allium ampeloprasum & schoenoprasum

Lavendel ‘n. Spicanard
[Lavender & Spikanard]
Lavandula vera & Nardostachys jatamansi

Liebstöcke
[Lovage]
Levisticum officinale

Leberkraút Hepatica
[Leberblümchen, Liverleaf]
Hepatica

Löffelkraút
[Scurvy Grass]
Cochlearia officinalis

M
Magsamen oder
Mahen öelman Papaver
[Opium Poppy]
Papaver somniferum

Majoran
[Marjoram]
Origanum majorana
Marilelen apricocks

[Marille, Armenian Plum, Apricot]
Prunus armeniaca

Maulbeere
[Mulberry]
Morus nigra, rubra, or alba

mauerpfeffer
[Goldenmoss Stonecrop]
Sedum acre

Mayz or Indian Corn
Zea mays

Melissen
[Lemon Balm]
Melissa

Melonen
[Melon, Erdopfél]
Cucumis melo

Merzen veilchen
[type of violet]
Viola

Melde atriplex orage

Meerrettich
[Horseradish]
Armoracia rusticana

Mornmitticel

Mettram Matricaria
[Mütterkraut, Bachelor Buttons]
Matricaria

Münch Rhabarbar
[Ampher, Munk’s Rhubarb]
Rumex alpinus
Müntzen
[Mint]
*Mentha*

N
Nachtschatten
[Deadly Nightshade]
*Atropa belladona*

Näglein
[Nelke, Clove Dianthus]
*Dianthus caryophyllus*

Narden
[Narde, Spiknard]
*Nardostachys jatamansi*

Neßeln
[Nettle]
*Urtica dioica*

O
Odermenig
[Agrimony]
*Agrimonia eupatoria*

P
Pappeln fold Papppoln
[Marshmallow or Poplar Tree?]
*Althea officinalis*
or
*Liriodendron tulipifera*

Pastenacken
[Parsnip]
*Pastinaca sativa*

Petersilien
[Parsley]
*Petroselinum sativum*

Pfirisch
[Peach]
*Prunus persica*

Pflaûmen
[Plum]
*Prunus domestica, institia, ort americana*

Pimpinell
[Burnet saxifrage]
*Pimpinella*

Poloÿ Penny-royal
[Pennyroyal]
*Mentha pulegium*

Pomerantzen
[Bitter Orange]
*Citrus aurantium*

Portúlaca
[Portulaca]
*Portulaca oleracea*

Q
Quendel
[Wild Thyme]
*Thymus serpyllum*

Quitten
[Quince]
*Cydonia oblonga*

R
Raúten
[Rue]
*Ruta graveolens*
Rettich
[kind of Radish]
*Raphanus sativus*

Rettich
[kind of Radish]
*Raphanus sativus*
Rheinfarn
[Common Tansy]
*Tanacetum vulgare*

Ringelblümchen
[Marigold]
*Calendula officinalis*

Rocken
[Roggen, Rye]
*Secale cereale*

Roß
[Reis, Wild Rice]
*Zizania aquatica*

Rosen
[Rose]
*Rosa*

Rosmarin
[Rosemary]
*Rosmarinus officinalis*

Rüben gelbe, rote, weiße
[Yellow, Red, & White Turnips]
*Brassica rapa*

S
Helleborus albus Venenum
[European White Hellobore]
*Veratrum album*

Salat. Ñ. Lattice
[Lettuce]
*Latuca*

Salbeý
[Salbei, Sage]
*Salvia officinalis*
<table>
<thead>
<tr>
<th>German Name</th>
<th>English Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spargel</td>
<td>Asparagus</td>
<td><em>Asparagus officinalis</em></td>
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<tr>
<td>Spicanard</td>
<td>American Spikenard</td>
<td><em>Aralia racemosa</em></td>
</tr>
<tr>
<td>Spinät</td>
<td>Spinach</td>
<td><em>Spinacia oleracea</em></td>
</tr>
<tr>
<td>Spoltz od Dinckel</td>
<td>Spelt?</td>
<td><em>Triticum apelta</em></td>
</tr>
<tr>
<td>St. Johañoses kraut</td>
<td>Schoellkraut, St. John’s Wort</td>
<td><em>Hypericum perforatum</em></td>
</tr>
<tr>
<td>Stachelbeer Kloken</td>
<td>Gooseberry</td>
<td><em>Ribes uva-crispa</em></td>
</tr>
<tr>
<td>Süßsholtz</td>
<td>Licorice</td>
<td><em>Glycyrrhiza glabra</em></td>
</tr>
<tr>
<td>Tabac</td>
<td>Tobacco</td>
<td><em>Nicotiana</em></td>
</tr>
<tr>
<td>Tamarind</td>
<td>Tamarindus indicus</td>
<td><em>Tamarindus indica</em></td>
</tr>
<tr>
<td>Thýmian</td>
<td>Thyme</td>
<td><em>Thymus vulgaris</em></td>
</tr>
<tr>
<td>Trauben</td>
<td>Grapes</td>
<td><em>Vitis</em></td>
</tr>
<tr>
<td>Wachtoldbeer beer</td>
<td>Juniper berry</td>
<td><em>Juniperus</em></td>
</tr>
<tr>
<td>Wegriest</td>
<td>Common Plantain</td>
<td><em>Plantago major</em></td>
</tr>
<tr>
<td>Wegwart</td>
<td>Succory</td>
<td><em>Chicorium intybus</em></td>
</tr>
<tr>
<td>Weiße Rüben</td>
<td>White turnips</td>
<td><em>Brassica rapa</em></td>
</tr>
<tr>
<td>Weisse Küb[ill]</td>
<td>Hellebore</td>
<td><em>Helleborus</em></td>
</tr>
<tr>
<td>Weiße Lilien</td>
<td>White Lilly</td>
<td><em>Lilium candidum</em></td>
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<tr>
<td>weisselm</td>
<td>American Elm</td>
<td><em>Ulmus americana</em></td>
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<tr>
<td>Weichholz</td>
<td>Softwood</td>
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</table>
9.0 Wormwood and Smoking (p. 33, Monthly Monitor) Pastorius wrote two long poems about tobacco in his Beehive and Deliciae Hortenses. This entry in his Monthly Monitor explains how he and other Pennsylvanians smoked a variety of herbs and tobacco as medicine and for recreation. See also Appendix D, 9.0.

Source: (HSP Digital Tag: 8243-0475_V7_33)

Wormwood may supply the place of hops to all Intents & purposes as you may see in Th. Tryon's Miscellaneis pag. 19.

Where he also saith that Wormwood smokt in Pipes being well dryed in the Sun & bagg'd close in Paper, is far better and more available for the Cure of all or most of the diseases, Tobacco is taken for by way of Smoking.

In like manner you may Smoke with some Feñel, Dill, Cumin, or Anis Seed several other herbs & flowers dryed & kept as above directed viz. Sage, Balm, Marjoram, thyme, Croses, rosemary, marygolds, hyssop, mint, Carduus benedictus pimpinell, elder blossoms, & c. for the respective distemders they are good for as may be seen in Nich. Culpepper's English Physician enlarged.

But if you will not make Chimneys of your mouths, nor suck a stinking Tobacco-Pipe, you may use Sneezeing Powder of sweet Marjoram, May-lillies, penny royal, Clary, yellow Violets, gilli flowers, the flowers of Rosemary, & c. mixt with a few grains of Musk.
And in case you love your Nostrils better than to tickle & vex them at that rate, you may eat your best garden-herbs either raw in Sallets, as pag. 37*

Or if you think this to resemble too much to the pynishmt of Nebuchadnezzar, you may boil your herbs, flowers, seeds, fruits & roots after you've chopp'd them very small or made them into powder, in your Broths, Gruels, Pottages, Pannados, Possets Sauces, Sops & Paps. & c. Quot Capitatot Sensus. atq [ill]us Domini debet habere gulam.

10.0 Notes about Pastorius’ Vineyard (p. 44, Monthly Monitor) Pastorius dedicated over twenty pages of his Monthly Monitor to Vines, Grapes, wine making, and his Vineyards. Some of the notes are practical recommendations, others refer to the significance of vineyards in Biblical narratives and the symbolism of a vineyard. This excerpt summarizes best practices that he used in the making of his own vineyard—"Some brief Instructions Concerning Vines, how to plant & manage the same.” In this entry, he does not cite any books or authors that he so readily cites in the remainder of his notes about planting a vineyard.

Source: (HSP Digital Tag: 8243-0475_V7_44)

Some brief Instructions Concerning Vines, how to plant & manage the same.
Brief according to my first Purpose but Large beyond Expectations.

First, As to the Place, where you would make your Vineyard, Consider, that Vines love to grow in good, mild & soft mould which rather is dry than overwet: rather somewhat sandy & mixt with small gravel, than althogether clay ground. Hills & Mountains produce the best wine, but Planes the most. [ill]owbeit, Let your Vineyard never border upon the woods; for these at one hand Obstruct the free Passage of the air and at the other do lodge and harbour abundance of Birds & hurtful Creatures. Neither plant it too near Swamps & Marshes, because of the Fogs & Mists hereby occasioned, doing a deal of harm to the bloom or blossom, & c. And seeing it the beams of Sun that ripen the grapes, of possible, Order your Vineyard so, that this great Luminary may look on it almost all the day long: Or else chase the South Side, and after this the East, Last of all the West; For that of the North Is not a farting worth. In a word, the Situation of any Vineyard toward the South, and besides a little more towards the East than the West, is always preferable, for as much as the cold Northerly Winds may this way be easiest kept off.

Next having a Place fit for the purpose [noted above] (in fin if it be not an old fallow field) you must grub & clear it; Then go on and make a ditch about 2. foot broad. and 2 foot deep; Into this throw the upper black mould and thereupon the Clay, and so turn the whole piece upside down. Or if this seem too tedious, dig holes likeas for fruit trees at 4 foot distance, and therein Set your Plants, whereof there are chiefly 3 sorts, viz. Cuttings, Rooties, & Layers. The first are those Segments, which when you cut our Vines in the
Spring are made above a foot long and planted for to take root. Rooties I call them (:for distinction sake:) after they are one or two years old & rooted. The third are laid in still Continuing on the Body where from they are not Severed, till likewise well radicated.

Plant your Vines orderly & in a streight row, as a quincunx, at 4 foots distance putting some rich ground mixed with old dung upon them so that they do not Jut quite a spann high (or 2. knots:) above the Earth. Strik small stick to each for to know whether it grows or not. Plant them by fair & dry weather, that they do not come (wet in their new Quarters. Wee them well, and keep the ground about'm tender & pory.

11.0 An Account Pastorius’ Vineyard, “Observationes propriae Vineales.” (pp. 55 &56, Monthly Monitor) This is a fairly straight-forward account of his vineyard between 1706 and 1716.

Source: (HSP Digital Tags: 8243-0475_V7_55 & 56)

Obervationes propriae Vineales.

Having a little Book by itself, wherein I set down mine own Remarks concerning Bees; an other concerning Gardening & c. But none wherein to take singular Notice of my little Vineyard (:not Imagining there will be much of this Subject :) I shall do it here and make only these following Memorandums.

I. that after I planted a matter of 30 Vines Ano 1706, the same began to bear 1710. Some 2. 3. 4. & 5 Grapes.

II. that 3 years together I planted Cabbages and Coleworts among them, and the 4th Indian beans, growing all very well. however next sumer I think they shall have no such like Company. Nilnisi Botrow, Atg. Perambulatorum vestigia cernes.

III. As supra pag. 70: 16th. Z.

IV. that 1710 at the end of the 4th mo: I counted 24 young Grapes. the berries whereof were less than pin heads; (:the reason of this Superfetation I ascribe to my much pruning & trimming of these but young Stocks,:;) In the midst of the 6th mo they began to blossom, & got berries to the bigness of great Rounceval peas, But were nipp'd by September's Frost. However Spes in meliora.

They more clearly, than Lyra, or any other Glossator could do expounded to me the Time of the first ripe grapes, at which Moses sent out his Spies, Numb. 13.17. Tempore Sol nostro BIS, ut olím, percoquit UVAS Gaudeta Sodales. Bumastos Anno Sol Bis maturat eodem; Non opis est nostræ dugbas oerfkiwere grates.
V. 1710 the 6th mo: I digged a garden Bed full 2 foot deep, carried the Clay out, and fill'd it with good black mould, to serve thereafter as a nursery, for to set my cuttings in.

VI. 1710 the 20th of the 6th mo: (being the anniversary day of mine arrival in Philada ano 1683) I with my Wife & 2 Sons did eat of the first-ripe-grapes in my sd Vineyard. Thanks be to God for all his Mercies & Blessings, which he these 27. years past in Pensilvania, and almost 32 years more spent in divers parts of Europe, Most graciously has been pleased to bestow upon me poor Worm; Praised belong to his h: Name for Evermore. Unto him let them ascend through out all succeeding Generations from the hearts, mouths & Conversation of his Sanctified Ones for Ever & Ever. Amen.

VII. that before the 7th mo: all my first Grapes were fully ripe; For the 26th of the 6th mo: I gather'd & hang'd em up on Strings; having dip'd their Stalks in melted Rosin. A few I laid in a Calabash under Millet seed & former under Buckwheat after some drop'd down.

VIII. Ano 1715. My Grapes were worth but little, and ano 1716 good for nothing. Spes alit agricolas, me mea ferme necat. Oh! who would toil In such a soil?

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12.0 Re-creation of Pastorius’ Calendarium of garden work between 1689 and 1719 in five categories: forestry, pomology, and viticulture; apiculture; soil preparation; plant propagation and planting; and harvesting. This account summarizes the calendarium and other notes in his Monthly Monitor but does not address animal care, except for bees.

<table>
<thead>
<tr>
<th>JANUARY</th>
<th>Apiculture</th>
<th>Soil Preparation</th>
<th>Plant Propagation &amp; Planting</th>
<th>Harvesting</th>
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</thead>
<tbody>
<tr>
<td>uncover roots of fruit trees</td>
<td>turn up bee-hives, sprinkle them with warm &amp; sweet vort, you can remove them (from their shell)</td>
<td>cart dung &amp; dirt into vineyards, fields, &amp; orchard</td>
<td>set all kinds of quick-sets in new moon</td>
<td>Rain ought to be gathered from the beginning of the twentieth of March (8 days before, and 8 days after the equinox), because then the air is impregnated with heavenly seeds</td>
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<td>lop &amp; prune superfluous branches from fruit trees</td>
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<td>break up land with a mattock</td>
<td>sow in hot beds, radish, lettuce &amp; salading</td>
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<td>lance young trees</td>
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<td>lay walnuts, hazelnuts, the stones of almonds, apricocks in sandy mould to sprout (in the lid, April, month, plant them in your garden beds at increase of moon)</td>
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<td>fell timber in decrease of moon when ground is not frozen, transplant old fruit trees</td>
<td>Cover the roots of fruit trees</td>
<td>at the end of the month, half open hive</td>
<td>in a decreasing moon, set great beans, ground seed for calabashes, so hard pot herbs (spinach, beets, chervil, lettuce, onions, parsnips, carrots, borage, card benedictus, dill, cole-seed)</td>
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<td>FEBRUARY</td>
<td>lay dung on fruit trees</td>
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<td>in new moon sow hops</td>
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<td>shave, prune, &amp; trim fruit trees of moss, cankermark twigs or spurs &amp; needleless branches</td>
<td>remove or transplant grafts &amp; young trees in last quarter of moon being in Aries, Libra or Scorpio</td>
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<td>in an increasing moon, sow cabbages, parsley, smallage, purslane, sorrel, asparagus, garlic, mustard, coriander tobacco, nuts &amp; kernels of apples, pears, prunes, quinces, apricocks</td>
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<td>cut scions &amp; stick them in the ground a month before you graft</td>
<td>cut scions &amp; stick them in the ground a month before you graft</td>
<td>make &amp; store birchen brooms</td>
<td>plant potatoes</td>
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<td>make &amp; store birchen brooms</td>
<td>middle of the month, dig a circle about fruit trees</td>
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<td>MARCH</td>
<td>cover the roots of fruit trees, with mould</td>
<td>by this time, bees still, keep them closed night and morning, if the weather prove ill, you may yet remove them</td>
<td>set all sorts of kernels &amp; stony seeds</td>
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<td>cut quick-sets &amp; prune</td>
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<td>spread out dung in fields</td>
<td>sow in last quarter of moon</td>
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<td>shave off of trees, moss &amp; broken bark in a new moon</td>
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<td>make meadows in decreasing moon</td>
<td>sow in full moon: clove gillflowers, violets, mangelocks, poppies, gill, lettuce, endive</td>
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<td>take off webs &amp; caterpillers of trees</td>
<td>uncover, pole &amp; prune vines</td>
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<td>sow in decrease of moon: English &amp; French beans, Indian peas, cucers, chicory, cucumber, squash, cashavias, pompions, musk melons, water melons, potatoes</td>
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<td>uncover, pole &amp; prune vines</td>
<td>how vineyard</td>
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<td>sow in the increase of the moon: amiss seed, sweet marjoram, basil, rosemary, lavender, penny royal, worm &amp; southern wood, hops</td>
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<td>stake &amp; bind up weak shrubs &amp; plants</td>
<td>plant peaches early</td>
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<td>prune last years grafts</td>
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<td>top your rose trees near a leaf bed, cut off dead branches</td>
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<td>Period</td>
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<td>APRIL</td>
<td>cleanse &amp; clear fruit trees of moss</td>
<td>open the doors of your beehives, look carefully to them, for they hatch, and even some years, begin to swarm</td>
<td>stir your fallow ground</td>
<td>sow barley &amp; summer corn at the end of the month</td>
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<td>how your vineyard a second time</td>
<td>plow deep &amp; narrow furrows</td>
<td>plow deep &amp; narrow furrows</td>
<td>plant Indian corn</td>
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<td>pruss or prune vines</td>
<td>leave off grazing in your winter corn fields</td>
<td>leave off grazing in your winter corn fields</td>
<td>sly &amp; top your hops</td>
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<td>bark trees for tanners</td>
<td>let your meadows see water; furrow them over with iron tires</td>
<td>let your meadows see water; furrow them over with iron tires</td>
<td>set &amp; sow garden herbs like calendula, lettuce, basil, marjoram, turnips</td>
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<td>MAY</td>
<td>moss your trees &amp; cut off superfluous sprigs &amp; water shoots</td>
<td>now expect swarms of your bees, watch them</td>
<td>bring no dung to your trees</td>
<td>set &amp; sow hot aromatic herbs &amp; all tender seeds</td>
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<td>If your buds are ready, inoculate</td>
<td>weed your corn, hops &amp; other gardens</td>
<td>weed your corn, hops &amp; other gardens</td>
<td>about full moon, sow lettuce 2 or 3 months together</td>
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<td>care for your graft stocks, moisten the graft with a wet sponge every evening</td>
<td>heap up the dirt on the street &amp; next spring carry to vineyard, fields, &amp; meadows</td>
<td>heap up the dirt on the street &amp; next spring carry to vineyard, fields, &amp; meadows</td>
<td>so cressus &amp; purslain to have it young</td>
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<td>JUNE</td>
<td>inoculate trees; apricots, peaches, fruit plums, apples, pears, &amp; c</td>
<td>look to your bees for swarms &amp; casts</td>
<td>sprinkle a handful of finely pounded salt on top of your wheat, to destroy &amp; prevent wheelers</td>
<td>sow English peas in the beginning of month</td>
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<td>to the trees that do not thrive well, pour blood &amp; roton cow or sheep dung</td>
<td>to prevent canker worn in your garden, Tin or stick the bones of a hare in the midst</td>
<td>to prevent canker worn in your garden, Tin or stick the bones of a hare in the midst</td>
<td>pull off the superfluous leaves from your hops</td>
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<td>how your vineyard the third time, bind the vines the second time to poles</td>
<td>sower fallow your fields the second time plowing</td>
<td>sower fallow your fields the second time plowing</td>
<td>tread onion beds</td>
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<td>walk round your plantation, &amp; renew the bough trees</td>
<td>how your cabbages &amp; melons</td>
<td>how your cabbages &amp; melons</td>
<td>tie your garlick on a knot, take it out of the ground, let it lie there until it again</td>
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<td>kill underwood in order to clear land by girdling or cutting it round with an ax for pasturage with more ease than grubbing</td>
<td>straighten the entrance of your beehives to secure them from robbers, help your bees to kill drones &amp; wasps by setting glasses of beer mingled with honey for them</td>
<td>how your cabbages &amp; water your garden when sun will set</td>
<td>treat your parsnips down</td>
<td>dry flax, get in for spinners to spin</td>
</tr>
<tr>
<td>cut up brush to kill it</td>
<td>plow your summer fallowed land the third time</td>
<td>keep weeds from growing to seed</td>
<td>keep weeds from growing to seed</td>
<td>take your garlic out of the ground now or next month</td>
</tr>
<tr>
<td>dig around your fruit trees about half a shovel deep</td>
<td>after hewing, water your meadow in decrease of moon</td>
<td>sow buckwheat from the 8th to the 15th day of this month</td>
<td>make hay of fennel</td>
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<tr>
<td>water your new trees &amp; layers</td>
<td>prune apricocks &amp; peaches</td>
<td>sow radish and millet</td>
<td>get rue and wormwood to strew on your floors</td>
<td>get rue and wormwood to strew on your floors</td>
</tr>
<tr>
<td>stop the exuberant shoots of vines at the second joint</td>
<td>still straighten the passages of your beehives to secure them from robbers, destroy also wasps and other insects.</td>
<td>plow and dung your fields now for seed</td>
<td>with pitch fork and rake harvest hay</td>
<td>now corn yields most meal</td>
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<tr>
<th>August</th>
<th>Apiculture</th>
<th>Soil Preparation</th>
<th>Plant Propagation &amp; Planting</th>
<th>Harvesting</th>
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<tbody>
<tr>
<td>inoculate if you have not done so</td>
<td>still straighten the passages of your beehives to secure them from robbers, destroy also wasps and other insects.</td>
<td>plow and dung your fields now for seed</td>
<td>clip roses that are done bearing</td>
<td>gather your hops</td>
</tr>
<tr>
<td>prune superfluous branches &amp; water shoots of the second spring</td>
<td></td>
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<td>at about full moon, sow your turnips</td>
<td>take your onion up and knit them together in ropes</td>
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<tr>
<td>pull up suckers from the roots of trees all the summer long</td>
<td></td>
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<td>sow wheat</td>
<td>gather ository seeds</td>
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<tr>
<td>revive your fainting fruit trees by pouring blood or dung hill water about them, or anointing the south side thereof with tallow or oil</td>
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<td></td>
<td>sow corn salad, chervil, carrots, parsnips, curled endive, scurvy grass, angelica, spinach in the new moon</td>
<td>clip or cut all such herbs &amp; plants before full moon</td>
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<tr>
<td>how vineyard the fourth time</td>
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<td>make cider of summer fruits</td>
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<tr>
<th>September</th>
<th>Apiculture</th>
<th>Soil Preparation</th>
<th>Plant Propagation &amp; Planting</th>
<th>Harvesting</th>
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<tr>
<td>release inoculated buds</td>
<td>take up your bees in time, straighten the entrances of hives</td>
<td>plow up your decaying &amp; outworn meadows to make commons of them</td>
<td>be not too late in sowing wheat</td>
<td>in dry weather and last quarter of moon, gather your ripe apples &amp; pears</td>
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<td>cut your quick sets a second time</td>
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<td>set slips of flowers, white lilies, angelica, strawberries, roses, cornel, and the like</td>
<td>pluck your quinces when they are somewhat greenish</td>
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<td>dig up your unfruitfull vines to plant others in their place</td>
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<td>in a decreasing moon, sow chervil, spinach, radish, lettuce, corn salad and other winter herbs and roots</td>
<td>make lateward hay</td>
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<td>October</td>
<td>Forestry, Pomology, &amp; Viticulture</td>
<td>Apiculture</td>
<td>Soil Preparation</td>
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<tr>
<td>transplant all sorts of fruit trees at about new moon</td>
<td>now you may safely remove bees</td>
<td>trench ground for orchard and kitchen garden</td>
<td>set quick sets, roses and all shrubs bearing fruit</td>
<td>gather leaves of your vines for cows when they calve and sheep when they lamb</td>
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<tr>
<td>remove grafts after the second year, except dwarfs, which may stand till the third (quince trees in the last quarter of the moon)</td>
<td></td>
<td>cut dung on fields that you will sow with barley and summer corn next year, plow it under</td>
<td>plant hops in decrease of the moon</td>
<td>at the increase of the moon, from 9 and 4 o'clock, gather remaining winter fruits for cider (lay them in your apple loft)</td>
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<tr>
<td>prune and cut rose trees, once in two years</td>
<td></td>
<td>dung your garden bed that you will sow next year</td>
<td>set all kinds of nuts, acorns, fruit stones &amp; kernels, in the increase of the moon, cover them with fern or straw, which take off in spring</td>
<td>in the decrease of the moon, bring in turnips, cabbages, carrots, winter endive, smallage</td>
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<td>plowing old orchards, pays double</td>
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<td>overspread your asparagus plot with beets dung</td>
<td>sow wheat &amp; rye</td>
<td>gather calamus &amp;</td>
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<td>how your hops &amp; vines</td>
<td>plant some turnips to bear seed next year</td>
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<td>clean your old meadows of moss, strew ashes &amp; grass seed on them</td>
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<tr>
<td>lay bare or uncover the roots of old, ill-thriving fruit trees, let them remain all winter, pour some lie or brack ash to them</td>
<td>trench your gardens with dung, turn mulfon ground, mix it with rich earth, lay it in ridges against spring</td>
<td>crop asparagus, cover it with dung, &amp; make beds for future</td>
<td>lay up turnips, carrots, cabbages, potatoes, horseradish, &amp;c. for kitchen use and next year's seedling</td>
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<td>dig about your fruit trees, dung them, cover again</td>
<td>sow ashes, horns &amp; pigeons dung over meadows, grassplots and rake it under</td>
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<td>gather acorns &amp; gall nuts</td>
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<td>continue transplanting hurt trees, dung them, tie cloth over them</td>
<td>straw ashes, horns and pigeons dung, dust of combs &amp; horns on asparagus beds</td>
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<td>prevent rabbits from biting the bark of your grafts</td>
<td>straw berry beds</td>
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<td>fell timber</td>
<td>scatter horse dung over vines and sown corn</td>
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<td>fetch wood for home</td>
<td>plow fields of tough soils</td>
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<tr>
<td>clean trees of moss</td>
<td>feed your bees, being weak stocks</td>
<td>cover all your best flowers and herbs from cold &amp; storms with rotten horse dung</td>
<td>keep kelpes of best apples &amp; pears you eat for a new nursery</td>
<td>refresh your autumnal fruits</td>
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<td>take the nests of palmers or cocker worms from your fruit trees</td>
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<td>all the winter long, when weather serves, grub &amp; clear land</td>
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APPENDIX D: Transcriptions and selective translations of plant verse, poems, and aphorisms from Pastorius’ *Beehive*.

Source: UPenn MS. Codex 726. Manuscript Location: Kislak Center for Special Collections, Rare Books and Manuscripts, University of Pennsylvania. Digital access to the manuscripts through ‘Penn in Hand.’

All entries in this Appendix were transcribed from Pastorius *Beehive*. Page numbers noted here are based on the digital archive (Penn in Hand), not Pastorius’ page numbers.

1.0 Peach Trees (*Beehive, p. 147, V. 1*). Pastorius would argue that virtue practiced in daily life is the greatest kind of beauty. His peach trees were emblems of virtuous beauty. In the spring, peach trees are covered with sweet smelling delicate blossoms, that by mid-summer mature into a delicious and nutritious fruit. (italic emphasis is Pastorius’ own)

Beauty, like Peach trees her Blossom soon casts, But Vertus [virtuous] good Fruit for evermore lasts.

Beauty soon her Blossom casts. Vertus fruit forever lasts.

2.0 Cowslips (*Beehive, p. 164, V. 1*). Cowslips could be one of several species of medicinal plants: *Primula veris* (English), *Mertensia virginica* (Virginia), *Dodecatheon meadia* (American), *Caltha palustris* (Early American), or *Pulmonaria officinalis* (Jerusalem). (See Ann Leighton, *Early American Gardens ‘For Meate or Medicine’,* 1966) Pastorius’ Cowslip was likely used as a medicinal plant, but it was also a blossom that symbolized love and affection. This rhyme and many others tell us that although Pastorius was a devout pious Christian who was very concerned about the morality of human relations and that he appreciated and considered the affections of lovers and his own wife as an important part of his own Christian life. Additionally, he corresponded with and mentored young women, supported the education of women in Pennsylvania, and was concerned about women’s health, and recorded many remedies for women’s health.

Cowslips neer hurted non; But let Girls Lips alone. Thereby many were undone.

Therefore, Farewell my CowsLips Sweet, Fare well, till we again do meet.

3.0 Tobacco (*Beehive, p. 167, V. 1*). Pastorius wrote a lengthy poem and a chapter in his *Monthly Monitor* about Tobacco. He smoked tobacco and wormwood in a pipe. Here Pastorius used tobacco to elaborate on the meaning of Genesis 3:19 and Adam in his daily life, a common theme in his botanical poetry. (Genesis 3:19. *In the sweat of thy face
shalt thou eat bread, till thou return unto the ground; for out of it wast thou taken: for
dust thou art, and unto dust shalt thou return.

We are but Ashes & our life a Smoak; Yet some do think themselves as strong as
Oak. Tobacco Pipes their witness bear,

That Smoak and Ashes all men are.

4.0 Kinds of Roses (Beehive, p. 193, V. 1). It is clear that Pastorius curated a collection
of roses in his garden, some for scent and others for their blossoms and medicinal value.
Medicinal in Pastorius’ mind would have also included spiritual health and anything that
would improve the quality of their own and household cleanliness.

My Roses, are quadripartite, Some Musk, some Red, Some Pale, some White.

What than makes my Cordolium? I want the Centifolium.

5.0 Tulips (Beehive, p. 180–181, V. 1). Pastorius disliked vanity even in the garden
which explains is disinterest in style and why he generally did not like tulips. They were
not edible or medicinal and the Dutch tulip trade speculated on and commodified their
value based on color and form. However, he had tulips in his garden, a Dutch neighbor
gave them to him. This poem invokes Dorcas, a biblical character in his Tulip garden as
if she is his hundredth tulip, a “Dulumouth, Bright red and fine.” Biblical legend says that
Dorcus was raised from the dead by Saint Peter. She became a patron of the poor, as she
sewed clothing for poor widows.532 Pastorius records this story about Dorcas in his
Beehive, entry 511 on page 296 (V1). “But Tabitha, which by Interpretation is Dorcas,
Caprea, a Roe or Doe was the name of one, who was keeping at home, Tit. 2:5. making
Coats & garments & doing abundance of other good works. This Seamster or Woman-
Tailor knew better to use the thimble to thread a needle to whip and stitch than to idle
away her time in May-games, obscene scenes or Stage-plays, & other such like damnable
Sports, & c. & therefore was accounted worthy to be alive again after she died. Acts.
9.”533 Here Dorcus is a tulip and emblem of charity. (Source for Biblical citations: The
Holy Bible, Oxford, 1685)

In this Tulip-Bed of mine, Which thou now doest look upon,
There stand only Ninety nine Chosen Flowers; But anon,

532 Richard R. Losch, All the People in the Bible, An A-Z Guide to the Saints, Scoundrels, and Other
Characters in Scripture (Grand Rapids, MI & Cambridge, UK: Willam B. Eerdmans Publishing Company,
2008), 96.
533 Francis Daniel Pastorius 1651-1719., “Francis Daniel Pastorius, His Hive, Melliotrophium Alvear or,
Rusca Apium, Begun Anno Do[Mi]Ni or, in the Year of Christian Account 1696.”, 296 (V1), Upenn Ms.
Codex 726.
If, Dear Dorcas, thou wert free, Amongst them to set thy shoe*
Thou soon wouldst the Hundredthst be, And of all the Fairest too.


Thy Two Lips, Dulumouth, Bright red and fine,
Make others look uncouth, Compar'd with thine.

[Deuteronomy 28:5: Blessed shall be thy basket and thy store.]

[1 Corinthians 10:21: Ye cannot drink the cup of the Lord, and the cup of devils: ye cannot be partakers of the Lords table, and of the table of the devils.]

[1 Corinthians 11:26: For as often as ye eat this bread, and drink this cup, ye do shew the Lords death till he come.]

6.0 Lavender and Spicanardi (Beehive, p. 175, V. 1). This entry, like his verse for hyssop, is fairly straightforward. From here we see that he thought of lavender and spicanard as remedies for fatigue, tooth pain, and a kind of sudden loss of consciousness due to a stroke. Today lavender is recommended to improve blood circulation and cleanse the skin.

My Lavender or Spica Nardi, Makes heart, head Brain & Stomach hardy,

It cures the sluggish Malady, Cramp, Tooth-ach & Apoplexy. & c.

7.0 Sage (Beehive, p. 177, V. 1). Of all the plant prints made by Pastorius that survive, sage leaves are the most common. Beautiful sage leaf prints can be found in his notebooks, letters, and inside a book owned by him.

Sage is a Friend to Nature, & worth te having, The Name there of betokens Wide and Saving;

It make the Sinews strong, and Palsie cures; By helps of Sage no Ague long endured.

8.0 Hyssop (Beehive, p. 178, V. 1). This verse is less poetic than most of his entries about plants in his Beehive. It is likely a rephrasing (a commonplace) from one of his medicinals or almanacs.
Ad Pulmonis opus confert Medicamen hysopus. [Hyssop contributes to the health of the lungs.] When cold Diseases grieve thy lungs, thy Spleen & Chest,

Good Hysop yields Relief, Cures Coughs and Quinsy best; Tough Phlegm expectorates,

And Tooth ach soon abates. Applied otherwise It kills both worms & Lice.

9.0 Wormwood and Southernwood (Beehive, p. 187, V. 1). This poem speaks to the utilitarian and general value of wormwood in an early American household—he calls it his ‘universal Medicine.’ We know that Pastorius also smoked wormwood in his pipe and from his recipes in his Monthly Monitor, drank wormwood wine. (Also see Appendix C, 9.0)

A worm in wood, a moth in Cloath, By wormwood are dislodged;
Although both may be very loath, And never so much grudge it.
Ye that have not this herb most good.
Use (its Lieutenant) Southern wood;
Which likewise worms in Children kills, And grows in Plains, and upon hills,
The Spaniards (mira mera!) Therfore call’t Lombriquera.

[written vertically in margin]: Wormwood Beer & Wormwood Wine / An universal Medicine.

10.0 Lavender Cotton (Beehive, p. 188, V. 1). Pastorius often engendered plants with maleness or femaleness. This is just one example. It is important to remember that the sexuality of plants and sexual reproduction was not fully understood at this time, but Pastorius did read widely about plants, and may have been familiar with early theories about plant reproduction and anatomy, especially those by Nehimiah Grew published by the Royal Society.

These Worm and Southern Woods are still surpass’d by ‘ts Female kind.

Whose name Lavender Cotton is; Old people bear in mind!

If any be attack’d by Worms, or by the scab and Itch,

You certainly find here your Cure, The poor as well as th’ Rich.

11.0 Violas (Beehive, p. 191, V. 1). In this poem, Pastorius fiercely defends violets for their medicinal qualities but also as symbols of love. In his mind, not only were they
valuable to treat the discomfort of a headache, fever, skin burns, and that they also 
provoked passion of the heart. Pastorius believed physical, spiritual, and emotional 
health as equally important.

Qui violas Violas, fies violabitis Ipsa, [For those who violate violas, scatter away 
or]
Ne violes Violas, o Violenta! meas. [Do viola, violas, Violence! I will]
Why doest thou send me Violets my Dear?
To make me burn more violent, I fear:
With these thy Cordial Flow’rs too vehement thou art
To let on Fire and to violate my heart.
Some from an other hand did Cool my Sore,
But thine (th’ very fresh) in flame it more & more.
My head-ach, thirst, hot Ague, Pleurisie,
Are not remov’d, they are Increas’d thereby.

12.0 Purslane (Beehive, p. 199, V. 1). Almost all of Pastorius’ poetry elaborated on his 
ideas about morality, language, the Bible, and often, plants as the divine material of the 
God. He was fluent in seven languages but not fluent in English until after 1683. His 
poetry was one way that he tested the meanings of words in the English language. He 
often played with plant names to alliterate their sounds and meaning across many 
languages. It is likely that he also invented plant names for plants in his garden.

My Purse is lean, I must confess But Purslane grows with good success 
here in my garden tame & wild; If Fortune once would be so mild,
And turn each leaf into a doit, A were as rich as wicked. [ill]
Whose Conscience and heavy Purse Appears to me the greatest Care 
lots Purslane & a Purse thus lean to him does seem two things [ill] 
however, Blessed is the Poor, And better than an Evil Doer.
Prov. 19: 22. & c.

13.0 Entrance of my Garden (Beehive, p. 206, V. 1). One of Pastorius’ poems describes 
his dog as protector of his garden, but here his plants keep watch. Although he shared his 
garden plants with his neighbors, he carefully guarded his garden plants from 
rambunctious children and inconsiderate adults.

Here at the Entrance of my Garden
Whose Names are Rue, Mint & Thime,
They and their Neighbour Patience
As long as I am call’d the Owner.
That keep the Watch at this my door,
Or, being a Child, severely bang’d;
And Nettle-rod one of the Jury.
There stands a Sentinel or Warden
Born in our unrefined time.
Shall never be removed thence,
If you kill any of them four,
Then certainly you will be [ill]g’d
For Strangled tare shall, [ill] vner,
Revengin all hurts done [ill]
14.0 Turnips (*Beehive*, p. 247, V. 1). Pastorius grew turnips in his orchard for himself and his pigs, but this rhyme declares his belief in the promise of the ‘new science’ of England’s Royal Society. He owned several natural science editions published by the Royal Society; by Francis Bacon, Nehemiah Grew, and Robert Boyle, but also a 1603 edition of Paracelsus and philosophical texts by Cambridge Platonists associated with John Ray.

Tho’ Philosophers may know, In what manner Turnips grow,  
Yet still there is a difference: Some from books upon their shelves,  
Others having seen’t themselves, Speak by their own Experience.  
These (not those,) do rightly know, In what manner Turnips grow.

15.0 British and French Marigolds (*Beehive*, p. 262, V. 1). It is possible that this poem is a critique of what Pastorius would describe as the immorality and vanity of the 17th-century French court. Pastorius travelled extensively through France on his Grand Tour and visited several royal palaces and gardens. Orleans, France in particular was a city where German aristocrats sent their sons to educate them in the ‘frivolities’ of court life, like fencing, horseback riding, and other court recreations.

The British Marigolds Are pretty things, me thinks,  
And cure both Hots & Colds, Use in good posset drinks;  
Sheep of the self same Foles Love best together links:  
French (as sound Reason holds) And prffer’d Service stinks,  
& c. Therefore,

Quoyque vous voyez laplus belle, Je ne vous aime pas Mademoiselle.  
[Whatever you see as the most beautiful, I do not like you Miss.]

16.0 Sweet Herbs (*Beehive*, p. 263, V. 1). Here, it seems that Pastorius is playing with the meanings of ‘sweet’ and ‘bitter’ as his own test of the English language. It is important to remember that he did not write or speak English until after 1683, wrote an English Primer in 1698, and used his poetry to learn the nuances of English. He learned English, in part, by writing about his garden.

Four herbs pet Excellentiam. Call’d Sweet you in my garden find,  
Sweet Maudlin & Sweet Marjoram, Sweet William & Sweet Basil. Mind!  
For all these Sweets poor men may die; But when they Bitter Sweet apply,  
It sudden Ills cures suddenly.
17.0 Fig Tree and Christopher Witt. It is clear from these epistolary poems that Witt and Pastorius discussed plants of their gardens and gardening. The first poem, dated 1711, is also found in Pastorius’ *Deliciae Hortenses*, poem 17. The second poem is dated October 2, 1716. Pastorius asked Witt about his fig tree. Witt has moved it because it needed protection in the Winter and more space to produce fruit. Figs at this time were very difficult to grow and produce fruit in Germantown. Today figs thrive in urban Philadelphia, because urban environments are warmer and offer protection from winter wind. Pastorius also points out that their dogs enjoy sitting under his fig tree. [translation in process]


*(Beehive*, p. 190, V. 1, entry no. 433)
"When Anno 1711. Christopher Witt removed his Flower Beds close to my Fence:  
Floribus in propri js habet et sua gaudia Pauper,  
Atque in Vicinis Gaudia Pauper habet.  
[The poor man has enjoyment both in his own flowers and in those next door. (tr. Schweitzer)]
   Ein Armer Mann, schon had Er wenig,  
   Ist gleichwol in Seim Eignen König;  
   Auch darff Er auff Seins Nachbarn Auen  
   Die Blumen übern Zaun anschauen.  
   My Neighbour's herbs and Flow'rs  
   I freely may behold;  
   And so mayst thou some hours  
   With Mine still make more bold:

*(Beehive*, p. 191, V. 1, entry 437)  
[Pastorius tossed the following note over Witt's fence.]  
Auff Chpn. Witts feigenbaum. Secundo Octobris 1716.  
[Of Chpn. Witts fig tree, second of October 1716]

   Auff einem papyrein über die fence geworffen.  
   [A paper up over the fence, I did throw]  

   Dein Feigenbaum, nach seinem langen prangen,  
   [Your fig tree, after its long flaunting.]  

   Lässt alberreits [allerseits?] die schlappen Ohren hangen;  
   [Lets everyone hang their dull ears.]  

   Ach! Dass er möcht den Winter nicht Vergeh'n,  
   [Attention! So that it doesn’t perish in winter.]
Und wir nechst Jahr sein edle früchte seh'n!
[and we next year our precious fruit will see]

Gut vor Geschweer [Geschwür?] der Fersen Zeh'n,
[Good for ulcer of the heel toe]

Von hohler Zähn, und tauber Ohren Weh'n,
[Of hollow tooth, and deaf ear will blow]

Auch giff'tger thier, und Hunds-biss widersteh'n.
[withstand even poisonous animals and the bite of a dog.]

[Witt replied in German:]

Christoph Witts Antwort Die Er über die fence zurück geworffen:
[Christopher Witt's answer thrown back over the fence]

Mein feigen-baum ich gebe raum, den Winter
[I give room to my fig tree, in the winter]
zu probieren,
[to have a chance]

Vielleicht er möcht mit edler frücht zum Sommer,
[Perhaps he will produce noble fruit this summer]

sich wohl zieren.
[this perhaps adorn]

18.0 Scent of Roses (Beehive, p. 299, V. 1). Pastorius wrote about the antipathy and sympathy of different plants with each other in his Monthly Monitor. Here, he has anthropomorphized these commonplaces of early modern botany and gardening and translated them into a verse about human relationships.

If tho wouldest Rose’s Scent Mend, and make more excellent,
THen thou formerly hadst them, Plant but Garlick to their Stem;
Likewise, if a Friend of thine Should to Goodness so in line,
As to lead a Vertuous life, Let him take a scolding wife:

THus Natura works, you see sometimes by Antipathy.
19.0 Cedar tall (*Beehive*, p. 176–177, V. 1). This poem narrate the falling of a mature Cedar tree. It acknowledges its death and presence near his garden plants, or perhaps he planted violets and primroses near the fallen tree in the woods behind his garden. This poem also, as per usual, expresses his reverence for nature and piety.

> 307. A Cedar tall, Who seem'd to reach the Skies,  
> Of late did fall, And in the dirt there lies.  
> My Violets With my sweet Primerose stand;  
> The which begets A thankful heart and hand.  
> I praise the Lord, Who kept my WIFE and SONS,  
> ANd did afford His Mercies more than once:  
> Yea oft'ner yet By thousand million times,  
> Than I have set Words in all former Rimes.  
> Not words alone, But letters great and small,  
> We were undone, had God not kept us all.

20.0 Medicine (*Beehive*, p. 589, V. 2, excerpts). There are many entries in Pastorius’ *Beehive* about medicine, spiritual and physical health, nourishment, and purgatives. Here is a small sample where he asserted that he and his neighbors grew healing plants in their own gardens: ‘so why should ‘we’ import curatives and purgatives from the *Indies*?’ In more than one place, Pastorius described his *Artzney und Kunst* as a Pennsylvania herbal and today it can be seen as a reliable record of plants grown in Germantown before 1700.

> [indexed: “medicine for curing disease”]

> 665 Medicines of the College of Physicians are dear & scarce to find, but those of God comon & cheap [ill] Phys. p. 15. the rich ought to Bestow them freely upon the poor

Must we rob the Indies for poisonous drugs to Cure us, when we have balsamous herbs enough in our own gardens:

Physick is an unpleasing thing, our stomachs are most against it, & a potion is bitter in taste.
APPENDIX E: Conjectural Drawings of Pastorius’ garden.

1.0 Emblem of Pastorius’ Deliciae Hortenses.

There is no grass so insignificant that it does not prove the existence of God.
In all that grows God’s honor flourishes.
The colorful blossom-glory Shows God’s wonder-power.

Every plant praises and extols God.
Any herb seeds his seed, Love and praise God’s name.
2.0 A Germantown Geistlicher Irrgarten.
3.0 A Germantown Landscape: Plant Studies and Plan View of Pastorius’ Garden, Orchard, Vineyard, and Fields. (11 x 17” Fold-outs)

a. 1”=200’-0” scale
b. 1”=20’-0” scale
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