

# Knowledge Production in Natural History between Southeast Asia and the Low Countries

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### Abstract

Books such as *Het Amboinsche Kruid-boek* by Georgius Everhardus Rumphius and *Oud en Nieuw Oost-Indiën* by François Valentyn were pivotal works in the early modern world that contributed to natural-historical knowledge production. Post-colonial historiography has stressed the role of non-European actors in the process of creating knowledge on nature in the seventeenth and eighteenth centuries. Research on spaces of knowledge creation, actors, networks, and mediality have received attention in recent historiography. Individual initiatives and cross-cultural contacts and networks facilitated dissemination of knowledge. This is particularly true for knowledge from the colonies that travelled long distances. The East India companies provided a conduit for the movement of people, books, plants, and animals between Asia and the Low Countries. Knowledge depended on the media of its representation that were often subject to change. Print media played an important role in the preservation and circulation of knowledge. By re-reading the texts of Rumphius and Valentyn through post-colonial perspectives and through new archival research, the articles of this special issue shed new light on networks, actors, spaces, and modes of representation in knowledge production in the early modern world.

*Keywords:* knowledge production, history of science, natural history, colonial networks, print media

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Although the Western discipline of natural history can be traced back to Greek antiquity and the work of Aristotle, Dioscorides, and Theophrastus, for example, this field of knowledge production grew exponentially during the early modern period. One of the factors behind the growth of knowledge of nature, including plants, animals, and minerals on both land and sea, was European colonial expansion. Natural history, commerce, and politics were strongly interrelated. Colonial power relations formed the framework for the production and circulation of knowledge between Asia and Europe, with the Low Countries becoming increasingly connected to both Old and New Worlds from the mid-sixteenth century.<sup>1</sup> Natural objects like those in the often overlapping categories of luxury spices and *materia medica* were valuable commodities within this colonial trade which, in the early modern Low Countries, was in the hands of two large companies: the Dutch East India Company (*Vereenigde Oostindische Compagnie*, VOC), founded in 1602 as a chartered company from a fusion of six existing Chambers (*Kamers*) and granted a trading monopoly in Asia by the Dutch Republic; and the Dutch West India Company (*West-Indische Compagnie*, WIC), founded in 1621 and holder of the trading monopoly for the Dutch West Indies.<sup>2</sup> There were, however, a number of other active trading companies, such as the Ostend Company (*Oostendse Compagnie*), which from 1722 acted in competition with the VOC and the second WIC, established in 1674, with its focus mainly on the tea trade with China.<sup>3</sup> While there have been many studies concerning the production of knowledge of nature in relation to the VOC and WIC, both in the history of knowledge and history of science, other early modern trading companies such as the Ostend Company have yet to receive the same attention.<sup>4</sup> In this special issue, Susanne Friedrich will shed light on the role of the VOC in endeavours of natural history and Wim De Winter presents

1 See for example Arens and Kießling, 'Knowledge and Power'.

2 Israel, *Dutch Primacy in World Trade*.

3 Parmentier, *Oostende & Co*; Parmentier et al., *Thee van overzee*.

4 Margócsy, *Commercial Visions*; Huigen, De Jong, and Kolfin (eds.), *The Dutch Trading Companies*; Cook, *Matters of Exchange*; Blussé and Ooms (eds.), *Kennis en Compagnie*; Van Berkel, 'Een onwillige mecenas?'.

the very first insights on natural historical knowledge produced on a ship of the Ostend Company.

The VOC, the WIC, and the Ostend Company not only transported goods and bullion, they were also conduits that carried natural historical knowledge to the Low Countries. While there is no doubt that the main aim of these companies was profit maximisation, the commercial networks of the Dutch and Ostend trading companies also provided an infrastructure accessible to employees of these companies who had a scholarly interest in nature around the world.<sup>5</sup> All four articles of this volume showcase how knowledge production was dependent on this infrastructure. For example, Georgius Everhardus Rumphius, a German-born naturalist, used his position as a VOC employee to conduct research, resulting in his works concerning the Moluccas: *D'Amboinsche Rariteitkamer* (*The Ambonese Curiosity Cabinet*, Amsterdam 1705), on its shells, crustaceans, minerals and stones, and *Het Amboinsche Kruid-boek* (*The Ambonese Herbal*, Amsterdam 1741-1750), on its flora. His works are an excellent example of knowledge production of natural history in a colonial context.<sup>6</sup> The Company, however, refused Rumphius permission to publish his herbal for fear of engendering competition from other traders, so it did not appear until forty years after his death.

The aim of this special issue is to shed new light on the colonial context of knowledge production in the early modern Low Countries.<sup>7</sup> The authors focus on the increased and intensified contact among the people of Europe and the Dutch East Indies (present-day Southeast Asia) that occurred after the establishment of a sea-route between Europe and Asia, which contributed to an exponential increase of knowledge on nature. In doing so, the articles in this issue move away from a clear-cut division between centre and periphery when it comes to knowledge production in natural history, focusing instead on inter- and cross-cultural contacts. For example, Rumphius's natural historical texts show that the production of knowledge about nature overseas cannot be located exclusively in Europe as a 'centre of calculation' in the sense that Bruno Latour describes it.<sup>8</sup> Even so, Asian agency remains difficult to uncover: although the actors discussed in this special issue – Rumphius, Simon Schijnvoet, François Valentyn, and Michael de Febure – interacted with Asian actors and knowledge, these scarcely come into the picture.

Within Europe, too, questions remain as to who might be included as an expert, who was a professional naturalist, and who constituted the community of naturalists. Numerous contributors and explorers, *liefhebbers* (virtuosi; amateurs) collected specimens, noted

5 Huigen, De Jong, and Kolfen (eds.), *The Dutch Trading Companies*; Friedrich, Brendecke, and Ehrenpreis (eds.), *Transformations of Knowledge*.

6 Rumphius, *D'Amboinsche Rariteitkamer*; Rumphius, *The Ambonese Curiosity Cabinet*; Rumphius, *Het Amboinsche Kruid-boek*; Rumphius, *The Ambonese Herbal*.

7 Rumphius and his texts on natural history were the subject of the Cologne research project *Circulation in Spaces of Knowledge Between Asia and Europe. G.E. Rumphius and his Texts, circa 1670-1755*. The first three articles in this special issue were first presented at the interdisciplinary workshop *Hybridisation in Natural History?* that took place in February 2018 at the University of Cologne, and which concluded the aforementioned research project. A book with the results of the project is forthcoming: Leuker, Arens, and Kießling, *Rumphius' Naturkunde* (Wiesbaden forthcoming). De Winter's essay on the Ostend Company is a welcome addition.

8 Latour, *Science in Action*.

descriptions, and created drawings of flora and fauna around the world and published them in Europe.<sup>9</sup> An example is the *Hortus Malabaricus*, a twelve-volume set containing illustrations of the flora of Malabar, a region on the south-west coast of India, by VOC employee Hendrik Adriaan van Rheede.<sup>10</sup> The essays in this special issue complement Kapil Raj's and Harold Cook's arguments on the production of natural historical knowledge.<sup>11</sup> Our volume aims to further demonstrate how the interrelations between natural history, commerce, and politics were shifting, as Londa Schiebinger and Claudia Swan point out in *Colonial Botany*.<sup>12</sup> The articles also demonstrate how new research, methods, and perspectives are shaping our knowledge of the early modern world.

Through the combination of innovative readings of published books and new archival material, the essays in this special issue will consider three main themes in early modern knowledge production: spaces, actors and networks, and mediality. How did Rumphius, Valentyn, and other actors of knowledge production function as their roles as company employees and scholars interacted? On what basis do we differentiate between scholars and *liefhebbers*? What kinds of networks and information gathering processes underpin the production of natural historical knowledge? What is the role of the medium in which knowledge is produced and circulated? The four articles of this special issue answer these questions.

### Spaces

For a long time, historians of science have regarded the production of knowledge from and about colonised regions as the diffusion of information and material from these territories to nodes in Europe, where data were processed and the actual knowledge production took place. Kapil Raj was one of the first historians of science who showed that knowledge was also produced in Asia with the involvement of local actors, and who introduced movement as a core notion against European ideas of stability and immutability of knowledge. He regards circulation as a “site” of knowledge formation.<sup>13</sup> To him, knowledge is a notion including Southeast-Asian and European actors and the dynamics of their interaction, for example in the field of tropical botany since the sixteenth century.<sup>14</sup>

Following his lead, the contributions to this special issue are also located in a ‘polycentric world of knowledge’.<sup>15</sup> They contradict the idea of a distinction between ‘European knowledge’ and ‘colonial knowledge’, which often implied that the latter was peripheral and thus inferior. The knowledge production in Rumphius's *Rariteitkamer* and *Kruid-boek*, and in De Febure's journal is located in what Mary Louise Pratt has termed ‘contact zones’,

9 Cook, *Matters of Exchange*, 72.

10 Singh, ‘Botanical Knowledge’.

11 Cook, *Matters of Exchange*, 72; Raj, *Relocating Modern Science*; Raj, ‘Beyond Postcolonialism’.

12 Schiebinger and Swan, ‘Introduction’.

13 Raj, *Relocating Modern Science*, 20. See also Raj, ‘Beyond Postcolonialism’.

14 Raj, ‘Surgeons, Fakirs, Merchants and Craftsmen’.

15 Fischer-Tiné, *Pidgin-Knowledge*, 8.

that is: ‘social spaces where disparate cultures meet, clash, and grapple with each other, often in highly asymmetrical relations of domination and subordination – like colonialism, slavery, or their aftermaths as they are lived out across the globe today’.<sup>16</sup> Or as Klaas van Berkel has noted: ‘Knowledge is produced locally and initially bears the stamp of its place of origin.’<sup>17</sup> What these books and manuscripts tell us about the collaboration of their authors with local people and other employees of the trading company they worked for confirms that ‘the social distance between craftsmen and scholars here was smaller than anywhere else’.<sup>18</sup> For seventeenth-century naturalists the foremost site of knowledge production was no longer the library, the storehouse of traditional bookish knowledge, but the ‘field’ as the place of empirical observation.

The VOC was one of the most important organisations of its time with regard to the provision of a maritime infrastructure that transferred goods and people between Asia and Europe, and thereby to connect Ambon to Amsterdam as the foremost site of knowledge formation in Europe with regard to Rumphius’s texts. Next to the possibilities of the VOC’s infrastructure, Susanne Friedrich’s article draws attention to limitations regarding frequency and time taken to overcome long distances between Asia and Europe. The trading network of the VOC determined which places were connected and which ones could not be contacted. The cycle of correspondence, that is, the sending of a letter (which was controlled and censored by the Company) and receiving an answer, took at least two years. As the correspondence of Andreas Cleyer, physician and apothecary of the governor-general, reveals, the VOC headquarters in Batavia were on the one hand a node where knowledge from different regions of Asia was collected and stored, and on the other hand a node where knowledge vanished in secrecy and was prevented from circulation for economic reasons.

That a ship can be a space for knowledge production is illustrated in Wim De Winter’s contribution, based on the 1721 logbook of chaplain Michael de Febure. Ships could also be the place where *naturalia* were observed and gathered. In his ship’s journal, De Febure put down the results of his ‘field work’. He applied an experimental method to observe climatological conditions at sea, coupling his measurements of the sea-water temperature with his observations on fish and birds. As De Winter notes, the ship became ‘a shared space for knowledge production and an experimental scientific instrument in its own right’ in the sense of Shapin and Shaffer, who emphasise the performative conduct of science.<sup>19</sup> As De Febure shared the life of the sailors on board the ship, he included their knowledge of handling and naming animals and using them as a food source. De Febure gives insight in the sailors’ worldview, emphasising the importance of signs in their perception of the environment. According to De Winter, De Febure’s logbook presents the sea as a source of ‘situated knowledge consisting of skills and orientations developed in a natural environment’.

<sup>16</sup> Pratt, *Imperial Eyes*, 4. See also Raj, *Relocating Modern Science*, 11. See for the ‘contact zone’ related to Rumphius and his texts Arens and Kiefling, ‘Knowledge and Power’.

<sup>17</sup> Van Berkel, ‘The Dutch Republic’, 82.

<sup>18</sup> Van Berkel, ‘The Dutch Republic’, 90.

<sup>19</sup> Shapin and Schaffer, *Leviathan and the Air Pump*.

Once colonial knowledge had reached Europe, intermediate actors and the printing press were necessary to aid its dissemination and subsequent incorporation into the European body of knowledge. Amsterdam was the node where Rumphius's books were edited, annotated, translated, and (additional) illustrations were produced by draughtsmen and engravers. Siegfried Huigen's article illustrates how François Valentyn compiled the descriptions for his series of chorographies of regions of the trade network of the VOC for his *Oud en Nieuw Oost-Indiën* in his native town of Dordrecht, following his return from Ambon. Focusing on different roles of actors, Bert van de Roemer's article introduces Simon Schijnvoet, who was based in Amsterdam, as an intermediary between Moluccan sources of knowledge and Dutch collectors of rarities. The cabinet of curiosities and, later on, the museum are spaces to which mobile objects of knowledge moved.

### *Actors and Networks*

To produce knowledge, it takes individual initiative and dedication, but in order to disseminate this knowledge, networks prove to be equally indispensable. This is particularly true for colonial knowledge that had to travel long distances. If an actor belonged to several networks, tensions could develop with regard to how knowledge was to be dealt with in different contexts. Susanne Friedrich demonstrates this using the example of the VOC merchant and naturalist Rumphius. She highlights that Rumphius became a naturalist out of his own motivation and interest. As an individual, Rumphius can be regarded as a migrant speaking from a place between cultures, standing in-between Europe and Asia: he arrived on Ambon in 1652 and remained there until his death in 1702, having had children with a local woman. However, as a naturalist he also belonged to the European Republic of Letters. He went to Asia as a soldier in service of the VOC, which supported his work of collecting natural historical knowledge after he had lost his eyesight in 1670. He drew a dividing line between himself as a scholar and a VOC employee. The VOC's regime of secrecy, to which Rumphius was subject as an employee, often clashed with the willingness to share and exchange knowledge he possessed as a scholar corresponding with fellow naturalists and as a member of the *Academia Naturae Curiosorum*. Rumphius, however, managed to maintain the image of a 'good employee', while the interest the Company took in this unsolicited production of natural-historical knowledge contradicts the long-held view that it was not interested in learning.

According to Bert van de Roemer, it is inappropriate to denigrate the contribution of civil servant Schijnvoet, the annotator and editor of the *Rariteitkamer*, by calling him an ignorant and deceitful collector. Schijnvoet edited the book in Amsterdam and provided several images where the manuscript bore lacunae. While Rumphius worked as a merchant and naturalist on a remote island in the East Indies with limited access to written information and thus to new insights that were developing in Europe, the versatile and cultured Schijnvoet operated at the centre of a vast network of collectors, naturalists, merchants, publishers, and magistrates in Amsterdam, where he could easily access all the news about collecting and natural history that the European book market had to offer.

Like Rumphius, François Valentyn collected the material for *Oud en Nieuw Oost-Indiën* (Old and New East Indies) while he was an employee of the VOC. He offered a series of descriptions of geographical regions and countries important to the VOC trade network. In compiling the work, he relied not only on his professional network, but also on familial relations. He had become acquainted with Rumphius while stationed on Ambon as a minister between 1686 and 1694 (he was to spend another term there between 1707 and 1714), and two of his step-sons married into Rumphius's family. Following Rumphius's death, Valentyn used this connection to get hold of the manuscripts held by his estate. As Siegfried Huigen's essay shows, Valentyn prepared the publication of his chorographies after returning to Dordrecht, essentially ordering and repackaging existing information collected by Rumphius and other field workers that was already available in a different textual format and in drawings. His book could be used as a reference work for the VOC and to study its geographical extension.

The priest De Febure represents yet another type of actor in the field of knowledge production, one that did not belong to scholarly circles. Like Rumphius, Valentyn and Schijnvoet, De Febure was sent on his journey as an employee of the company, yet not with explicit instructions to collect knowledge on nature. His logbook was never published in print but instead vanished into the archives of the Ostend Company, trapping the knowledge it contained therein. De Winter points to the distinct roles held by De Febure onboard the ship *Sint-Pieter*. The sources allow to differentiate between De Febure as chaplain performing his professional duties and De Febure as observer of nature and collector of *naturalia*: he did not provide his measurements and observations of nature that he recorded in his logbook with a theological framework, instead keeping his practical activities distinct from his performance of religious rites. The same is true for François Valentyn, who served the VOC as a Protestant minister while collecting the material for his chorographies. As Siegfried Huigen notes, Valentyn's books only occasionally assign religious meaning to the description of nature.

### *Mediality*

A third and final theme running through this special issue is the form of texts and illustrations, necessitating a consideration of its mediality. Knowledge depends on the media of its representation that are subject to change. In the process of representation, an object is substituted by its representation. When analysing knowledge production, strategies and modes of representation such as description, narration, and depiction must be taken into account. Several of the contributions in this volume therefore investigate to what extent the encoding of knowledge with which they deal displays conventional or innovative features, and how it is embedded in the respective cultural context, including the intertextuality of texts and genres.

If we take Rumphius's *Rariteitkamer* as an example, we can state that in the course of the representation of a three-dimensional object – such as a shell – on a two-dimensional copperplate print, fundamental properties of the object are lost when compared to the contents of a collector's cabinet. But what the collection cannot provide are the detailed

descriptions of objects with nomenclature, distribution, mode of life, and possible uses that are provided by the text of the book. From the perspective of the poetics of knowledge, the contributions to this special issue explore the incorporation of book knowledge, indigenous knowledge, and empirical knowledge in their respective sources. Once again, knowledge turns out to be an ‘essentially [...] communicative phenomenon’, ‘of which circulation is one constitutive feature’.<sup>20</sup>

Within the VOC, the conventions for the textualisation of information and knowledge were registered in the *Memorie voor de Kooplyuden*, a questionnaire that the Company directors launched as a tool for writing proper final reports. As Susanne Friedrich explains, it was sent to Asia in handwritten form in 1614 and was printed for the first time in 1649. In his writings on the history and geography of Ambon, Rumphius seems to have oriented himself by these prescriptions.

In his contribution, Bert van de Roemer points out that books like Rumphius’s *Rariteitkamer* should not be seen as merely or predominantly the genuine achievement of one author, but as the result of a complex cooperation of authors, publishers, printers, artists, commissioners, benefactors, and audiences. Thus, between the boards of the *Rariteitkamer* we find a multifaceted aggregate of knowledge, one in which colonial cognition in the East coincides with European cultures of collecting. How the readers might interfere with the alleged stability of the printed text and illustrations has been shown by Dániel Margócsy. The illustrations of the *Rariteitkamer* were, for example, cut out and rearranged, or published without their accompanying descriptions.<sup>21</sup>

Dealing with the fish images in Valentyn’s *Oud en Nieuw Oost-Indiën*, Siegfried Huigen concludes that the medium takes precedence over the message. The fishes were not drawn against a neutral background laying the focus on their morphological features, as was usual in scholarly publications on natural history, but were depicted making use of rhetorical and iconographic devices that above all had the aesthetic pleasure of the intended readers in mind. Fish were, for example, depicted against a background of fantasy architecture or were presented as a fisherman’s ‘catch’ in a shoreline landscape.

Wim De Winter regards De Febure’s logbook of the *Sint-Pieter* as an exceptional hybrid source combining genre elements of the traditional ship’s logbook and the travelogue. Like similar contemporary logbooks, De Febure’s book contained navigational and meteorological information, but to a much higher level of detail than comparable sources. What makes De Febure’s journal a unique source in the context of the Ostend Company is its increased focus on personal observations of marine *naturalia* as well as local life on the Malabar coast. De Winter suggests this was because the journal was written before the standardised logbook format came into use, allowing De Febure to follow his own interests and perhaps use contemporary travelogues as sources of inspiration.

The essays assembled in this issue of *Early Modern Low Countries* deal with the history of colonial knowledge production. They investigate the institutional and spatial contexts of the production of natural-historical knowledge, focusing on actors who carried out their scholarly work in the context of a trading company. Susanne Friedrich addresses how

<sup>20</sup> Hammar et al. (eds.), *Circulation of knowledge*, 18.

<sup>21</sup> Margócsy, *Commercial visions*, 60-63.

the VOC's policy of secrecy could come in conflict with the habit of sharing knowledge and objects in the republic of letters. With this sharing of objects, the readers' gaze is directed to the European networks of collectors. It is inappropriate to draw too sharp a dividing line between non-expert collectors and scholars, as Bert van de Roemer shows based on the example of Simon Schijnvoet, because the practice of collecting has to be considered as an important contribution to the creation of natural-historical knowledge. Collectors also come into the picture in Siegfried Huigen's essay, as he discusses the compilation strategies of François Valentyn while also focusing on the contribution of indigenous knowledge. Finally, Wim De Winter explores the ship as a space of knowledge production in the logbook of Michael de Febure. The four essays thus offer new perspectives on the question of how natural-historical knowledge was produced and disseminated over long distances between Southeast Asia and Europe. While individual initiatives, cross-cultural contacts, and networks facilitated the dissemination of knowledge, this issue also highlights the role of (new) media.

### *Bibliography*

- Arens, Esther Helena, and Charlotte Kießling, 'Knowledge and Power. Rumphius's Ambonese Herbal and Ambonese Curiosity Cabinet as Colonial Contact Zones,' *European Review* 26 (2018/3) 461-470.
- Beekman, Eric M., 'Introduction. Rumphius's Life and Work,' in Georgius Everhardus Rumphius, *The Ambonese Curiosity Cabinet*, trans. Eric M. Beekman (New Haven 1999) xxxv-cxii.
- Beekman, Eric M., 'Introduction,' in Georgius Everhardus Rumphius, *The Ambonese Herbal*, trans. Eric M. Beekman (New Haven 2011) 1-169.
- Berkel, Klaas van, 'Een onwillige Mecenas? De VOC en het Indische natuuronderzoek,' in Klaas van Berkel, *Citaten uit het boek der Natuur* (Amsterdam 1998) 131-146.
- Berkel, Klaas van, 'The Dutch Republic. Laboratory of the Scientific Revolution' *BMGN/Low Countries Historical Review* 125 (2010) 81-105.
- Blussé, Leonard, and Ilonka Ooms (eds.), *Kennis en Compagnie. De Verenigde Oost-Indische Compagnie en de moderne wetenschap* (Amsterdam 2002).
- Cook, Harold J., *Matters of Exchange. Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven 2007).
- Fischer-Tiné, Harald, *Pidgin-Knowledge. Wissen und Kolonialismus* (Zürich 2013).
- Friedrich, Susanne, Arndt Brendecke, and Stefan Ehrenpreis (eds.), *Transformations of Knowledge in Dutch Expansion* (Berlin 2015).
- Hammar, Anna Nilsson, David Larsson Heidenblatt, Kari Nordberg, Johan Östling, and Erling Sandmo (eds.), *Circulation of Knowledge. Explorations into the History of Knowledge* (Lund 2018).
- Huigen, Siegfried, Jan L. de Jong, and Elmer Kolfin (eds.), *The Dutch Trading Companies as Knowledge Networks* (Leiden 2010).
- Israel, Jonathan, *Dutch Primacy in World Trade, 1585-1740* (Oxford 1989).
- Latour, Bruno, *Science in Action. How to Follow Scientists and Engineers Through Society* (Cambridge, MA 1987).
- Leuker, Maria-Theresia, Esther Helena Arens, and Charlotte Kießling, *Rumphius' Naturkunde. Zirkulation in kolonialen Wissenräumen* (Wiesbaden forthcoming).
- Margócsy, Dániel, *Commercial Visions. Science, Trade, and Visual Culture in the Dutch Golden Age* (Chicago 2014).

- Parmentier, Jan, Luc van den Brande, Fernand Traen, and Gerard C. C Tsang, *Thee van overzee. Maritieme en handelsrelaties tussen Vlaanderen en China tijdens de 18de eeuw* (Gent 1996).
- Parmentier, Jan, *Oostende & Co. Het verhaal van de Zuid-Nederlandse Oost-Indiëvaart, 1715-1735* (Gent 2002).
- Pratt, Mary Louise, *Imperial Eyes. Travel Writing and Transculturation* (London 1992).
- Raj, Kapil, 'Surgeons, Fakirs, Merchants, and Craftsmen. Making L'Empereur's Jardin in Early Modern South Asia' *Isis* 104 (2013) 27-59.
- Raj, Kapil, *Relocating Modern Science. Circulation and the Construction of Knowledge in South Asia and Europe, 1650-1900* (Basingstoke 2007).
- Rumphius, Georgius Everhardus, *D'Amboinsche Rariteitkamer* (Amsterdam: François Halma, 1705).
- Rumphius, Georgius Everhardus, *Het Amboinsche Kruid-boek. Dat is, Beschryving van de meest bekende Boomen, Heesters, Kruiden, Land- en Water-Planten, die men in Amboina, en de omleggende eylanden vind*, 6 vols. (Amsterdam: François Changuion, Jean Catuffe, and Hermannus Uytwerf, 1741-1750).
- Rumphius, Georgius Everhardus, *The Ambonese Curiosity Cabinet*, Eric M. Beekman trans. (New Haven 1999).
- Rumphius, Georgius Everhardus, *The Ambonese Herbal*, Eric M. Beekman trans. (New Haven 2011).
- Schiebinger, Londa and Claudia Swan, 'Introduction', in Londa Schiebinger, and Claudia Swan (eds.), *Colonial Botany. Science, Commerce, and Politics in the Early Modern World* (Philadelphia 2005) 187-203.
- Schiebinger, Londa, *Plants and Empire. Colonial Bioprospecting in the Atlantic World* (Cambridge, MA 2004).
- Shapin, Steven, and Simon Schaffer, *Leviathan and the Air Pump. Hobbes, Boyle, and the Experimental Life* (Princeton 2011).
- Singh, Anjana, 'Botanical Knowledge in Early Modern Malabar and the Netherlands. A Review of Van Reede's *Hortus Malabaricus*', in Susanne Friedrich, Arndt Brendecke, and Stefan Ehrenpreis (eds.), *Transformations of Knowledge in Dutch Expansion* (Berlin 2015) 187-207.