Pineapples, Labyrinths, and Butterflies: Female Collectors in the Dutch Golden Age

The role of female collectors and researchers of naturalia in the Low Countries in the seventeenth century

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Introduction

''The number of women in possession of extraordinary collections in the late seventeenth and early eighteenth century in the Netherlands was nothing short of extraordinary, and yet little has been written about this subject to date. While much literature exists regarding the work of Maria Sybilla Merian, many of the other collectors mentioned here have hardly been mentioned in publications devoted to collecting […]''[1]

This quote by art historian Joy Kearney has been one of the main inspirations for this thesis. While there has been quite extensive research done on the general subject of interesting collections of botany and *naturalia* in the seventeenth century, the number of publications dealing with female collectors and their collections has been only growing slowly since the last decade.[2]

Even though several works that include female collectors have been published, it is often the case that the women mentioned are only discussed briefly. For example in the relatively older essay volume edited by cultural historian Ellinoor Bergvelt and historian Renée Kistemaker, *De Wereld Binnen Handbereik: Nederlandse kunst- en rariteitenverzamelingen* (1992). Attention is given to a wide variety of collections and collectors and several collecting women of botany and *naturalia* are discussed as well, like Agnes Block (1629-1704). However, female collectors like Block were, and still are, often thought of as a rarity. Despite the growing of the body of literature concerning female collectors from the Dutch Golden Age, a collecting culture of female collectors, their influence on the seventeenth century collecting culture, and their network, have not yet been discussed thoroughly.[3]

The fact that these three aspects have not been researched yet, leads to the following main research question: How and why did female collectors of botany and *naturalia* in the Dutch Republic seventeenth century come to their collections, and what has been their role and place in the collecting culture of that time period? To research this main question several themes will be discussed and three female enthusiasts of botany will be

[1] Kearney 2011, p. 81.
[2] For example, Van Gelder 2012, Jorink 2006, Bergvelt & Kistemaker (eds.) 1992, and for example, Backer 2016, Bracken 2012, Gere; Vaizey 1999, Reitsma 2008.
[3] De Bell 1992, p. 134.

the focal point: Maria Sybilla Merian (1647-1717), Agnes Block, and Magdalena Poulle (1632-1699), who all had different ambitions and passions in the field of botany and collecting. While Merian became a real business woman, publishing works on natural science, and specifically insects of Suriname, Block became a well-known collector of exotic plants and seeds, famous for her first successful cultivation attempt of the pineapple plant on Dutch soil.[4] Also, Magdalena Poulle was not only a successful collector of plants, she was also one of the first private collectors that owned a modern type of hothouse, making her a pioneer of Dutch garden design.[5] These three women will be the center of this thesis and to answer the main research question, several sub questions will be discussed. First, to understand the background of botanical collections and research in the seventeenth century, the origin of botany in the Netherlands in the sixteenth century will be discussed. Here, Clusius is the main character. His network of scholars and aristocratic enthusiasts, their collections and the importance of Protestantism will be talked about. What has been the starting point for Dutch collections of *naturalia*? And why did this development occur from the end of the sixteenth century onwards? And most importantly, were there already women involved in these practices before the seventeenth century, and, if so, what was their role in this development?

After the historical background of Dutch botanical science and collections, the focus will shift to collections of the seventeenth century, where Block, Poulle, and Merian will be the central figures. Why and how did these women create their collections and how did they manage these? What has been the influence of these women's collections and collecting methods in Dutch and international collecting circles? To answer these questions, the three women's collections, working methods, and networks will be analyzed.

This thesis, and the subjects that will be discussed in it, can be a significant addition to the existing body of literature and knowledge of not only the place of female collectors in the seventeenth century collecting circles, but also of the collecting of *naturalia* and collectors in the Dutch seventeenth century.

The seventeenth century was a flourishing century for Europe on both an economic and colonial level, and the Netherlands would be no exception. The success of the Dutch West

[4] Kinukawa 2011, p. 313; Backer 2016, p. 187; Ibidem, p. 190.
[5] Sikkens-de Zwaan 2002, p. 213.

India Company and the Dutch East India Company, or WIC and VOC, in this century not only meant a thriving trade with great economic gains, it would also provide an opportunity for collectors of *naturalia* and *artificialia*. Exotic objects were shipped from European colonies all over the world to Amsterdam to eventually end up in numerous collections of the rich and wealthy throughout Europe.[6]

The constant supply of unknown and exotic objects sparked an interest in the natural world and its infinite creations in Dutch scholars and collectors, that had its start in the sixteenth century.[7] The interest for medicinal plants would be an important factor in the establishment of botanical gardens like the Hortus Botanicus (1590) in Leiden. Gardens like these were used as research facilities where the medicinal powers of the plants could be studied.[8] Carolus Clusius (1526–1609), a Flemish immigrant, was the founding father of the hortus in Leiden.[9] This university botanical garden shows the interest in foreign plants and herbs at the time. During his lifetime, Clusius traveled throughout Europe, creating a network across the continent which lead to a botanist community contacting each other through real life visits or through letter exchange.[10]

The interest for unknown, exotic plants and herbs grew even further during the seventeenth century when individual collectors started to play an important role in collecting circles. The academics and amateur enthusiasts had then become the core of a highly active group of collectors and researchers.[11] These collectors would build and maintain their own network for the supply of new items, build country estates with extravagant gardens and hothouses, and invite artists to immortalize their collection in poetry, paintings, and drawings.[12]

Thanks to important research that has been done during the last decade, information on the world of Clusius, his networks and the fact that he was in the center of the collecting circles of the late sixteenth century has become available.[13]

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[6] Jorink 2010, pp. 257-258; Van Gelder 1992a, p. 25.
[7] Van Gelder 2012, p. 7.
[8] Egmond 2012, p. 22.
[9] Ibidem, p. 13.
[10] Ibidem, p. 14.
[11] Jorink 2006, p. 267.
[12] Jorink 2006, p. 275; Backer 2016, p. 185; Ibidem, p. 195.
[13] For example the publications of Egmond 2010, Van Gelder (ed.) 2012, Jorink 2006.

Secondary Sources

This thesis will focus on the role of female collectors in the Dutch collecting circles of *naturalia* and botanical objects. To research these women, a number of publications are very important to discuss. Cornelia Catharina van der Graft, a Dutch linguist, published *Agnes Block: Vondels nicht en vriendin* (1943). This publication is the first that deals entirely with a Dutch female collector. The book provides a good overview of Block's life, artist network, and collection.[14] As the book is slightly dated, the information has to be analyzed from a critical perspective.

The recently published work by landscape architect Anne Mieke Backer, *Er stond een vrouw in de tuin* (2016), deals with the role women have played throughout history in the development of Dutch landscape and gardens. Even though the book focuses on female garden history in its entirety, a major part is devoted to the time period from the end of the sixteenth century to the seventeenth century.[15] It is one of the most recent publications on this subject and therefore Backer will be one of the starting points for this thesis. In chapter seven 'Wulpse tulpen en aardse vergankelijkheid: vrouwen in botanie', Backer has compiled a large amount of information on Block, Merian, and Poulle.[16] Backer does provide a broad historical overview on the subject of women and botany, but one does need to be careful not to be distracted by her romanticized writing style. She states, for example, that Block turned to botany and cultivation after she had learned she was unable to have children.[17] Apart from this, Backer included an extensive list of footnotes and used a qualitative bibliography to support her arguments and theories, making this publication a valuable addition to this thesis.[18]

Of the three women that will be the center of this research, Merian is the best known and most written about. As Kearney already mentioned, Merian has been the focal point of several publications, whereas other female collectors have only been briefly mentioned.[19] One of the most important publications on Merian is art historian Ella Reitsma's work, *Maria Sybilla Merian & Dochters* (2008). Even though some scholars have

[14] Van der Graft 1943, p. 5.
[15] Backer 2016, p. 3-5.
[16] Ibidem, p. 185-210.
[17] Ibidem, p. 188.
[18] Ibidem, pp. 579-630.
[19] Kearney 2011, p. 81.

written about Merian, Reitsma's publication serves as an overview reference work on Merian's life, family, and work.[20] Focussing mainly on Merian's paintings and publications, Reitsma does dedicate a reasonable portion on Merian's networks, including her connection to Agnes Block, and how her personal life and beliefs shaped her as a natural science enthusiast.[21]

While there is a quite elaborate body of literature published on Merian, there is almost nothing on Magdalene Poulle. Thanks to one author, art historian Marisca Sikkens-de Zwaan, some information on Poulle has become available. Her article 'Magdalena Poulle (1632-99): A Dutch Lady in a Circle of Botanical Collectors' (2002) provides a clear overview of Poulle's life, family, network and her estate Gunterstein. When Poulle is mentioned in this thesis, most of the information will come from Sikkens-de Zwaan's article.

Primary Sources

To support the arguments and theories from the secondary literature, this thesis will use a variety of primary sources. Firstly, the most important primary sources are collection catalogs. Even though Block never compiled one, the collector who bought her collection, Valerius Röver (1686-1739), did make a catalog of his own collection, from which Block's collection can be derived.[22] Sikkens-de Zwaan published a list of Poulle's plant collection, which was drawn up by the English landscape architect George London (1640-1714).[23]

The second type of primary source that proved itself valuable for this research, are letters. Eleven letters sent by Block to one of her contacts, Lelio Trionfetti (1647-1724), have survived. These letters have been transcripted by historian Jan Josephus Poelhekke and published in volume 32 (1963) of the journal *Mededelingen van het Nederlands Instituut te Rome*.[24] Thanks to this publication and the help of my friend, linguist Sannerien van Aerts who translated the letters, the collecting practices and passion of Agnes Block for botany

[20] The other examples include publications by historian Tomomi Kinukawa. For example: 'Natural history as entrepreneurship: Maria Sibylla Merian's correspondence with J. G. Volkamer II and James Petiver', in *Archives of natural history* 38-2 (2011), pp. 313–327.
[21] Reitsma 2008, pp. 116-117; Ibidem, p. 123-132; Ibidem, p. 31.
[22] Universiteitsbibliotheek Amsterdam (UvA), Handschriftencollectie: II-A-18, Catalogus Valerius Röver, Ao. 1730. The part of Röver's catalog that included objects from Block's collection have been transcripted by Van der Graft in *Agnes Block: Vondels nicht en vriendin* (1943), pp. 135-152.
[23] Sikkens-de Zwaan 2002, pp. 216-218.
[24] Poelhekke 1962, p. 13-28.

became very clear. Apart from Block's connection with Trionfetti, the letters that were sent to Clusius during his time in Leiden are an important source as well. Thanks to the Special Collections of the Leiden University Library and its online database with letters written to Clusius, information on Clusius' connections with female botanical enthusiasts can be found easily.[25]

Third, publications from contemporary writers are significant for this research. Apart from works published specifically by the main characters discussed in this research, like Merian's *Metamorphosis Insectorum Surinamensium* (1705), publications by contemporary collectors will be mentioned as well. For example, *Het Wondertoneel der Nature* (1715) by Levinus Vincent (1658-1727) gives an interesting view of the *naturalia* collections of seventeenth-century Amsterdam. A last contemporary publication that is significant to mention, is *De constantia in publicis malis* (1584) by the humanist and academic Justus Lipsius (1547-1606). His humanist ideas become apparent throughout the book, where his opinion on gardening becomes clear as well.[26]

The last type of primary source that has been important for this research, is the body of artworks that provides an extensive amount of information on the figures and collections that will be discussed throughout the thesis like, for example, the family portrait Jan Weenix (1640-1719) made for Agnes Block (Fig. 1).[27] As will be discussed in a later chapter, this portrait provides a lot of information on the nature of Block's collection, and her interests as a collector. Another large oeuvre of artworks that are significant are the drawings and paintings that were made by Merian, and other artists that were commissioned by Block to eternalize her collection.[28] Not only do these artworks show what kind of objects were a part of Block's collection, they provide information on Block's network of artists as well.

[25] https://socrates.leidenuniv.nl/R/PNFDXQ1HSNPJ6SMNJPCCU8SSVU9PQSTRNFM76PEL7B15GNFC2Q-00893?func=results-table (20-05-2017).

[26] *De constantia in publicis malis* has been translated by P. Schrijvers in: P. Schrijvers, *Over standvastigheid bij algemene rampspoed,* Baarn: Ambo, 1983.

[27] Jan Weenix, *Portret van Agnes Block en Sybrand de Flines en hun kinderen voor De Vijverhof*¸c. 1694, Amsterdam Museum inv.no. SA20359.

[28] Van Der Graft 1943, p. 116-121.

Chapter 1: Botanical Collecting and Research in the sixteenth and seventeenth century

To research female botanical collectors and researchers in the seventeenth century in the Netherlands, it is crucial to look into the history of botanical collecting before the Dutch Golden Age and the role women have played in this development first.

The history of botany as a profession in the Netherlands has its starting point at the University of Leiden. It was here that the first university botanical garden of the Dutch Republic was founded in 1587. The Hortus Botanicus was finished in 1594 and the garden's first prefect was the humanist apothecary Carolus Clusius (1526-1598) (Fig. 2).[29] As the prefect of the garden, Clusius was not only the director of the hortus, but he would also become the head professor of botany. However, as Clusius was already of old age when he became the prefect, he installed an assistant director, Dirck Cluyt (1546-1598), to help him construct the botanical garden. Also, Clusius said he would only take the position on the condition that he would not have to teach the university's students.[30] Before Clusius became prefect of the hortus, he traveled the world. He worked, for example, at the court of Emperor Maximillian II (1527-1576) in Vienna and he created a garden there in 1573, twenty years before the opening of the Hortus Botanicus in Leiden.[31]

Due to the fact that Clusius was not obliged to teach, he had the opportunity to focus completely on his cultivation experiments and on publishing his results.[32] Clusius' publications are of an encyclopedic nature, discussing all facets of botany. Two of his most famous works are *Rariorum plantarum historia* (1601) and *Exoticorum libri decem* (1605), published by the Antwerp-based publishing company Plantijn. Due to his accurate descriptions of the plants he discussed from a critical perspective and because he analyzed the plants discarding their symbolic or religious meaning, Clusius has been assigned the title of the world's first botanical scientist.[33]

Even though the Hortus Botanicus would be the starting point of botany in the Netherlands, and Clusius was seen as the first scholarly botanist, already from the beginning

[29] Kuijlen 1983, p. 10.
[30] Egmond 2012, p. 16.
[31] Kuijlen 1983, p. 10.
[32] Egmond 2012, p. 16.
[33] Ibidem, p. 14.

of the 16th century several works on flora were published, for example, the *New Kreüterbuch* (1543) by Leonhart Fuchs (1501-1566) in Germany (Fig. 3). Writers such as Fuchs were often physicians, that tried to understand the medicinal benefits of plants and herbs. By comparing their observations of plants and herbs in their own garden to classical scriptures regarding these plants, they came to new conclusions and could create better medicine.[34] Clusius, being a physician, was interested in the medicinal powers of plants as well. However, in contrast to Fuchs, Clusius started categorizing plants and flowers in general.[35] A good example of Clusius' modern philosophy can be found in his *Exoticorum libri decem*. After he acquired all kinds of exotic and unknown animals and plants from the Indies, Clusius' became sceptical about the classical writings that were used before. According to science historian Eric Jorink, Clusius came to the conclusion that the classical writers did not know everything, because why would they have not written about exotic plants, such as the potato plant, if they knew those species? This critical perspective in which classical literary heritage is not trusted blindly, is a development that would develop further throughout the Enlightenment period.[36]

Bearing the title 'Father of the Tulip', Clusius became fascinated by the beauty of flowers like the tulip, a flower that originates from Turkey, then known as the Ottoman Empire.[37] This development of interest in the healing qualities of plants to the interest in all types of plants can be attested to the rise of Protestantism.

The influence of Protestantism

The rise of Protestantism or the Reformed Church in the Dutch Republic was a significant development for botanical science and knowledge as a discipline. Before Protestantism became the most popular religion in the Dutch Republic, Catholicism was the state religion.

The Catholic way of looking at nature, however, was completely different from the Protestant's perspective. Catholic botanists, like the Italian academic and founder of the botanical garden in Padua Ulysse Aldrovandi (1522-1605), worked from religious tradition and the knowledge of classic writers.[38] As opposed to their Protestant counterparts, the

[34] Egmond 2012, p. 10.
[35] Backer 2016, p. 124.
[36] Jorink 2006, p. 82.
[37] Backer 2016, p. 124.
[38] Pavord 2005, p. 273.

Catholics did not experiment with new knowledge or observe nature from their own experience. Plants and their features were merely observed with the help of traditional texts, like *De materia medica* (c. AD 50) by Pedanius Dioscorides (c. AD 40-c. 90), in which all sorts of plants and minerals are mentioned along with their medicinal properties.[39] The rise of Protestantism however, would be one of the first steps towards a botanical science as a discipline.[40]

Clusius and Cluyt were both already avid botanical collectors before they were involved with the founding of the garden. When the botanical garden was opened, both Clusius' and Cluyt's private collections made up a large part of the university's garden. Apart from their own collections they were gifted many plants by collecting friends, like the apothecary Christiaen Porret (1554-1627).[41] Eventually, this resulted in an extension of the hortus in 1599. A so-called *ambulacrum* was attached to the garden, which was a gallery open to the general public. During the summer season this building was used as a room for display and in winter this gallery could be used as protection for the plants that would otherwise not survive the winter season.[42] Unfortunately, Clusius died in the same year and Cluyt had already died a year earlier, in 1598. After Cluyt died, Petrus Pavius (1546-1617) became the new prefect of the Hortus Botanicus. Pavius was a physician and professor at both the Leiden and Amsterdam universities and significant for the further development of the hortus.[43] In 1601, two years after the extension of the Hortus Botanicus, Petrus Pavius created the first printed catalog of the Hortus Botanicus, in which over 750 plant species are listed. Even though this list is extensive on his own, the original catalog manuscript mentions even more, with over 1100 species.[44]

Clusius' network

Considering the fact that the Hortus Botanicus opened just seven years before the publication of this extensive catalog, it is impressive that Clusius, Cluyt and Paaw managed to collect such a variety of plants in this short amount of time. The most important factor that explains this rapid expansion is Clusius' influential network. As mentioned earlier,

[39] Backer 2016, p. 121; Pavord 2005, p. 223.
[40] Backer 2016, p. 121.
[41] Egmond 2012, p. 16.
[42] Kuijlen 1983, p. 11.
[43] Egmond 2012, p. 18.
[44] Kuijlen 1983, p. 11.

Clusius worked at the Viennese court, but apart from this appointment, he had traveled throughout Europe. Through his travels, Clusius had created an extensive network consisting of botanists, physicians, and apothecaries. Furthermore, apart from these specialists, Clusius' network included noblemen and women, and European princes and rulers, like Emperor Maximillian II from Vienna. This flourishing network created by Clusius made way for a thriving exchange of plants, herbs, and spices between botanists all over Europe. Their contact consisted mainly of the sending and receiving of letters concerning botanical science and knowledge, and packages containing bulbs or plant seeds.[45] Intriguingly, his network consisted both professional scholars, physicians, but also of so-called *liefhebbers*, and they all played an important role in Clusius' network.[46]

The Network of Scholars

One of the most significant humanist scholars from Clusius' network was Justus Lipsius (1547-1606). Lipsius was a professor at the University of Leiden and when he was out of town, his garden, called 'The Green Academy' was used for educational purposes by the other professors.[47] Lipsius was an enthusiastic botanical collector and in one of his publications, he writes about gardens and praises them. In *De Constantia in publicis malis* (1583), the first three chapters of the second part of the publication deal with the garden of the poet Carolus Langius (c.1521-1573) and a eulogy for gardens in general.[48] Several perspectives from Lipsius in these chapters stand out. Being a humanist, Lipsius praises Langius' garden and his gardening in the second chapter, in which he refers both to Biblical and Classical themes and people:

[45] Egmond 2012, p. 14.

[46] Ibidem, p. 19; In his dissertation, art historian Tomomi Kinukawa explains the term *liefhebberij* as followed: ''It is important to understand 'liefhebberij' as a form of scientific practice […] Most naturalists of the period were engaged in natural studies for pleasure during their pastime.'' Kinukawa 2001, p. 6. Kinukawa clarifies the use of the term in the context of seventeenth-century collecting. Apart from women such as Merian who were considered to be *liefhebbers*, several scholars who researched the natural world professionally called themselves *liefhebbers*, enjoying their activities of insect observation and gardening. (Kinukawa 2001, p. 7).

[47] Backer 2016, p. 125.

[48] This publication by Lipsius is translated completely in Dutch, by P.H. Schrijvers, *Over standvastigheid bij rampspoed,* Baarn: Ambo, 1983; Schrijvers 1983, p. 7.

''Take the pagan literature: the gardens of Adonis, Alcinous, Tantalus and the Hesperides are legendary. The true and trustworthy histories speak of orchards, created by King Cyrus himself […]''[49]

Lipsius praises Langius, but in the third chapter, he expresses his criticism concerning gardening. In this chapter Langius is the one who asks the critical question, whether Lipsius is loving the garden through vanity and laziness. According to Langius, many people of their time were collecting exotic and rare flowers and creating gardens, acting on an obsession. He says that after they collected their plants and flowers, they cautiously cared for them as if they were their own children. Langius claims that people are collecting for pride and vanity, and that instead they should collect and enjoy their garden from a philosophical perspective[50]. Instead of vanity, they should be collecting and creating gardens for their own mental and spiritual health.[51] This short section of the text, that can be read as a humanist theory on gardening, shows the distinct difference between the scholars and amateur aristocratic collectors and their motives behind their collections.

When one reads *De Constantia in publicis malis*, it is clear that he believes that the only correct reason for collecting plants and flowers comes from a philosophical and contemplative state of mind. The aristocratic *liefhebbers* on the other hand, show an opposite motive, in which status and vanity seem to be the main reasons behind their collections.

Another significant scholarly contact in Clusius' network was Bernardus Paludanus (1550-1633). Paludanus went through a similar career before he met Clusius. When Paludanus was studying medicine, he traveled Europe and went to Levant as well. After his travels, Paludanus settled down around 1850 in Zwolle. Here, Paludanus was appointed as a medical officer. Paludanus married twice during his lifetime and during his second marriage, he was a convert to the Reformed Church, even though he was raised a Catholic.[52] His choice to convert to the Reformed Church meant that Paludanus could develop into

[49] 'Neem de heidense literatuur: de tuinen van Adonis, Alcinoüs, Tantalus en van de Hesperiden zijn spreekwoordelijk en legendarisch; de ware en betrouwbare geschiedverhalen spreken van boomgaarden, door koning Cyrus eigenhandig aangelegd […]'' translation by author, ' Schrijvers, 1983, p. 88.
[50] Schrijvers 1983, p. 90.
[51] Schrijvers 1983, p. 91.
[52] Berendts 1978, p. 49

becoming a humanist himself, allowing himself to collect and observe from a scientific and experimental perspective.

In 1586 Paludanus moved to Enkhuizen, where he created his first collection of natural curiosities, becoming the first Dutch collection of its kind. Enkhuizen was an important port for the upcoming Dutch East India Company or VOC. At the end of the 16th century, in the 1590s, this port would be the arriving point for a large number of exotic objects coming from the East Indies.[53]

Already before Paludanus moved to Enkhuizen, he was building up his collection. He started collecting a large variety of objects, from *naturalia* to religious objects and coins when he was living in Zwolle.[54] Of his collection, four catalogs have survived and these catalogs show a shift in Paludanus' interest. The part of the collection he built up during his studying period consisted mostly of *naturalia* and *artificialia* from the countries he visited in his studying years like Italy and the Levant.[55] To understand the nature of Paludanus' collection, it is crucial to keep in mind that the reasons Paludanus had to collect certain objects came from different angles, both scientific and religious. Around 230 objects from his collection were so-called biblical *naturalia*. These included objects such as Egyptian papyri, and grasshoppers. Through these objects and other objects from the Holy Land, a visitor of Paludanus' collection would be encountering different aspects of God's creation of the world. Referencing to Biblical texts, the large variety of objects showcased God's omnipotence.[56]

Paludanus was a collector working from a humanist perspective, and he is one of the first collectors to work together with a trading company, such as the VOC. Paludanus' connection with the Dutch trading companies shows how intertwined the collecting circles of the academics with their humanist perspective were with the global trade with financial gain. Jan Hughen van Linschoten (1563-1611), for example, played an important role as a merchant and world traveler.[57] Van Linschoten was a key figure for Paludanus and his

[53] Egmond 2010, p. 152.
[54] Berendts 1978, p. 49
[55] Egmond 2010, p. 152.
[56] Jorink 2006, p. 281; Ibidem, p. 282.
[57] Swan 2005, p. 224.

collection. He provided Paludanus with exotica like seeds from India and pepper and fruit from the African West Coast.[58]

Clusius' female network

The group of aristocratic *liefhebbers* from Clusius' network shows a different perspective on botanical collecting. Apart from these collectors being amateurs, a more interesting fact is that a large group of them was female. From the wide variety of people that made up his network of botanical enthusiasts, it is clear that Clusius was a generous scholar, letting all kinds of enthusiasts, whether they were schooled or not, add new knowledge to the development of botany as a scientific discipline.[59]

Apart from the two network connections that have been mentioned earlier, the connection between the academic and the amateur collector and the connection between the academic and the merchant, there is one other significant network link: the amateur *liefhebber* and the merchant. As will be discussed in the following paragraphs and chapters, this connection played an important role for the botanical collections in growing.

Yzabeau van Arkel (1536-1617), a noblewoman from Utrecht, was such a *liefhebber* correspondent in Clusius' network. At the end of the 16th century, Van Arkel owned a castle north from Utrecht at Merckenborgh. A couple of letters from her to Clusius and vice versa, now preserved in the University Library in Leiden, record both practical issues concerning her gardening, as well as her emotional attachment to her garden. Apart from the rare flowers and plants she received from Clusius, like a crown imperial lily and other bulbs, Van Arkel was in contact with people living close to the ports where new exotica arrived on VOC vessels.[60] An example of such a connection from Clusius' network was Johan van Hoghelande (c. 1550-1614). Van Hoghelande was a nobleman from Zeeland. Close to Leiden on his country estate, Van Hoghelande created his own garden where he grew exotic plants and flowers.[61]

Another example of these female collectors was Marie de Brimeu, Princess of Chimay (c. 1550-1605). She was born in the Southern Netherlands and was of aristocratic and Catholic descent, but she decided to join the rebellious rise against the Habsburg

[58] Egmond 2010, pp. 152-153.
[59] Ibidem, p. 6.
[60] Ibidem, p. 45.
[61] Egmond 2010, p. 60.

empire after which De Brimeu divorced her husband and moved to Leiden.[62] Becoming part of the rebellion against the Habsburgs, de Brimeu steered away from her Catholic viewpoints when she decided to become a Protestant. Marie de Brimeu and her love for botany id s good example of the intellectual and humanist philosophies of that time in the Dutch Republic.[63] In her youth, when she lived in the Southern Netherlands, she already developed a love for the cultivation of plants and flowers, in particular, showing the new found humanist ideology in which flora could be enjoyed primarily for their beauty as well.[64]

While De Brimeu resided in Leiden, she became acquainted with several other academic botanists that were friends of Clusius; Justus Lipsius (1547-1606) was one of them.[65] In one of de Brimeu's letters to Clusius she recalls that Lipsius had said about Clusius that he was 'the father of all the beautiful gardens of the country.'[66]

Another important figure in this network of botanists was Matthaeus Lobelius (1538 - 1616), who worked for noble families and princes as a garden advisor.[67] Lobelius helped De Brimeu as well. He gave her a catalog with a variety of plants from a colleague in England, and she marked which species she wanted to obtain for her garden.[68] The fact that De Brimeu's own network consists of scholars, once again shows an intertwinement, where amateur collectors were able to connect with botanists, from which they received advice and help.

De Brimeu surrounded herself with noblemen and scholars, and during the end of the 16th century, a group of female enthusiasts and collectors would also become a part of De Brimeu's botanical network. According to Egmond, this group consisted of 'Princess Louise de Coligny (widow of William of Orange), Madame de Brederode, Madame de Matenesse, Madame DeFresnes, Marie's sister Bermont de Brimeu, and especially Anne de Lalaing, widow of Willem de Hertaing, Seigneur de Marquette.'[69] Not only were these women connected to De Brimeu, a number of them were connected to Clusius as well.[70]

[62] Egmond 2012, p. 19; Egmond 2010, p. 60.
[63] Backer 2016, p. 127.
[64] Backer 2016, p. 122; Ibidem, p. 128.
[65] Ibidem, p. 125.
[66] Leiden University Library Special Collections, Leiden, Letter from Marie De Brimeu to Carolus Clusius (18 September, ca. 1591), VUL 101.
[67] Egmond 2010, p. 21.
[68] Ibidem, p. 62.
[69] Ibidem, p. 60.
[70] Ibidem, p. 60.

Apart from these women mentioned by name, the complete list of women that corresponded with Clusius, or at least that is currently known, consisted of thirty-five women.[71]

An interesting aspect of De Brimeu's relationships with a number of these women is the fact that religion did not seem to play a significant role in their friendship. The sisters Ter Lee were living on the Rapenburg in Leiden when De Brimeu moved to the city. These two women were former nuns at a Cistercian monastery, an order of the Roman Catholic Church, but due to the Spanish invasion at the end of the century, they were forced to flee the monastery. Similar to De Brimeu, the sisters Ter Lee were keen gardeners, and because they shared their passion for plants they became good friends with De Brimeu. The friendship that De Brimeu forged with these women shows that De Brimeu, who was a converted Protestant, did not base her friendships and network on their religious beliefs.[72] De Brimeu's indifferent perspective on her friends and botanical collecting colleagues shows a significant development that started at the end of the sixteenth century. Scientific research became relatively separate from religion, while scholars from Catholic institutions, like the University of Bologna, extended their networks, and started to correspond with the Dutch academics and collectors, who became a significant source of knowledge for them.[73]

Considering the fact that Clusius' network was such a blended group of people in which both academics and scholars were welcome, it is interesting to discuss the Clusius' correspondences with both his male and female connections. When one analyzes these connections, two clear differences can be noticed. Firstly, there is a difference in the languages that were used by his male and female networks in their letters to Clusius. All letters that were sent by women were written in their native tongue, like Dutch or French. It is interesting to note the fact that most letters written to and from Clusius' to his male friends, like Paludanus, were written in Latin. It is too simple, though, to connect this fact to the type or amount of education these women might have had, book historian Florike Egmond rightly states. The level of education among these women varied. Some might have had lessons in Greek or Latin when growing up. Secondly, the women Clusius was in contact

[71] Egmond 2010, p. 49.
[72] Backer 2016, p. 131.
[73] Jorink 2006, p. 276.

with mostly lived in countries that were connected to the Habsburg empire, like Austria and the Southern Netherlands. Clusius' male contemporaries however lived across Europe.[74]

The shift to the seventeenth century

Before the next chapters will deal with collectors, collections, and researchers from the seventeenth century, it is important to understand the difference between the sixteenth and seventeenth century. According to historian Eric Jorink, distinct change can be observed between sixteenth-century collections and seventeenth-century collections of *naturalia.* Both in scholarly and amateur collections.[75] The collection of Paludanus for example, the first of its kind in the Dutch Republic, was of a completely different nature than the collection of for example Jan Jacobsz. Swammerdam (1606-1678).

Swammerdam, an apothecary from Amsterdam, had one of the most extensive collections of the seventeenth century of art and *naturalia*. His *naturalia* collection consisted of fossils, insects and all other kinds of animals.[76] However, his son Jan Swammerdam (1637-1680) published an innovative work on entomology, *Historia insectorum generalis ofte algemeene verhandeling van de bloedeloose dierkens* (1669), in which he took a critical standpoint on earlier publications, including the classics. Swammerdam believed that the most important source of knowledge were one's own observations and senses.[77]

This method of working from one's own knowledge, observations and experiments that is visible in the work of Swammerdam, was the main difference in scientific research of nature in the seventeenth century in general. About this change Jorink stated the following:

''This book offered the paradigm par excellence of the change in seventeenth-century reflections on nature: from text to observation, from symbol to structure, from wonder at the singular to wonder at the everyday.''[78]

Researchers and collectors in the seventeenth century became more aware of the world and nature around them. The classic, traditional texts were no longer taken for granted, and

[74] Egmond 2010, p. 48.
[75] Jorink 2006, p. 321.
[76] Engel 1986, p. 269
[77] Jorink 2010, p. 229.
[78] Jorink 2010, p. 221

the use of one's senses became a more valid source.[79] This tendency can be seen clearly in the collecting circles of the seventeenth century, where experiments of cultivation, the search for the unknown, and the creation of knowledge through one's own observations will be the core of scholarly and amateur collections.[80]

Clusius' network of women that were involved in his life and his botanical academic environment, shows that already at the end of the sixteenth century a flourishing amount of female collectors and garden enthusiasts was settled in the Dutch Republic. Even though some women are definitely better documented than others, their correspondence with Clusius makes it clear that they were significant for the development of botanical research and collecting. In the seventeenth century, botanical research and knowledge through observation would grow even further, with for example the opening of the Hortus Medicus in Amsterdam and the success story of the VOC and WIC.[81] As will become clear from the following chapters, several female collectors and researchers in the seventeenth century had a significant influence on the development of botany as a scientific discipline as well.

[79] Jorink 2010, p. 221.
[80] Backer 2016, p. 185; Jorink 2006, p. 327.
[81] Wijnands 1983, p. 3; Jorink 2006, p. 268.

Chapter 2: Female collectors and their collections in the Dutch Golden Age

Petronella de la Court (1624-1707), a wealthy silk merchant's wife from Amsterdam, became famous for one particular object: her dollhouse (Fig. 4). Thanks to her husband's successful career in the silk and beer industry, she had the opportunity to start collecting artifacts.[82] The catalog of the auction that was held after her death provides information on the content of Petronella's collection. According to the title page, her collection included a large cabinet with 43 drawers in which the following objects were placed: a variety of gemstones, shells, sea crops, rarities, and horns. Apart from the cabinet, the title page says there were portraits and sculptures as well. The one crucial thing missing from her catalog was her precious dollhouse because she had commanded that the dollhouse had to stay in the family's possession for at least three years after she would die.[83]

Petronella's dollhouse is considered one of the most outstanding Dutch dollhouses, or *pronk poppenhuisen* of the seventeenth century. As art historian Jet Pijzel-Dommisse states: 'especially the dollhouse of Petronella de la Court entails the ambiance of a collector's cabinet.'[84] The reason for De la Court's dollhouse to be a good representation of the contemporary Dutch collecting culture is thanks to two rooms that can be seen in the dollhouse: the *konstkamer,* art room (Fig. 5), and the *thuynkamer*, the garden room (Fig. 6).

The art room is situated at the top of the house, where three little puppets are placed in the center. Here, the homeowner is receiving his guests, showing them off his extensive collection of art. Looking closely at the room, all kinds of art forms can be seen. Miniature paintings, sculptures, and books are placed in the art room, together with two relatively large cabinets at the back of the room. These two cabinets function as collecting cabinets, in which *naturalia* such as gems, small shells, and miniatures of ivory are placed.[85]

The garden room is a small room, situated in the down right corner of the dollhouse. To create an illusion of an open garden, the walls of the room are painted to simulate a far horizon. Bird, trees, and clouds are painted to create this illusion of perspective. The design

[82] Van der Hut, 2014: http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Court (17-05-2017).
[83] Beeling 1992, p. 59.
[84] Pijzel-Dommisse 2000, p. 17.
[85] Ibidem, p. 35.

of the room itself starts with a symmetrically laid out garden, adorned with four miniature sculptures, made of ivory. The garden includes both patches with plants and flowers, and on both sides of the garden small fruit trees with ripe fruits, ready to be picked.[86]

These two specific rooms from De la Court's dollhouse give a wonderful, contemporary perspective on the seventeenth-century Dutch culture of collecting. Even though the garden room does only take a small space of the complete dollhouse, it does show how important gardens were for the upper class of Amsterdam. A place where cultivation and beauty through garden design could be accomplished. The art room, on the other hand, shows the significance of an art collection in relation to a collector's network. Not only was this art room's walls adorned with paintings, the room itself had two separate cabinets with *naturalia* as well. This combination of *naturalia* and art becomes more in fashion during the seventeenth century, when cabinets of curiosity were slowly changing into valuable collections.[87]

During the course of the seventeenth century, apart from the interest in *naturalia* and art, the development of botanical collections grew steadily. This lead to more university gardens opening throughout the country. In 1638 for example, the first Hortus Medicus in Amsterdam was founded.[88] Apart from institutionalized gardens like the Hortus Medicus, a large number of the aristocratic class created private country estates with botanical gardens as well. The seventeenth century would be the stage for more elaborate and larger country estate gardens of both scholars and aristocratic *liefhebbers*.[89]

Among these private collectors of botany, three women stand out: Agnes Block, Magdalena Poulle, and Maria Sybilla Merian. These three women were important for the network of collectors and botany in general in the seventeenth century, but all three for a different reason. Agnes Block, a Mennonite silk merchant's widower, became a significant player in the field of botany when she bought her country estate *De Vijverhof* in 1670.[90] At her country estate Block gathered a large collection of plants and fruits and she became a

[86] Pijzel-Dommisse 2000, p. 54.
[87] Jorink 2006, p. 321.
[88] Wijnands 1983, p. 3.
[89] Backer 2016, p. 185.
[90] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Block (22-05-2017); Van der Graft 1962, p. 162.

well-known collector thanks to her cultivation techniques.[91] Magdalena Poulle, a member of the French Walloon church, created her own collection of exotic plants, but she played a more significant role in the development of Dutch garden design, specifically the development of hothouses.[92] Lastly, Merian shows a completely different side of the spectrum in the network of botanical collectors. Apart from her personal research and several works that were published by her, she was commissioned several times by botanical enthusiasts to paint flora from their collections.[93]

Agnes Block and her country estate de Vijverhof

The region where Block bought her estate, Loenen, was a highly sought-after region by the baptized aristocrats and well-established merchants from Amsterdam. Block's manor house and surrounding estate, included, apart from the main house, several gardens and orchards, ponds, and an orangerie(Fig. 7).[94]

After both her parents died when Block was still a teenager, she and her two sisters left for Amsterdam to live with their uncle David Rutgers (1601-1669), who was married to Susanna de Flines (1607-1677). Block became an official member of the family when she married Sybrand de Flines (1623-1697), her second husband.[95] The Baptists, or Mennonites, were a branch of the Reformed church. One of the most important characteristics of the Mennonite ideology is the fact that they believed that worldly matters should be separated from religion, giving room for scientific research and the creation of knowledge.[96]

Apart from Agnes, there was another member of the family that collected botany. Philips de Flines (1640-1700) was the son of Sybrands' brother.[97] Like Block, De Flines was an enthusiastic garden keeper. He had bought a homestead near Haarlem called Sparenhout, where he grew his own collection of exotic plants and flowers.[98]

[91] Backer 2016, p. 188.
[92] Sikkens-de Zwaan 2002, p. 206; Backer 2016, p. 193.
[93] Rix 2012, p. 44.
[94] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Block (30-04-2017).
[95] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Block (10-04-2017).
[96] http://academic.eb.com.ezproxy.leidenuniv.nl:2048/levels/collegiate/article/Mennonite/52033 (12-04-2017).
[97] Van der Graft 1943, p. 74.
[98] Van der Graft 1943, p. 77.

Block had a close relationship with the Dutch poet Joost van den Vondel (1587-1679) and he dedicated several poems to her passion for gardening and cultivation. In 'Ter Bruiloft der E. Getrouden Sybrant de Flines en Agnes Block', the marriage between Block and Sybrand de Flines is celebrated. In this poem some attention is paid to Block's country estate and her work, which shows how important it was to her. Vondel writes for example: 'one of them creates pleasure on the land, where she sows and grows flowers […]'.[99] In the same poem Block's love for the art of paper cutting is mentioned as well.[100]

Paper cutting

Throughout history, paper cutting art has been considered a female art technique. An important female paper cutting artist is the Amsterdam-based Joanna Koerten (1650-1715).[101] Koerten was a very well-known paper cutting artist throughout Europe.[102] Thanks to the research done in the last fifteen years, art techniques, like paper cutting, have become more acknowledged and respected. More attention has been given to traditional crafts and their art techniques which were developed by women.[103]

Koerten's success in paper cutting art came to one of its high points in the 1690s when she received Tsar Peter the Great (1672-1725) as a visitor in her workshop. This visit shows how Koerten's work was appreciated on an international level.[104]

Apart from Block and Koerten who practiced paper cutting, several other women from the Dutch Republic practiced it as well. One of these women is Anna Maria van Schurman (1607-1678).[105] Apparently, her paper-cutting artworks were highly acclaimed

[99] 'd'Een schept zomwyl lust op 't lant, Daer zy bloemen zaeit en plant […]' translated by author, transcripted by Van der Graft 1943, p. 70.
[100] Van der Graft 1943, p. 70.
[101] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Koerten (18-05-2017).
[102] Moffitt Peacock 2013, p. 241; In art historian Moffitt Peacock's article on Koerten, she states the following about Koerten's success after her marriage: 'The couple remained childless, and Koerten was obviously able to dedicate much of her life to artistic pursuits.'(Moffitt Peacock 2013, p. 239) The same theory has been applied to Block's passion for plants and cultivation as well by writers such as Backer, even though her publication is from 2016. (Backer 2016, p. 188) It makes sense that women without children did have more time to develop themselves. However, it is still important to keep in mind, that these childless women did not become as successful as they were, based only on the fact that they could not conceive any children, or that they had to fill a gap in their hearts. because of that.
[103] Moffitt Peacock 2013, p. 239.
[104] Ibidem, p. 243.
[105] Van Schurman was a famous poet who was schooled by her father in several languages. She was one of the first women to attend lectures at a university. Van Schurman made paintings, drawings, and the technique of paper-cutting as well. Van Schurman became a student of Crispijn van de Passe

and mentioned by Jacob Cats (1577-1660) in his *'S Werelts begin, midden, eynde, besloten in den trou-ringh, met den proef-steen van den selven* (1637). Not only does Cats mention her in his introduction, he dedicated one of the poems from the introduction to Van Schurman. In this poem, he praises her for her knowledge of science and art.[106] The fact that women such as Van Schurman were known the circles of writers and scholars, probably resulted in more attention for her colleague Koerten's paper-cutting work as well, later in the seventeenth century.[107]

Even though paper-cutting was seen as a female art technique, it is clear that both men and women have practiced the art form. For example, the Rotterdam-based painter Gillis van Vliet (1644-1701) was known for his paper-cutting art as well, in which he created land- and seascapes.

Information on paper-cutting art as a collectible is hard to acquire, but taking into consideration that Tsar Peter the Great visited Koerten's workshop, it seems that paper-cutting as an art form was appreciated on an international level as well and as an artistic activity female collectors and writers could enjoy. In *Konstig en vermaakelijk tyd-verdryf, der Hollandsche jufferen, of onderricht der papiere sny-konst* (1686) by Johannes ten Hoorn, popular patterns in the seventeenth century are discussed. Botanical patterns and how to execute them are included in this section as well.[108] Even though none of Block's paper-cutting art are known today, it could be possible she liked paper-cutting , because she could combine her love for art and nature in these art-works.

About the tradition of paper-cutting Moffitt Peacock makes an interesting suggestion. She states that the fact that both Koerten and Block were Mennonites, and that Mennonites in general were keen to use the art technique could be seen as a mirror for their religious ideology. Paper-cutting was thought of as being a modest and simple art technique, that could have referred to the lifestyle of Mennonite religion, that represented purity and modesty.[109]

(1574-1637), a well-known engraver, who taught her how to make etchings. (http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Schurman,%20Anna%20Maria%20van 20-05-2017).

[106] Cats 1637, p. 14-15.

[107] Moffitt Peacock 2013, p. 246.

[108] Ibidem, p. 248.

[109] Ibidem, p. 246.

Block's collection

After Block's death in 1704, the estate of De Vijverhof was demolished in 1813, and a large part of her collection was sold to a collector from Delft, Valerius Röver (1686-1739).[110] Röver was a collector of drawing and paintings of, mostly, Italian masters.[111] In 1730, nine years before his death, he had set up a catalog of his entire collection. This catalog gives a clear list of drawing and prints that once belonged to Block, or which prints she commissioned to be made of her objects.[112] It is categorized according to three of Block's so-called *konstboecken* that were bought by Röver, in which watercolors of flowers, plants, birds, fruits, and other animals from her collection are included.

Almost 400 drawings were commissioned by Block, and dozens of artists came to the Vijverhof to work for her. Before Block owned her own country estate, she already hired artists to draw for her. The first known commissioned work dates from 1661, by Herman Saftleven (1609-1685), a famous painter from Utrecht.[113] He made over a hundred watercolors for Block of her blossoming flowers (Fig. 8). Block's drawing commissions went on for more than thirty years and the last known watercolor of Block's collection dates from 1697.[114] These artworks were then brought together, forming the content of three portfolios. Two of these were 'bloemboeken', or flower books, and the other was a portfolio filled with watercolors of birds from her collection.[115]

Even though drawing and painting were still seen as a man's profession, both men and women worked for Block. Alida Withoos (1661-1730), raised in an artist's family, was the one who painted Block's famous pineapple.[116] Together with the pineapple watercolor, all other twelve works she made for Block have not survived.[117] These other drawings Withoos made of Block's collection included, for example, a bindweed from Curaçao.[118] Thanks to Block's extensive network of botanical enthusiasts, Withoos was able to extend

[110] Kearney 2012, p. 75.
[111] Jonker 1992, p. 84-85.
[112] Van Der Graft has provided a transcript list of all Block's objects that were included in Röver's catalogue, pp. 135-152.
[113] Van der Graft 1943, p. 116; De Meyere 1990, p. 33.
[114] Van der Graft 1943, p. 116.
[115] Backer 2016, p. 195.
[116] Backer 2016, p. 204.
[117] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/WithoosAlida (14-06-2017).
[118] Van der Graft 1943, p. 118.

her own network as well. Apart from her commissioned work at De Vijverhof, Withoos started working for Jan Commelyn, the director of the Hortus Medicus in Amsterdam.[119]

Maria Moninckx (c.1676-1757), grew up in an artists' family, just like Withoos.[120] She was commissioned by Block to draw several plants, like the gentian and the bladderwort.[121] Together with Withoos, Moninckx was one of the artists that worked on the botanical codice, the so-called *Moninckx-Atlas*.[122] The *Moninckx-Atlas* can be seen as a catalog for the Hortus Medicus in Amsterdam, commissioned by the garden's prefects: Johan Huydceoper van Maarsseveen (1625-1704) and Jan Commelin (1626-1692).[123] This codice included 420 watercolors, from which 271 are signed by Jan Moninckx (1656-1714), Maria's father (Fig. 9). Another 101 watercolors are signed by Maria, and thirteen others are signed by Withoos.[124] A last interesting artist that made two watercolors for the *Moninckx-Atlas* is Johanna Helena Herolt (1668-c.1728). Johanna Helena was Maria Sybilla Merian's eldest daughter and together they also made a large portion of water-colours for Block's collection.[125] Merian was responsible for eighteen drawings from Block's collection (Fig. 10).[126]

Amongst these female artists, several male artists were commissioned by Block as well to eternalize her collections. These male artists were, among others, Otto Marseus Van Schrieck (c. 1614/20-1678), Pieter Withoos (1655-1692), Pieter Holsteijn (1614-1673), and Johannes Bronckhorst (1648-1727).[127] One of the most famous of these men was Van Schrieck. Apart from his commissioned artworks for Block and other collectors, Van Schrieck was mostly fascinated by snakes, frogs, and other reptiles, amphibians and animals from around the globe.[128] Van Schrieck used the imprints of real butterfly wings in his paintings

[119] Backer 2016, p. 205.
[120] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/MariaMoninckx (22-05-2017).
[121] Van der Graft 1943, p. 120.
[122] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/MariaMoninckx (22-05-2017).
[123] http://dpc.uba.uva.nl/cgi/i/image/image-idx?sid=3a868c4ba5233e95d9e1a4027a5b0325;page=index;c=botanie;lang=nl;corig=botanie;start=1;tpl=p_moninckx.tpl (14-06-2017).
[124] Wijnands 1983, p. 19.
[125] Backer 2016, p. 195.
[126] Van der Graft 1943, p. 118.
[127] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Block (30-04-2017).
[128] Hildebrecht 2004, vol.1, p. 1.

and he was probably the first European artists to have included this technique in his artworks.[129]

The collection of naturalia

According to Van der Graft, Block did not only collect exotic plants and herbs, but she collected a variety of birds from all over the world and created a curiosity cabinet.[130] This specific information about Block's collection can be found in a poem, written by Gualtherus Block (c. 1675-?) in 1702, called *Vyver-hof van Agneta Blok*.[131] This lengthy poem, written by her second cousin, describes Block's manor house and estate on the Vecht and it mentions a variety of objects from her collection as well.[132]

The most prominent of her objects was the pineapple.[133] When she succeeded in cultivating the pineapple plant, after numerous failed attempts, she became the first person to produce a pineapple on Dutch soil.[134] Not only did she have one sent to the parliament, a commemoration coin to celebrate her success was made as well (Fig. 11). Depicted on the coin was Block's face *en profile*, with the text *Flora Batava*, 'the flower of Batavia'. On the other side of the coin, the goddess Flora is depicted. She is holding a cornucopia, with the pineapple plant beside her and the Vijverhof estate in the background.[135] Apart from the pineapple, the poem mentions many other different plant species, flowers, insects, *artificialia*, and art. The poem shows that Block's collection and the garden were extensive and made up from all kinds of objects.[136]

A painting by Jan Weenix of Block with her second husband Sybrand de Flines, and his two children from a previous marriage give more insight into her estate and collection (Fig.1). The painting from c. 1694 shows the family, the important aspects of the Vijverhof in the background, and objects that symbolize Block's collection. On the ground in front of Block, a portfolio is placed, which acts as a symbol for her collection of drawings and, perhaps, her paper cutting art as well. On the left of Block, one of de Flines' daughters is

[129] Ibidem, p. 4.
[130] De Jong 1984, p. 24; Van der Graft 1943, p. 109.
[131] *Vyver-hof van Agneta Block* (1702) is transcripted by Van der Graft in *Agnes Block: Vondels nicht en vriendin* 1943, p. 113-115.
[132] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Block (01-05-2017).
[133] Van der Graft 1943, p. 113.
[134] Kearney 2012, p. 73.
[135] Backer 2016, p. 190.
[136] Van der Graft 1943, pp. 113-115.

holding up a variety of ripe fruits, like peaches, as a symbol of Block's passion for cultivation. Her stepdaughter on the left has a small bird resting on her left hand. This bird probably symbolizes her love for collecting birds and her aviary. Thanks to Röver's catalog, knowledge on her bird collection has become available. In her aviary she had, for example, peacocks, kingfishers, swans, and falcons.[137]

On the right side of the picture, Sybrand de Flines is standing at a table. The small objects on the table represent butterflies and a variety of shells, that represent her, or perhaps his, curiosity cabinet. Other objects in the picture that show what Block was interested in, are, of course, the pineapple in the low left corner, the small sculptures on the right, the painting standing on the floor and, last but not least, the view of the Vijverhof in the background of the picture. Taking a closer look at her art collection, represented partially on the Weenix painting, it shows that Block's interest was broad and included all sorts of art.

Apart from the art made and collected by Block herself, the drawings she commissioned to be made of her flora almost act as a catalog and were very dear to Block. The drawings of flora and fauna were collected in several portfolios, like the one shown on the Weenix painting. These books became a part of Röver's collections, and now provide information on the objects that made up Block's collection.[138] Unfortunately, none of these books have survived. Knowledge of these books stems from Block's testimony, in which she states the oldest next of kin would inherit her precious books after her death.[139]

Magdalena Poulle

Thanks to the catalog made by Röver of his own collection, we now know a fair amount of information about Block's collection. Of Poulle's collection on the other hand, there is no catalog to refer to. The sources that shed some light on Poulle's country estate collection are the auction list compiled after her death and witness stories of her estate written down in diary entries. A good example of such a diary entry is the visit of George London to the estate of Poulle's Gunterstein.[140]

[137] Van der Graft, pp. 150-152.
[138] Van der Graft, pp. 135-152.
[139] Van der Graft 1943, p. 116.
[140] Backer 2016, p. 195.

George London, a garden designer from the United Kingdom, was a botanical enthusiast, who visited numerous country estates and gardens in 1684 and 1685. In the manuscript *Speculum herbarum fruticum arborumq[ue] minus cognitarum in viridarijs tam publicis quam curiosorum privatis anno 1685 apud Belgas crescentium,* London lists all exotic and unknown plants he encountered at the Dutch country estates he visited.[141] The list he set up after his visit to Poulle consisted of a wide variety of plant species, including plants from India, Curaçao, and Ceylon, showing Poulle's broad interest in exotica, and her global network.[142]

Information on Magdalena Poulle and her life is unfortunately not abundant, but the information we do have offers some perspective on her personal life. Magdalena was born into a family with one sister and five brothers.[143] Even though she and her family moved to Amsterdam in the 1640s, she originally came from France, born in the city of Calais.[144] Her brother, Benjamin Poulle (1646-1711), was a merchant working from Amsterdam and from there he traveled across Europe and the Levant.[145] Magdalena comes from a wealthy family, and as it will show later, she also consecutively married two merchants, both significant for the trade as well.[146]

More significant information about Magdalena's family comes from her first and second cousins. Magdalena's most important cousin for this thesis is the botanist Jan Commelin (1626-1692).[147] Commelin was a merchant, based in Amsterdam. He was specialized in pharmaceutical products, which he sold to hospitals and apothecaries throughout Holland.[148] In 1676, he published a book on a botanical subject for the first time, on the cultivation of citrus fruits: *Nederlandse Hesperides, dat is, oeffening en gebruik van de limoen- en oranjebomen, gestalt na den aardt en climaat der Nederlanden* (1572).[149] Throughout his life, his expertise on botany grew and in 1682, together with his brother

[141] Wijnands 1989, p. 282.
[142] The list of plants from Poulle's collection by London was transcripted by Sikkens-De Zwaan in her article 'Magdalena Poulle (1632-99): A Dutch lady in a circle of botanical collectors' (2002), pp. 216-217.
[143] Ibidem, p. 207.
[144] Ibidem, p. 206.
[145] https://www.geni.com/people/Benjamin-Poulle-heer-van-Berkenrode/6000000013692972416 (10-04-2017).
[146] Sikkens-de Zwaan 2002, p. 207.
[147] Kearney 2012, p. 70.
[148] Wijnands 1983, p. 6.
[149] Ibidem, p. 7.

Caspar, he founded the Hortus Medicus in Amsterdam.[150] Commelin also collected items for his personal collection of exotic flora.[151]

Another important figure in botanical collecting and a part of Magdalena's family is Hieronimus van Beverningh (1614 - 1690). He was connected to Magdalena through his wife. His sister-in-law married Daniel Lestevenon, who was the second cousin of Magdalena's sister-in-law. Van Beverningh was an important person in the world of botanical collecting as well.[152] Living in Warmond, a town close to Leiden, his whole life, he owned a castle named Oud-Teylingen. In this castle, he created a collection of naturalia, artificialia, all sorts of plants, and publications on botany.[153]

Even though the nature of Poulle's botanical collection might not be completely clear, information on her garden and its architecture are better documented. Around fifteen years after buying the estate, Poulle commissioned Willem Swidde (1660-1697) to make fifteen etchings of Gunterstein.[154] Poulle bought the country estate Gunterstein in 1680, which was at the time still a ruin after the war against the French in 1672. From the remnants of the old manor house and surrounding estate, Poulle rebuilt the estate in a classicist style with typical French elements throughout the design.[155]

As can be seen clearly on the etching by De Lespine and Swidde, the Gunterstein estate included a farm and vegetable garden placed at the entrance on the left side. On the right side of the manor house are two gardens, shaped like a triangle (Fig. 12a). The triangle was a shape landscape architects of the seventeenth century liked to incorporate in gardens. Apart from Poulle's garden, the Hortus Medicus in Amsterdam and the garden of the Mauritshuis also had triangles in their garden design. Even though the shape of the triangle was rather difficult to incorporate in a design, until the beginning of the eighteenth century it was an often used shape by Dutch garden architects, who liked to experiment with new shapes and forms in their designs.[156]

All garden elements were connected through the use of tree lanes. This etching, which provides a bird's perspective on the estate, the garden, and its design seems to show

[150] Ibidem, p. 3.
[151] Ibidem, p. 8.
[152] Sikkens-de Zwaan 2002, p. 208.
[153] Fleischer 2012, p. 75.
[154] Ibidem, p. 210.
[155] De Jong 1986, p. 122
[156] Bezemer Sellers 2001, p. 127.

a sober and static garden design. However, other etchings by Swidde portraying Gunterstein, show a more elaborate side of Poulle's design. One of the etchings shows that Poulle had a good sense of humor when it came to her family name. The etching shows a fountain with a sculpture of a chicken placed at the top of the fountain, becoming the 'Fontaine de la Poule', jokingly referring to her family heritage (Fig. 12b). Another etching by Swidde from around 1696, shows a later addition to the estate of Gunterstein. On the northern part of the estate, a maze was constructed with the use of hedges, for the leisure of Gunterstein's visitors (Fig. 12c). The use of the maze in garden design has its start in the second half of the fifteenth century in Italy. During that time Italy was highly influenced by their Renaissance range of ideas, and they believed mazes had been a part of the ancient Roman gardens. This was enough reason for them to include the maze in Renaissance garden design.[157] During the sixteenth and seventeenth century a large amount of garden designers adopted the maze and installed mazes in gardens all over Europe.[158]

From the etchings that are just discussed, show how Poulle's design was very much focused on the visitor's experience of Gunterstein. Long, green lanes of trees, mazes and beautifully sculpted fountains must have been there to be enjoyed by Poulle and the visitors that came to Gunterstein to marvel at the exotic flora and garden design.

Apart from the beautiful garden and maze designs, Poulle's estate included a building that was modern and innovative when it came to the cultivation of plants, the hothouse (Fig. 12d). With trading companies bringing back exotica from the tropical colonies, new methods had to be introduced to keep the unknown plant species alive in the European climate.[159] One reason for the application of these new methods was the fact that the tropical hothouses were heated with stoves. Even though these stoves provided a large amount of heat, they were not the best option for heating. The stoves made the air inside the hothouse too dry for the plants, and, with that, the method was too unstable to control precisely.[160] Even though Poulle was one of the first private garden owners who had such a modern hothouse installed in her private garden around 1685, the new and improved hothouses were probably first installed at academic gardens like the hortus in Leiden.[161] The

[157] Thacker 1985, p. 117
[158] Ibidem, p. 115
[159] Arens 2015, p. 275-276.
[160] Sikkens-de Zwaan 2002, p. 212.
[161] Ibidem, p. 213; Ibidem, p. 212.

traditional heating method consisted of stoves inside the hothouse, but the new method could be installed in two ways. The most popular way was to install a fireplace at the side of the hothouse. This fireplace would then be connected to the hothouse with brick pipes under the floor, through which the heated air was transported horizontally. The second method entailed vertical heating, where the fireplace was situated next to the hothouse. The ducts would be led through the walls of the hothouse, providing a steady and controllable amount of heat for the tropical plants. According to Sikkens-de Zwaan, it is most likely that Poulle used the first method, in which the hothouse was heated with the use of vertical heating.[162]

Several years before hothouses circulated in the Dutch garden circles, John Ellis, a member of the British Royal Society, published a book with directions and methods to create the best environment for the exotic flora. The book, *Directions for Bringing Over Seeds and Plants from the East-Indies and Other Distant Countries in a State of Vegetation* (1670), included an appendix in which the directions to control air, light, and humidity were illustrated.[163]

Maria Sybilla Merian

Whereas Agnes Block and Magdalena Poulle were collectors, designing and building their country estates, Merian expressed her interest in botany and nature in general in another way.

Raised in an artistic environment, with both family members being active as artists and Merian marrying an artist herself, she became one of the most significant painters of natural science of the early modern period.[164] Apart from her best-known work on the metamorphosis and life cycles of insects, she worked for women like Block as well.[165] For Block, Merian painted eighteen floral works and numerous paintings of a variety of birds, plants, and insects living at Block's Vijverhof, from 1695 to 1697.[166] Having lived in Frankfurt, Nürnberg, Wieuwert, and Amsterdam, Merian created an extensive network for herself.[167]

[162] Sikkens-de Zwaan 2002, p. 214.
[163] Arens 2015, p. 275.
[164] Backer 2016, p. 198; Kinukawa 2011, p. 315.
[165] Kearney 2012, p. 75.
[166] Van der Graft 1943, p. 118; Kearney 2012, p. 75.
[167] Coppens 1997, p. 68.

When she was born, Maria Sybilla was baptized and she became a member of the Lutheran church.[168] In 1685, however, she decided to move to the town of Wieuwerd, in Friesland. Here, together with her two daughters, she became a member of the Labadist church, in which the living ideals were austere, but Maria Sybilla was able to continue her research and art there.[169] The Labadist church was built around the ideology of the church's founder, Jean de Labadie (1610-1674). De Labadie believed that God and belief should be found within and he created a communal cult in Friesland.[170] Merian was probably inspired by her brother Caspar Merian, who already lived in Wieuwerd for a few years when she decided to move there. All the members of the church lived together and shared everything; private property was not allowed. Even though the Labadists did not approve of art, science was considered important by them. For Merian, this meant she was able to continue her work.[171]

Apart from the commissioned artworks Merian made for numerous collectors, Merian herself was fascinated by insects, with the emphasis on caterpillars and their metamorphosis into butterflies.[172] According to amateur historian Kees Beaart, Merian must have been inspired to work on an insect publication, by Johannes Goedaert (1617 - 1668), to whom she refers multiple times in her work.[173] Goedaert was born in Middelburg, Zeeland, and is considered one of the first entomologists of his time. He, much like Merian, was fascinated by insects and their change of form throughout life. More than thirty years before Merian would publish her book on Surinamese nature, Goedaert published his *Metamorphosis Naturalis* (1662 - 1669). The book was translated into English, Latin, and French, and throughout the publication, hand drawn and colored illustrations accompany the text (Fig. 13, Fig. 14).[174]

Merian's first published work was her *Neues Blumenbuch* (1675-1677). Divided into three volumes, the work contained prints of Merian, of flowers and wreath.[175] Only a few

[168] Reitsma 2008, p. 21.
[169] Coppens 1997, p. 68; Reitsma 2008, p. 31.
[170] Backer 2016, p. 200.
[171] Reitsma 2008, p. 31.
[172] Backer 2016, p. 198.
[173] Beaart 2016, p. 167.
[174] Meertens 1943, p. 440-441.
[175] Reitsma 2008, p. 24; http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Merian (17-06-2017).

years afterwards, her first volume of the publication on caterpillars, *Der Raupen wunderbare Verwandelung und Sonderbare Blumen-Nahrung* (1679) came out, in which the metamorphosis of insects was the main subject (Fig. 15). Four years later, when Merian moved back to Frankfurt, the second volume of *Der Raupen* was published.[176] In the introduction of *Raupen,* Merian states that she had been fascinated by insects and their life development since she was a teenager, at the age of thirteen.[177] Her mother kept silkworms when Merian was a child, to make silk from their pops, and let Merian take care of the little insects. This became the starting point for her research.[178]

What is interesting about Merian's fascination for insect metamorphosis, is the fact that during the second half of the seventeenth century, scientists still believed that butterflies were born from mud. Merian is one of the first researchers who came to the conclusion that butterflies go through different stages and figured out herself that the mud theory was incorrect.[179]

When Merian and her daughters moved to Wieuwerd, and joined the Labadist community there, she started to build up her fruitful network in the Low Countries.[180] At Wieuwerd she met the sisters Van Aerssen, whose brother, Cornelis van Aerssen, was governor of Surinam at the time. Van Aerssen sent all kinds of butterflies from tropical Surinam to the Labadist community in Friesland, which sparked an interest for Surinam in Merian and her daughters.[181] After Merian and her girls left the Labadist community in 1691 and moved to Amsterdam, the oldest of the two girls, Johanna Helena, married another member of the community, Jakob Hendrik Herolt. Working as a merchant, Herolt made contacts all over the world, including Surinam.[182]

Merian and her youngest daughter, Dorothea Maria, left for Surinam themselves in 1699 to study the indigenous insect species and Surinamese nature in general.[183] For a

[176] Kinukawa 2001, p. 4.
[177] Reitsma 2008, p. 25.
[178] Backer 2016, p. 199.
[179] Reitsma 2008, p. 25.
[180] An interesting fact about the Labadists, is that Van Schurman who was a paper cutter, was a member of the Labadist community as well, and even died in Wieuwerd in 1678. As a member of the Labadist community, Van Schurman was responsible for the development of De Labadie's religious movement, and she became a key figure in the community's development. (Backer 2016, p. 200; Lee 2007, p.190)
[181] Backer 2016, p. 201.
[182] Reitsma 2008, p. 32.
[183] Kinukawa 2001, p. 4.

period of two years, the two women would stay in Suriname to research and document the country's nature.[184] All of her findings from those two years in Surinam, she published in *Metamorphosis insectorum surinamensium* (1705) (Fig. 16).[185] One of the most interesting facts about this publication is the fact how transparent Merian is about the help and knowledge she received from the native Surinamese inhabitants. Apart from their knowledge of the indigenous insects, the Indians taught her about plant species as well. The natives introduced Merian to their way of living, legends, and rituals. If Merian used their information in her publication, she cited them as a trustworthy and official source.[186]

Merian's publication on Surinam was the first of its kind, written by a female naturalist. What exemplifies the significance of this work, is the fact that great collectors as Sir Hans Sloane owned a copy of the *Metamorphosis insectorum surinamensium*.[187]

Based on these women's collections, it becomes clear that the three of them have been of big importance for the development of botanical sciences in their own way.

Through the cultivation of new plant species, the innovation of garden architecture, and the research of exotic animals like insects, Block, Merian, and Poulle made quite a name for themselves. The overview of their lives and work shows that these women's legacy was built on their fertile and vivid networks. These networks were crucial for these women to start and maintain their collection or profession. As the intricate network of Block with her commissioned artists shows, the collecting circles of botanical enthusiasts, artists was both small and large at the same time. Now the artist and collector/researcher networks are clear, the next step is to analyze the network connections between the collectors and researchers to see what the role of Block, Poulle, and Merian played in these collecting circles.

[184] Reitsma 2008, p. 32.
[185] Backer 2016, p. 203.
[186] Backer 2016, p. 202.
[187] Kearney 2012, p. 76.

Chapter 3: Female collectors and their networks of collectors and researchers in the Dutch Golden Age

The three central figures that are discussed in this thesis, Block, Merian, and Poulle, came from families with botanical or artistic connections. Their interest in the field of botanical collecting and research originated from their childhood, their marriages, and their religious viewpoints.

Block and Poulle created large estates for themselves, where their love for the natural world and God's creation became apparent. Merian on the other hand was important to portray their collections when the flowers and plants were blossoming. However, in the Dutch Golden Age, if one wanted to acquire bulbs, seeds, and other exotic flora and fauna, one was dependent on one's network. All three women enjoyed an extensive network with which they exchanged knowledge and objects. To the appendix, a diagram is added to give an overview of this intricate network of collectors, and researchers (Fig. 19). The following chapter will act as a guideline in which all network relations, and their significance, will be explained.

How to Collect

To understand the significance of having a strong network, it is important to look at the different ways collectors could acquire their objects. According to art historian Tomomi Kinukawa, there were several methos Amsterdam-based collectors could use to let their collection grow. Firstly, if a fellow collector died, one had the opportunity to buy objects or even the complete collection at an auction that was organized after his or her death. Secondly, a collector could exchange objects with other collectors when they owned two or more specimens or objects of this in their collection. Thirdly, the port in Amsterdam was an important source of *exotica,* where merchants of, for example, the VOC offered their goods from all over the world. Lastly, there was the option to go to these foreign countries oneself. Here one would be the first-hand collector, having first pick and the time to observe nature from their own experience like, for example, the travels of Paulus Hermann, who travelled to the island of Ceylon to work and research the nature there.[188]

[188] Kinukawa 2013, p. 592; Veldman 2012, p. 151

The fact that three of the four ways to collect mentioned above are only manageable through contact or object exchange, the network of a collector was crucial for the creating, managing, and expanding of his or her collection. Even though information on the networks of several male collectors is abundant, their female counterparts, and more specifically their networks, have not had the same amount of attention.[189] Are there any differences to be found? Or are these networks more similar than before thought?

Agnes Block

As discussed in the second chapter, Block first lived and later married into the De Flines family.[190] But before Block married Sybrand de Flines, she already made a collecting connection with a member of the De Wolff family, to which her late husband Hans de Wolff (1613-1670) belonged. His son from his first marriage, Pieter de Wolff (1646-1691), inherited the estate in the Purmer polder, Wolffshoek. Here Pieter built his own orangery and he collected rare and exotic plants from all over the world as well.[191] When Block married her second husband Sybrand de Flines, his cousin Philips de Flines (1640-1700) was an enthusiastic collector himself. At his estate the Sparenhout, close to Haarlem, de Flines grew exotic plants himself, just like Block.[192]

Apart from her family connections, Block built up an extensive network of academics and collectors around her, with whom she was in contact to acquire new seeds and knowledge. A good example of this widespread network is her connection with the Italian academic Lelio Trionfetti, who worked at the University of Bologna.[193] Fortunately, there is primary evidence of Block's connection to Trionfetti through eleven letters that have been found, all written from Agnes Block to Trionfetti.[194] The first letter of the collection shows that their relationship was based mostly on the exchange of objects:

[189] For example Van Gelder 1992a, Jorink 2006, Van Gelder 2012.
[190] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Block (05-05-2017).
[191] Sikkens-de Zwaan 2002, p. 209.
[192] Kuijlen 1983, p. 33.
[193] De Bell 1992, p. 134.
[194] All eleven letters are transcripted in: Poelhekke 1962, p. 13-25. For this thesis they were all translated by linguist Sannerien van Aerts.

''[…] if you could do me a favor to send me the catalog containing everything you have, then I can see which ones I would like to obtain. Then, I can send you mine to let you decide which ones you desire […]''[195]

The letters Block sent to Trionfetti not only show the entrepreneurship Block developed, but also shows that she was aware of the fact that corresponding with a female collector of botany was rare.[196] Interestingly, all eleven letters speak of the same subjects: the exchange of seeds and catalogs, asking Trionfetti to send her plant species she did not yet have, and sending bulbs and seeds to Trionfetti herself.[197] These letters show that Block definitely was a business woman. While Block was developing her country estate and building up her collection with rare and exotic plants from all over the world, she surrounded herself with a number of influential and important figures in the collecting circles of the seventeenth century.

Block and Poulle

Three men in particular, as far as is known, were both connected to Poulle and Block: Paul Hermann (1646-1695), Hieronymus van Beverningh, and Johan Huydecoper van Maarsseveen.

The first connection, Paul Hermann, was best known for his function as the prefect of the Hortus Botanicus in Leiden. Hermann studied in Wittenberg and Leipzig, before moving to Padua to continue his studies. While studying in Padua, Hermann built up his own network of botanists by visiting the neighboring city Bologna as well,[198] where Trionfetti worked.[199] In 1672, when Hermann lived in Leiden, he became a ship's doctor for the VOC. This profession took him to places like the island of Ceylon and Cape of Good Hope, where

[195] ''[…] e se mi favorirà più oltre di mandarmi il Catalogo di tutto che ha, potrò vedere quali mi sarrebbero in oltre cari, et ancor io poi le mandarò il mio , per provederle anche quelllo che brama […]'' transcript of a letter from Agnes Block to Lelio Trionfetti, 23 August 1686, Lettera I in: Poelhekke 1962, p. 13, translated by linguist Sannerien van Aerts.

[196] ''La corrispondenza con una donna sopra la materia botanica si pùo dir esser rare […]'', transcript of a letter from Agnes Block to Lelio Trionfetti, 13 December 1686, Lettera III in: Poelhekke 1962, p. 14.

[197] Poelhekke 1962, p. 13-25.

[198] Veldman 2012, p 148.

[199] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Block (09-05-2017).

Hermann had the opportunity to observe new plant species and bring them to Leiden for his own collection.[200]

After his return to Holland in 1679, Hermann accepted the position of prefect at the Hortus Botanicus, taking his extensive collection with him. His collection was an immense addition to the development of botanical science in Leiden and the city's university. Important Dutch collectors in Hermann's network are Gaspar Fagel (1634-1688) and Hieronymus van Beverningh (1614-1690).[201] Van Beverningh had been the mayor of Gouda and after a successful political career, he bought a castle close to Leiden in 1675, called Oud-Teylingen. With this buy, Van Beverningh did not only acquire a castle, the deal also included the surrounding orchards and gardens.[202] Thanks to his political profession, Van Beverningh had a large amount of influential network connections that provided him with all kinds of plant species and other *naturalia*, from for example Peru, India, South Africa and Japan. A good example of his diplomatic network is his friendship with Paul Hermann. It was Van Beverningh's idea to let Hermann be appointed at the VOC hospital on the island of Ceylon. Stationed on Ceylon, Hermann collected objects not just for himself, but for Van Beverningh and other collectors like Fagal as well.[203]

The third figure significant for both Poulle's and Block's collection, who might have functioned as a connector for both women, is Johan Huydecoper van Maarsseveen. Huydecoper was, just like Van Beverningh, an important politician. He was the mayor of Amsterdam several times, and he was one of the governors of the VOC. Apart from his diplomatic role, Huydecoper was a nature enthusiast and he was one of the most important people for the growth of the botanical garden in Amsterdam. Huydecoper, as a central figure of the VOC, maintained contact with colonial governments, often to ask them for exotica specimens or drawings of them.[204]

Huydecoper, being a member of the upper-class community in Amsterdam, owned an estate on the Utrechtse Vecht as well, called Goudestein. Even though contact between

[200] Kuijlen 1983, p. 12.
[201] Veldman 2012, p. 153.
[202] Fleischer 2012, p. 74.
[203] Ibidem, p. 77.
[204] Kuijlen 1983, p. 23.

Poulle and Block is subject to speculation thanks to a diary entry of Huydecoper, it is known that he visited the Vijverhof and Gunterstein on the same day.[205]

Considering the fact that at least three important key figures, namely Huydecoper, Van Beverningh, and Paul Hermann, all were in contact with both Poulle and Block, there seems to be a connection between the two women. Huydecoper's diary entry is the closest link to these women and, even though it does not clarify if Block and Poulle were in contact, it at least shows the significance of their collections and botanical novelties in the seventeenth century collecting circles.

The Commelin Family

Almost a hundred years after the Hortus Botanicus in Leiden was opened, the renewed Hortus Medicus was opened in Amsterdam in 1682. Jan Commelin (1626-1692) was appointed as the first commissioner of the botanical garden, together with Johan Huydecoper van Maarsseveen (1625-1704). As the garden's commissioners, the two men were the directors and this meant that they were responsible for the growth of the Hortus' collection and its maintenance. Huydecoper was a very influential and important figure in the development of the university garden, mostly because of his extensive network. He was the key figure for the expansion of the garden's collection of plants and herbs. The role of Jan Commelin, on the other hand, was focused more on the practicalities of garden maintenance and managing the Hortus.[206]

Jan Commelin was born in 1629 in Leiden in a Dutch Reformed family. Jan became an important figure in Amsterdam during his life, where he started working as a merchant specialized in pharmaceuticals. Apart from this profession, he held several functions for the municipality of Amsterdam, before he was asked to take one of the positions of *commisaris practicus* at the Hortus Medicus in Amsterdam.[207] Considering his profession, it is no wonder he became the *commisaris practicus* of the Hortus Medicus, where the emphasis was on the medical properties of plants. The university garden was important for the developments in

[205] Backer 2016, p. 192.
[206] Wijnands 1983, p. 3.
[207] Ibidem, p. 6.

medicine, where doctors, apothecaries, and surgeons were able to research and observe the medicinal plants from all over the world.[208]

Apart from the Hortus' role in the studies of medicine, the garden quickly became a center of national botanical interest. Whereas Huydecoper was mostly responsible for the contacts from within the VOC and his network, Jan Commelin was important for the documentation and research of the exotic plants that were shipped to the Hortus Medicus. Commelin's drive to document the Hortus' collection, resulted in the documentation and illustration of the collection, starting in 1686. The first eight volumes together of this documentation process are called the Moninckx Atlas, mentioned in the previous chapter.[209]

Caspar Commelin (1668-1731), Jan Commelin's younger cousin, studied medicine at the medical faculty of Leiden. After Caspar became a doctor, his cousin Jan had been dead for four years, and Caspar became the new specialist in botany at the Amsterdam Hortus Medicus.[210] After he started with his appointment in Amsterdam, Caspar published several books and catalogs on the Hortus Medicus' botanical collection.[211] One example is his contribution to the Moninckx-Atlas.[212]

The two Commelin cousins have influenced the development of the Hortus Medicus and they both were influential characters in the lives of all three women, but in what way?

Block's connection to the family Commelin is the most indirect one. Only two assumptions can be proposed about Block and the Commelin cousins knowing each other. Firstly, the fact that Block was in close contact with Johan Huydecoper van Maarsseveen, who was working closely with Jan Commelin at the Hortus Medicus.[213] According to art historian Reitsma, Jan and Caspar Commelin were in contact with Block, with whom they exchanged knowledge and objects.[214] Secondly, she appointed some similar artists to paint her collection, as the Commelins did for their Moninckx-Atlas, for which both Alida Withoos

[208] Wijnands 1983, p. 3.
[209] Ibidem, p. 4.
[210] Ibidem, p. 10.
[211] Ibidem, p. 7-8.
[212] Ibidem, p. 4.
[213] Backer 2016, p. 192.
[214] Reitsma 2008, 144.

and Maria Moninckx made drawings.[215] Unfortunately, more information that could prove any closer connection between Block and Poulle is not available.

More can be said about the network connection of Poulle and Merian with the Commelin family. Poulle's connection is closest to Jan Commelin, whom she met several times. Apart from their collective interest in botany, Poulle and Commelin are second cousins of each other.[216] An indication of Jan's influence on Poulle's estate Gunterstein and her collection, was her hothouse. As the first Dutch person who introduced the hothouse in the Low Countries, in 1684, he inspired Poulle to have such a modern hothouse installed on her estate.[217]

Merian's connection to the Commelins comes from a different angle and is more apparent than Block's connection. Merian, the youngest of the three women discussed in this paper, was in close contact with the younger Cousin Caspar. Not only did he know several collectors that were connected to Merian, like Johann Christoph Volckamer (1644-1720) and James Petiver (1665-1718), Caspar also worked on her *Metamorphosis insectorum Surinamensium*. Caspar made the scientific annotations that accompanied Merian's illustrations in the book.[218] Apart from this collaboration, Merian's daughter Johanna Helena was appointed in 1699 by Caspar to make two watercolors for the catalog of the Hortus Medicus collection.[219]

The three women had very different connections with the Commelin family. Where Poulle already knew him from the family circle, Jan Commelin played an influential role in the development of gardening architecture, which then inspired and helped Poulle to become one of the front-runners in garden architecture innovation. Merian, on the other hand, was connected to Caspar Commelin through their collaboration, bringing science and art together in her publication on Surinamese insects. Furthermore, the connection between the Merian and Commelin family continued when Johanna Helena started to work for Caspar as well. Block had the most obscure connection to the Commelin family. Last,

[215] Ibidem, p. 145.
[216] Sikkens-de Zwaan, p. 206.
[217] Kearney 2012, p. 70.
[218] Reitsma 2008, p. 119.
[219] Wijnands 1983, p. 10.

Block also maintained contact with Jan Commelin, who she provided with specimens from her own garden, which he could add to the university garden's collection.[220]

The entrepreneur family Merian inc.

As the diagram in the appendix shows, Merian created an extensive network, surrounding herself with some of the biggest names of seventeenth-century collecting (Fig. 19). When Merian and her two daughters moved to Wieuwerd, she started to expand her network. As seen before, the family Van Aerssen was one of the first important Dutch connections she made, and from Cornelis Van Aerssen, the governor of Surinam, she received *naturalia* from Surinam.[221]

After her move to Amsterdam in 1691, Merian could really start up her family business.[222] The introduction of her *Metamorphosis insectorum surinamensium* gives insight into which collectors and academia she knew and who inspired her to do her own research. Collectors like Frederik Ruysch (1638-1731), Levinus Vincent (1658-1727), and Nicolaes Witsen (1641-1717) are mentioned by Merian as inspiration.[223]

Frederik Ruysch, born in The Hague, studied to become an apothecary and studied medicine as well at Leiden University. After his doctorate in 1664, Ruysch moved to Amsterdam where he was appointed as a lecturer, specialized in dissection. During his appointment at the University of Amsterdam, Ruysch became a professor in both surgery and botany as well. While Ruysch was a professor of botany, he became the head overseer of the Amsterdam Hortus Medicus.[224] Ruysch created an extensive collection, a cabinet of curiosities, which consisted of both an anatomical collection, and a collection of *naturalia*.[225] Ruysch' collection was not just a private collection. His cabinet of curiosities was an attraction and was free to visit for everyone who was interested.[226] Some visitors of Ruysch' collection are for example Herman Boerhaave (1668-1738), Nicolaes Witsen, and Tsar Peter The Great who actually bought Rusych' entire collection in 1717.[227]

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[220] http://resources.huygens.knaw.nl/vrouwenlexicon/lemmata/data/Block (19-05-2017).
[221] Backer 2016, p. 201.
[222] Reitsma 2008, p. 94.
[223] Ibidem, p. 116.
[224] Wagenaar 1992, p. 37.
[225] Van Gelder 1992a, p. 275.
[226] Reitsma 2008, p. 116.
[227] Van Gelder 1992a, p. 275; Jorink 2006, p. 332.

Ruysch' large collection mainly focused on anatomical preparations in the beginning. These preparations were not merely dried or embalmed, Ruysch decorated them as well, with for example flower petals or pearls. Apart from the preparations of the human body, Ruysch collected preparations of animals as well. Sometimes, these animals were then displayed together with other *naturalia* like pieces of coral.[228] His daughter, Rachel Ruysch (1664-1750), was inspired by her father's work as a professor of botany. She became a well-known and highly acclaimed floral painter and kept painting all her life. Even though Rachel gave birth to ten children, she would keep on painting until her death at the age of 84. For many female artists, their career ended when they became a mother. Therefore, it is even more interesting that Rachel worked from her teen years until her death.[229]

Levinus Vincent was another Amsterdam-based figure important to Merian's network. Vincent was a damask merchant and, after his father-in-law gifted him his collection, he became an enthusiastic collector, who focused on *naturalia* (Fig. 17).[230] Contrary to Ruysch' cabinet of curiosity that was free to the public, Vincent's collection was open for visits as well, but visitors had to pay a small fee to enter.[231] At the beginning of the 18th century, Vincent's collection of curiosities was one of the most visited and most famous collections in the Netherlands.[232] As a proud collector, Vincent published six books, dealing with his collection. The most important of these six is the first publication, called *Wondertoneel der Nature* (1706). This publication consisted of two parts in which the entire Vincent collection is summed up.[233] His collection consisted of objects such as animal preparations, shells, insects, and rocks.[234]

Interesting about Levinus Vincent is the fact that he was a contact of Merian, as a colleague entrepreneur of *naturalia*.[235] The relationship between Merian and Vincent shows that merchants, collectors, and researchers were closely connected in the collecting culture of seventeenth-century Amsterdam.[236] Their connection can be clearly seen in the contact

[228] Van Gelder 1992a, p. 275.
[229] Backer 2016, p. 209.
[230] Reitsma, p. 116.
[231] De Bell 1992, p. 148.
[232] Van Gelder 1992a, p. 280.
[233] De Bell 1992, p. 148.
[234] Van Gelder 1992a, p. 280.
[235] Kinukawa 2013, p. 592.
[236] Kinukawa 2013, p. 590-591.

of both Merian and Vincent to the Englishman James Petiver. Petiver was a pharmacist, based in London, who was in contact with many collectors, including Frederik Ruysch.[237] He was on a mission himself to create a catalogue in which all known specimens from existing literature, collections, and art were to be included.[238] To reach this goal, Petiver had close connections with British slave traders who supplied him with unknown *naturalia* and plant specimens from Africa and the Americas.[239]

The role of Petiver in the establishment of Merian's network was significant in the way he became her connection to the international market of natural science enthusiasts, researchers, and collectors. Even though Levinus Vincent had offered his service to help her with her publication, he wanted to charge Merian for it.[240] Merian and Vincent worked according to two completely different perspectives. Vincent for example, in one of his letters to Petiver, is complaining about a box sent by Petiver to Merian, and how it should have made more sense to have sent him that package of butterflies, with one of the reasons being:

''That lady never keeps anything for herself, selling everything she receives, having no other goal but to get money from everything she does or receives - you can guess the rest.''[241]

This quote shows how tough the exchange community could be and how merchants and natural science enthusiasts and researchers could have conflicting or different goals when it came to collecting.

Concluding this chapter, it is clear that all three women created and managed an extensive network of fellow enthusiasts, collectors, academia, family members. The diagram that is added to the appendix clearly shows their elaborate networks (Fig. 19). Through these networks Block, Merian, and Poulle had the opportunity to collect, design, explore, and research cultivation, garden design, and scientific research. Looking at the diagram, it shows that Block and Merian were a solid connection, in which Merian worked for Block.

[237] Ibidem, p. 590; Reitsma 2008, p. 117.
[238] Kinukawa 2011, p. 318
[239] Murphy 2013, p. 639.
[240] Kinukawa 2011, 317.
[241] Kinukawa 2013, p. 590.

Unfortunately, there is no evidence that Poulle was at any point in direct contact with either Merian or Block. However, considering the fact that the connections of Poulle with both Caspar Commelin and Johan Huydecoper van Maarsseveen are significantly close to Block and Merian, at least assumptions can be made that these women must have known each other and most possibly exchanged knowledge and objects.

Conclusion

Concluding this thesis, it is clear that the development of botanical and natural science in the Dutch Republic throughout the sixteenth and seventeenth century made significant steps, in which collectors and researchers of botany and *naturalia* played an important role.

Three developments at the end of the sixteenth century that have been discussed in this thesis were crucial for the growth of natural science. Firstly, the arrival of intellectual immigrants from France and Germany to the Dutch Republic. Academics like Clusius and enthusiasts like De Brimeu left their home country to settle in the Dutch Republic where they continued their research and where they could share their knowledge with fellow colleagues and enthusiasts. Secondly, the rapid expansion of the Dutch trade companies VOC and WIC provided collectors and academics with rare and exotic objects from colonies and newly discovered territories. Apart from the objects being brought to the Dutch Republic, it became easier for the collectors and researchers themselves to travel to these countries. They had the opportunity to work there and do all the research they wanted to do: for example Hermann on Ceylon, and Maria Sybilla Merian in the Dutch colony Surinam. Thirdly, the Dutch Republic went through an intellectual and religious change at the end of the sixteenth century. The Low Countries started to take a more tolerant stance towards religion. Protestant, humanist academics now had the freedom to practice their own religion and, ultimately, work from their humanist ideologies. In 1575 the university in Leiden was founded and twenty years later the hub of botanical science for the seventeenth century, the Hortus Botanicus would be opened. The Hortus Botanicus and its first prefect became the center of the collecting and researching network of botanical and natural science.

Clusius is seen as the father of botanical science in the Dutch Republic. Even though he specialized in the categorization and observation of plants and flowers, his new humanist method to categorize plant species in an encyclopedic way would not only be used during the course of the seventeenth century, but in other branches of the natural sciences as well. Even though Goedaert and Merian can be seen as the first entomologists, in 1597 the first publication on insects, *Van de byen, hare wonderlicke oorspronc, nature, eygenschap, crachtige, ongehoorde ende seldsame wercken* (1597), was published by Dirck Cluyt, Clusius'

assistant prefect when the Hortus Botanicus in Leiden was founded.[242] Interestingly enough, Cluyt worked from his own observations, which he compared to what the classical naturalists like Aristotle (384 BC-322 BC) said about these insects. He was a critical reader, who trusted his own observations, instead of trusting the classics. However, all his observations and findings were ultimately guided and influenced by the Holy Scripture.[243]

Even though this emphasis on biblical texts and Christian tradition seems to be a characteristic of sixteenth century natural and entomological research, according to Jorink this mind-set continued throughout the works of seventeenth-century collectors and researchers as well.[244] Goedaert, who published his *Metamorphosis naturalis* 60 years after Cluyt, referred to biblical texts as well when he wrote down his own observations.[245] This complete trust in the biblical knowledge did result in his belief in spontaneous generation and regeneration, which, in the case of butterflies, was a symbol of the rebirth of Jesus Christ.[246] In the early modern period it was still believed that a caterpillar died, after which the butterfly was born.[247]

Swammerdam on the other hand, believed that the most important source of knowledge were one's own observations and senses.[248] This same intention can be seen in the work of Merian, where the portrayed insects were as life-like as possible, even though they were placed in a beautiful composition (Fig. 11). This is what distinguished her research and publication from Swammerdam's method and publications, in which the observed *naturalia* were portrayed in a static way, without embellishments, unlike the way Merian made her drawings.

The difference between Merian's and Swammerdam's methods in illustrating their observations shows the juxtaposition between academic and so-called *liefhebber* scientists and collectors in the seventeenth century. Whereas learned scientists such as Swammerdam worked in a sterile and static way, in which the observations and findings were the most important (Fig. 18), autodidact researchers and collectors like Merian were concerned as well with the composition and beauty of their research. It shows the

[242] Jorink 2006, p. 203.
[243] Jorink 2006, p. 206.
[244] Jorink 2011, p. 153.
[245] Jorink 1999, p. 76.
[246] Jorink 2006, p. 210; Jorink 1999, p. 77.
[247] Jorink 1999, p. 77.
[248] Ibidem, p. 80.

difference in the appreciation of nature between the academic and amateur collectors and scientists of *naturalia* and botany.

The immigration of scholars, the trade expansion, and the rise of Protestantism were all three crucial for the development of collections by botanical enthusiasts. De Brimeu and other female contemporaries from Clusius' network show that botany and cultivation were not confined to the academic environment of Leiden's university. The Protestant view on the beauty of nature made room for the widespread appreciation for flowers, initiating a new hobby for wealthy inhabitants. Especially around 1670 a lot of new collections were appearing, like the collections of Agnes Block and Magdalena Poulle. Not only were these women driven collectors, they both also were influential characters in the circle of collectors that existed in the second half of the seventeenth century. Poulle's contribution in the development of garden design and most importantly hothouse technology proves how the knowledge on cultivation and preservation of plants was constantly expanding and how technology was modernized.

Whereas Poulle was at the forefront of modern garden design, Block proved her place in the collecting circles for her cultivation techniques. Despite several unsuccessful attempts, Block managed to grow the first pineapple plant on Dutch soil, giving herself the title *Flora Batava*. Block's and Poulle's elaborate country estates and collections show the distinct difference that Lipsius mentioned in his *De Constantia in publicis malis* (1583) between so-called rightful gardening and lazy, spoiled gardening. Even though Lipsius' work is from a century earlier, it is clear that an elaborate garden and collection of *naturalia* showcased your wealth and status and was an important power tool in the seventeenth century as well.

Women like Merian, Block, and Poulle are being noticed significantly more in academic publications since the beginning of the 21st century. All three were important figures in the intricate network of collectors of botany and *naturalia* at the end of the seventeenth century. The same applies to the large network of artists working in this field and commissioned by these collectors. Block and Merian played significant roles in these two networks, in which Block exchanged knowledge and objects with her fellow collectors and in which she commissioned more than a dozen artists to eternalize her collection. Merian, on the other hand, was from the artist's perspective someone who created an

entrepreneurial network around her. Working for collectors such as Block and Rumphius, Merian made quite a name for herself, which eventually gave her the opportunity to travel on her own and publish her own entomological work on Surinam insects.

Even though the women and men that have been discussed in this thesis, they were all specialized in their own collections, subjects, and passions, it has become clear that the women were of an as equal part of the collecting circles as their male contemporaries. Not only were they in the ability to exchange knowledge and ideas with academics and fellow enthusiasts, these women became an essential part of their network as well. Despite the fact that there is only a small amount of contemporary sources available on these women, they have made their way to the published works of their male colleagues. Thanks to all their contributions to botanical science, entomology, collections and garden design, all women discussed in this thesis have proved themselves to be crucial pawns in the development of the natural sciences, where they worked side by side with their male contemporaries.

In conclusion, this thesis might be a first stepping stone for further research on the subject of female collectors in the Low Countries and their role in the collecting circles of the seventeenth century. This thesis focussed primarily on the Dutch network of collectors in the seventeenth century, but it will be interesting to see how these connections developed internationally. Merian's connection with James Petiver and Block's connection to Lelio Trionfetti, for example. The networks discussed in this thesis function as a first step in understanding the role female collectors and researchers played in the national and international collecting circles of the seventeenth century.

Secondly, horticulture and botanical gardens in the Dutch Golden Age are often only briefly mentioned in publications dealing with other countries and parts of Europe.[249] It might be interesting to see if there are any similarities apparent in other cultures and the development of botany in those cultures. Lastly, the connection between female collections of botany and *naturalia* and so-called female art techniques might be significant to research further. The art of paper-cutting, for example, does seem to have had a clear connection

[249] For example Findlen (1994).

with the appreciation of nature. Can the same connection be found in other art techniques practiced by women, such as embroidery?[250]

Even though this thesis has discussed several subjects on the role of women in the seventeenth-century collecting circles, it is clear that there is still room for critical research. The amount of publications dealing with female collectors and their role in the collecting circles of the Dutch Golden Age has been growing, but one needs to stay critical. For example Backer's *Er stond een vrouw in de tuin* (2016) gives a spectacular overview of the role of women in the Dutch garden, but she still has the tendency to romanticize her writings. Her theory of Block not being able to conceive children, and that she began to collect and cultivate to relieve her heartache is a good example of such romanticism. Naturally, the fact that she did not need to raise children gave her more time and energy to build and manage her estate, but one needs to be careful not to project romantic ideas on these women's lives.

Block, Merian, and Poulle were hard-working, enterprising business women. Thanks to their work, they became influential figures in the field of botany, entomology and garden design. They shared their ideas, accomplishments, and issues with their extensive networks. They might have been *liefhebbers*, but together with their correspondents and colleagues they were the founding mothers and fathers of natural and botanical science.

[250] Moffitt Peacock 2013, p. 243.

Appendix

Fig. 1: Jan Weenix, *Portret van Agnes Block en Sybrand de Flines met hun kinderen voor De Vijverhof,* c. 1694.

Fig. 2: Engraving of Carolus Clusius when he was 75 years old, in a border with flowers, plants and seeds.

Von Klein Schlangenkraut.

Cap. LXXXVI.

Namen.

Das klein Schlangenkraut würdt von den Griechen Dracontion micron/zů Latein aber Dracunculus minor geheyssen. Dise wiewol die alten in beschreibung des kleinen schlangenkrauts einander seer widerwertig vnnd vngleich seind/doch dieweil diss kraut/darvon wir yetzunder handlen/bletter/wie wir hernach weiter werden anzeygen/dem Ephew gleich hat/achten wir das es wol vnd recht vnder den Schlangenkreutern möge gezelt werden/welcher wie Plinius anzeygt/etlich geschlecht seind/deren das gegenwertig das dritt ist.

Gestalt.

Klein Schlangenkraut hat bletter wie Ephew/oder wie Dirlitz/aber grösser/deren nur eins allwegen auff einem langen styl steet/welcher auff der wurtzel herauff wechst/die knöpffecht ist vnd vil gleych oder gewerb hat/wie die Rhor wurtzel. Sein frucht ist ein treüblin mit vilen beeren/die zů letst rot werden/wie am Aron/vnd dem grossen Schlangenkraut.

Statt seiner wachsung.

Wechst gern bey den wassern/vnd sonderlich an der Begnitz/nit weit von Nürenberg.

Zeit.

Klein schlangenkraut kompt her für wann sich die schlangen jüngern/vnd die haut von sich streyffen/verbirgt sich auch widerumb mit jnen ins erdtrich/wie alle Schlangenkreuter thůn.

Die natur vnd complexion.

Dieweil bletter vnd frücht an disem kraut/wie am Aron/scharpff vnd räss sind/ist sein complexion/wie auch die gestalt/dem gedachten Aron gleich.

Die krafft vnd würckung.

Die bletter auff die bisß der giftigen thier gelegt/zeücht das gifft herauß/vil beyst sie in kürtzen tagen. Sie seind auch gůt zů allen bösen alten schaden/vnnd fisteln/so man salben oder pflaster darauß macht/oder aber grün zerstossen überlegt. So man auß disem kraut vnd hönig ein sälblin macht/vnd anstreicht/vertreibt es die flecken vnder dem angesicht. Andere würckung seind oben bey dem Aron gemelt vnd angezogen.

Von Zäpf-

Fig. 4: The complete dollhouse of Petronella de la Court.

Fig. 5: The *konstkamer* in the dollhouse of Petronella de la Court.

Fig. 6: The *thuynkamer* in the dollhouse of Petronella de la Court.

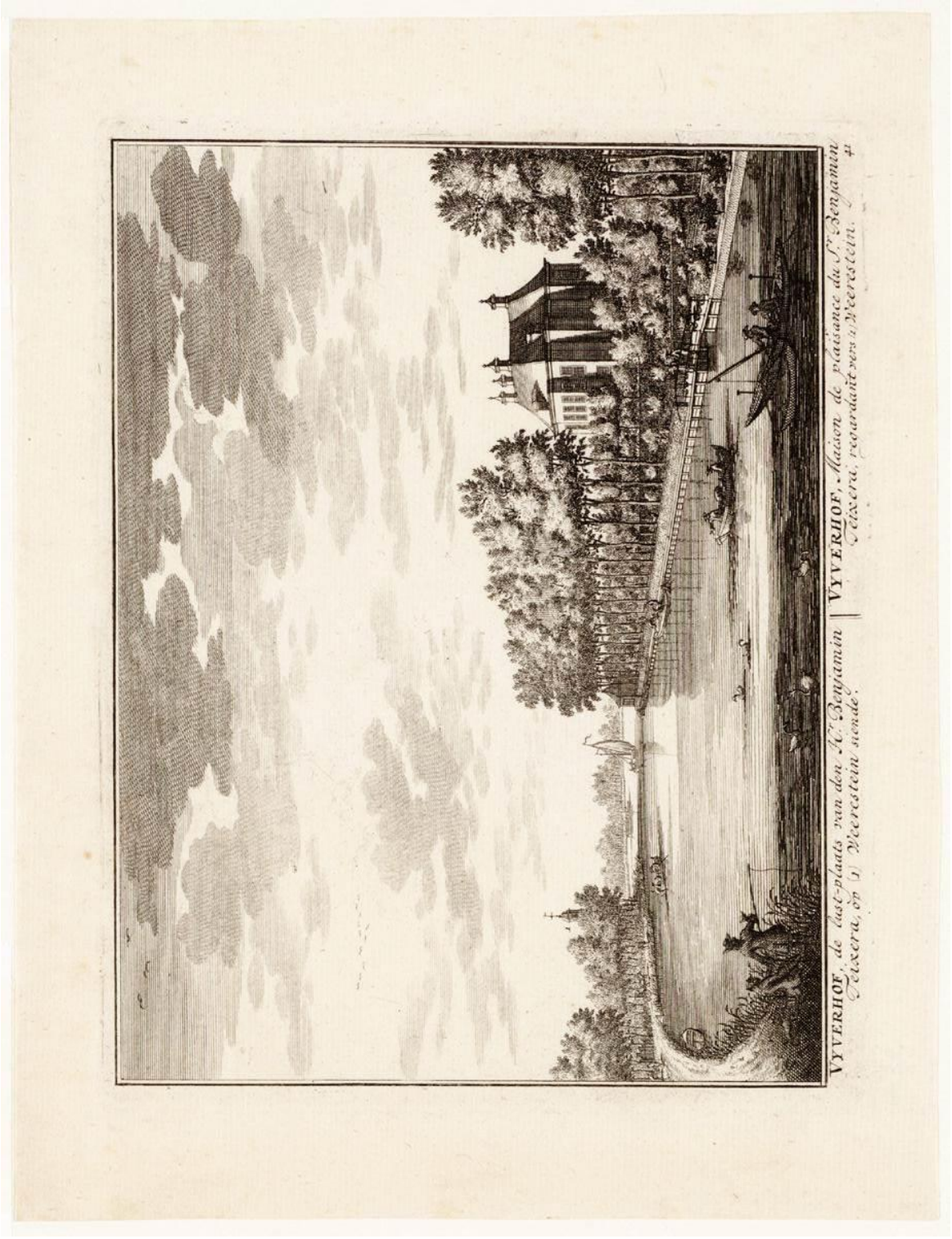

Fig. 7: View of the country estate De Vijverhof from the river.

Fig. 8: This drawing by Saftleven of a red catchfly, was included in one of Block's *konstboecken*

Fig. 9: A drawing done by Jan Moninckx of a pineapple, that was included in the first volume of the Moninckx-Atlas

Fig. 10: One of the drawings commissioned by Block to be drawn by Merian

Fig. 11: Agnes Block's commemoration coin. On the front side she is depicted as the goddess Flora Batava. Next to her on the right the famous pineapple can be seen.

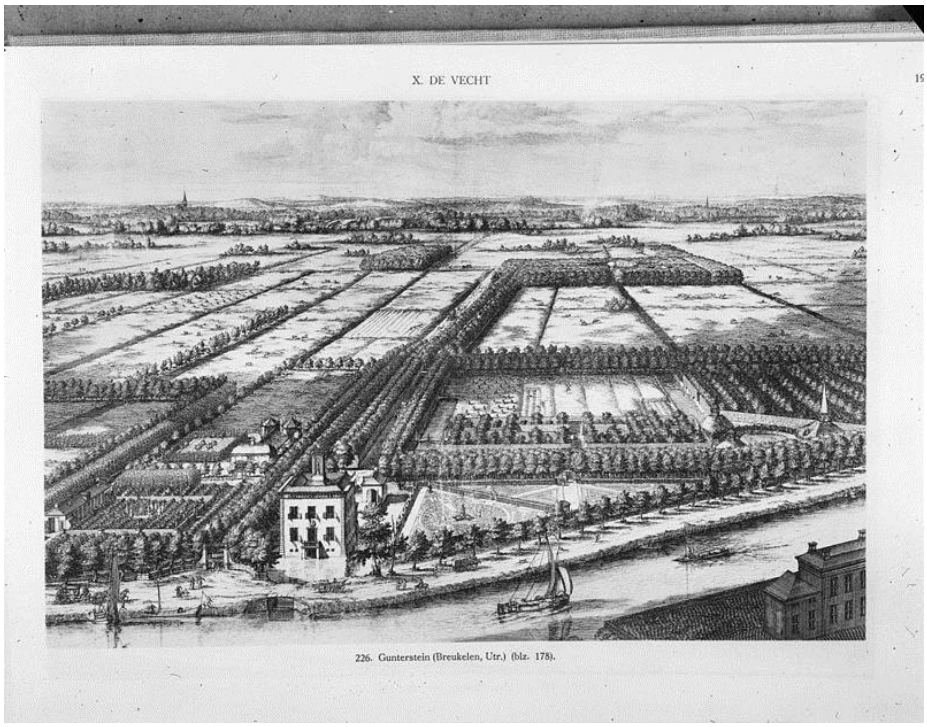

Fig. 12a: The overview of the country estate Gunterstein.

Fig. 12b: The fountain with the chicken in Poulle's garden.

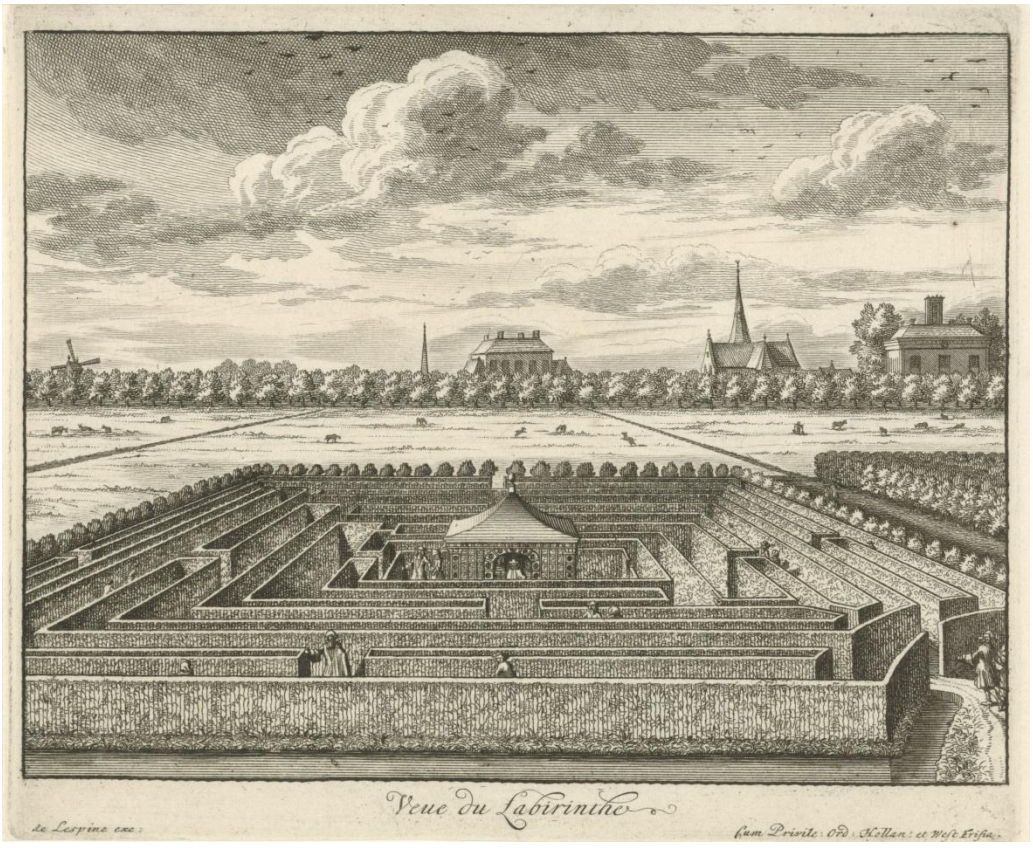

Fig. 12c: The maze that Poulle had installed in her garden.

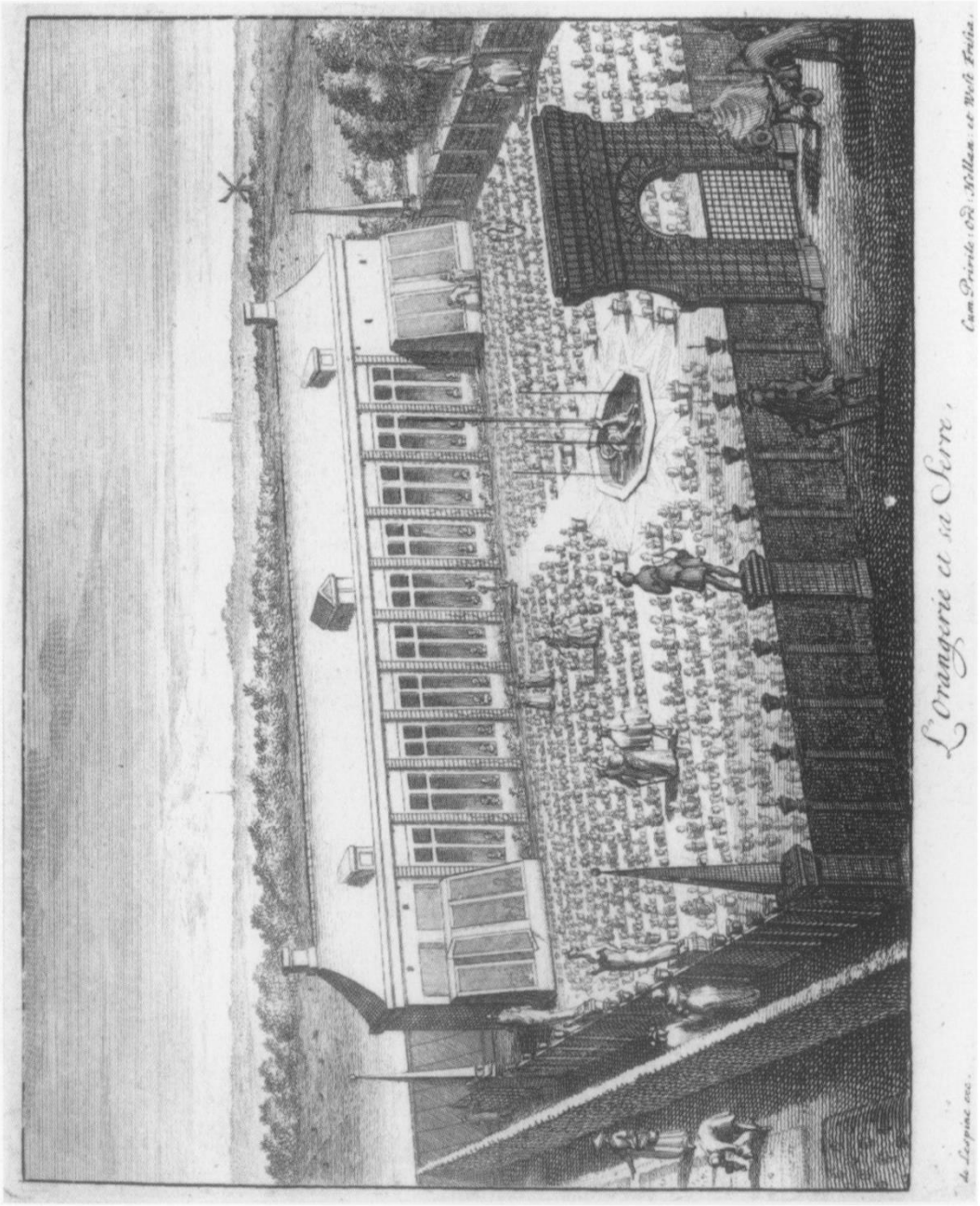

Fig. 12d: The hothouse Poulle had installed around 1685. This made her one of the first private owners of such a modern hothouse.

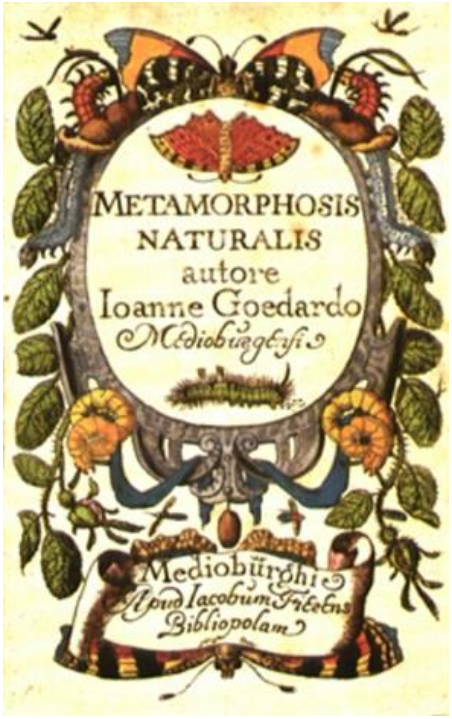

Fig. 13: The cover of Goedaer'ts *Metamorphosis Naturalis* (1660).

Fig. 14: Two pages from Goedaert's *Metamorphosis Naturalis* (1660).

Fig. 15: A drawing of Maria Sybilla Merian ,from her first *Raupen* publication.

Fig. 16: A watercolor from Merian's *Metamorphosis insectorum Surinamensium* (1705).

Fig. 17: The cover of Levinus Vincent's *Wondertoneel der Nature* (1706).

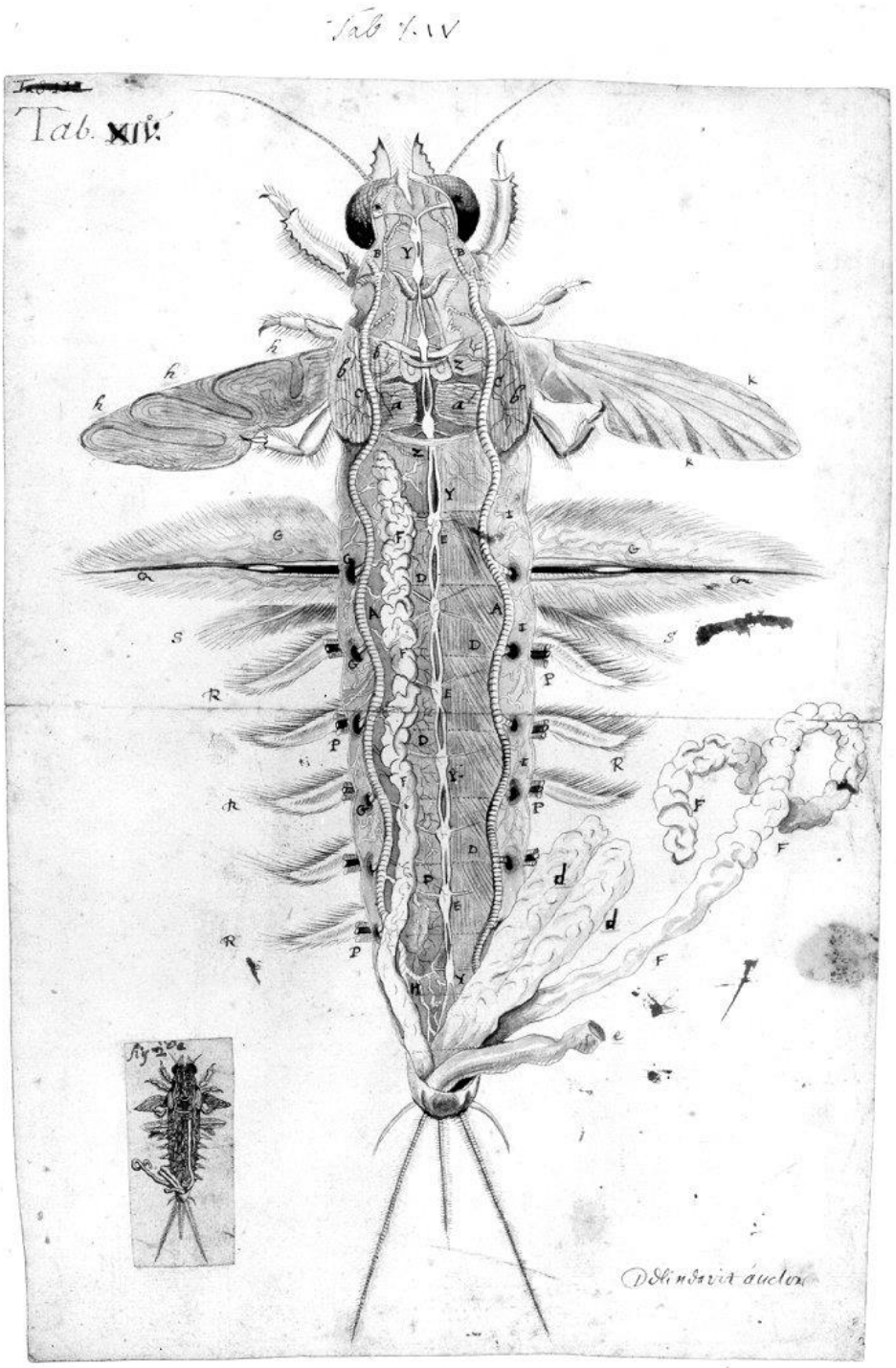

Fig. 18: The anatomy of a louse, by Jan Swammerdam.

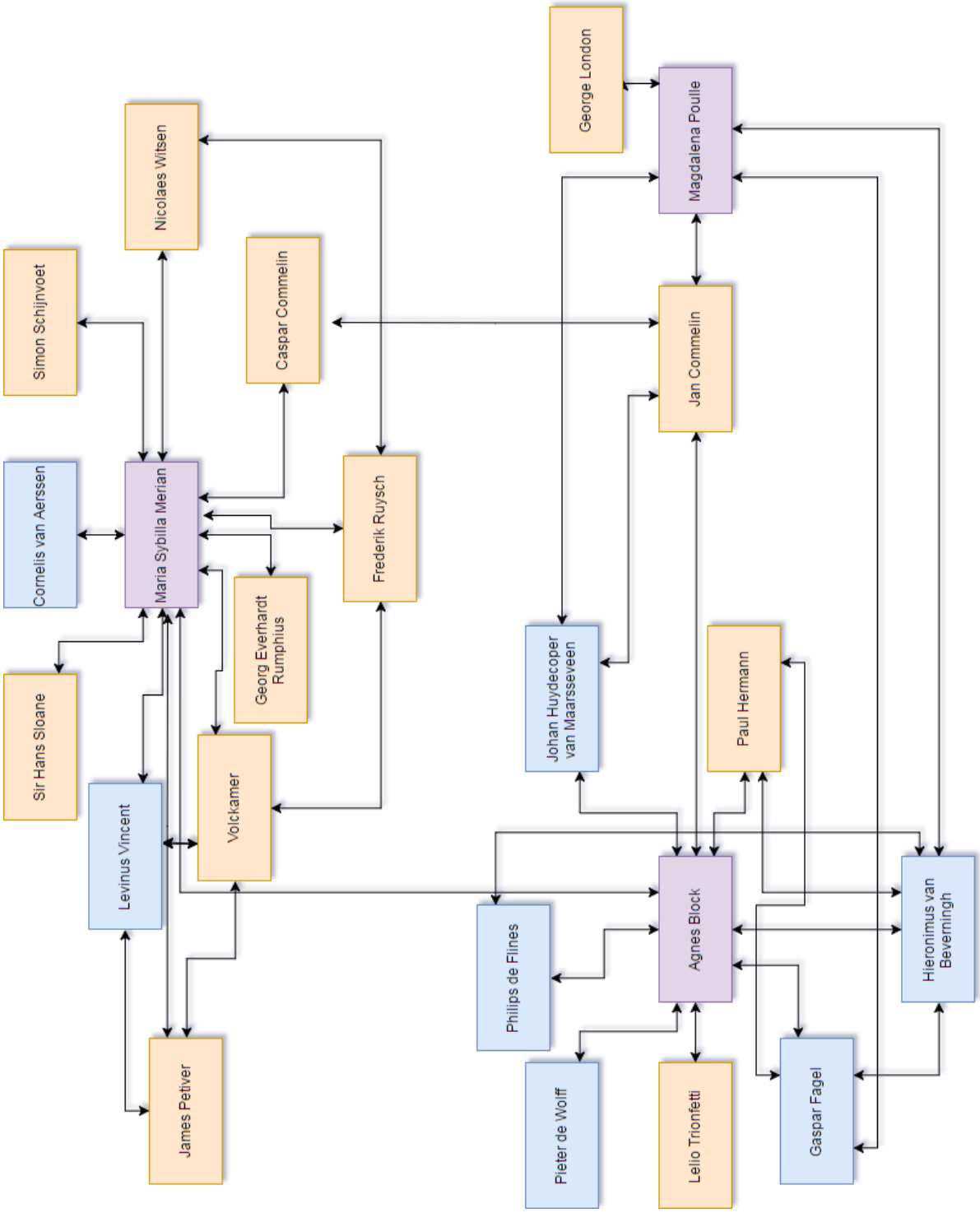

Fig. 19: The network diagram of Block's, Poulle's, and Merian's connections. This diagram is merely an interpretation of all literature that has been used for this thesis. The networks of all men mentioned must have been much more extensive, but this diagram is primarily to show how the networks of Block, Poulle, and Merian were intertwined, and how they were a part of the seventeenth-century collecting circles. The orange boxes are scholars, the blue boxes are merchants or enthusiasts, and the purple boxes are Block, Poulle, and Merian.

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Fig. 12b: Willem Swidde & Joseph Mulder, *La Fontaine de la Poulle,* in the series : *Gezichten op Gunterstein*, c. 1690, print, 130 mm x 158 mm, Rijksmuseum Amsterdam, inv. no. RP-P-1899-A-21597. Image source: https://www.rijksmuseum.nl/nl/collectie/RP-P-1899-A-21597 (27-05-2017).

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Fig. 12d: Willem Swidde & Joseph Mulder, *L'Orangerie et sa Serre,* in the series: *Gezichten op Gunterstein*, c. 1690, print, 131 mm x 160 mm, Rijksmuseum Amsterdam, RP-P-1899-A-21594. Image source: http://hdl.handle.net/10934/RM0001.COLLECT.383620 (27-05-2017).

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Fig. 14: Johannes Goedaert, two pages from the *Metamorphosis naturalis,* Middelburg: Jaques Fierens, 1660. Image source: https://www.zeeuwsmuseum.nl/nl/over-het-museum/pers/beeld/beeld-uyt-eygen-ervarentheyd

Fig. 15: Maria Sybilla Merian, Plate 40 from *Der Raupen wunderbare Verwandlung* (1679). Image source: http://www.themariasibyllameriansociety.humanities.uva.nl/research/essay-mulder/ (27-05-2017).

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Fig. 18: J. Swammerdam, *The anatomy of a louse,* in: J Swammerdam, *Historia insectorum generalis*, Leiden: Luchtmans, 1685. Image source: http://static.digischool.nl/ckv2/burger/burger17de/swammerdam/swammer.htm (27-05-2017).

Fig. 19: The Diagram of Networks. The diagram shows the connections of and between Merian, Block, Poulle through their own and collective contacts. Made by author..

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