

A Garden as a Niche: Botany and Imperial Politics in the Early Nineteenth Century Dutch Empire

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ABSTRACT

This essay provides a fresh view on early the history of the botanical garden Buitenzorg by zooming in on the activities of the garden's first and second directors: Caspar Georg Carl Reinwardt and Carl Ludwig Blume. In particular under Blume's aegis the garden was under constant threat, which eventually led to the temporary closure of the garden in 1826. The essay conceptualizes the garden as a provisional niche, in which collectors, gardeners, merchants, administrators, and plant experts with diverse socio-economic backgrounds and networks came together to negotiate the relationship between botany and imperial politics. Taken together this essay argues that plant science and the garden's institutional development need to be analyzed as part of a much wider history of colonial management and agricultural exploitation.

Keywords: botany, plant science, Java, colonial history, history of botany, botanical garden, Bogor

When Carl Ludwig Blume, German director of the botanical garden in Buitenzorg (now Bogor) left his house in spring 1823, he was full of expectations.¹ After months of intensive work, he had just informed his superiors in Batavia and The Hague that due to his and his predecessors' diligent management, the garden had developed into an important niche for the cultivation and study of medicinal plants and trees and agricultural crops.² According to a plant catalogue published in the same year, the garden now contained more than 900

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1 For biographical accounts on Blume see A. den Ouden, 'C.L. Blume, periode 1826–1832', Unpublished MA thesis, Leiden 1979 and C.G.G.J. van Steenis, 'Dedication', in: Cornelis G.G.J. van Steenis (ed.), *Flora Malesiana*, vol. 10 (Jakarta 1989) and J. Mac Lean, 'Carl Ludwig Blume and the Netherlands Indies,' *Janus* 66 (1979) 15–30.

2 Blume's contact with the colonial government in Batavia and The Hague see: Mac Lean, 'Carl Ludwig Blume', (n. 1), here 18. Blume's efforts were also highly valued in the colonies, see UB Leiden, BPL 2425 II: Letter Governor General to Reinwardt, Buitenzorg, 31 May 1823.

plant species not only from the far-flung Indonesian Archipelago but also from other parts of Asia, the Americas and Europe. The catalogue showed, according to Blume, that the colony's natural wealth was an ideal resource not only for botanical inquiry but also for profitable agricultural exploitation.³ By zooming in on the garden's early history, this essay explores how the garden's first and second director managed to transform the garden into an influential niche for botany and imperial politics in the early nineteenth century world. Taken together the essay argues, that in particular the garden's entanglement with local and global networks of trade and bureaucracy enabled Blume and his predecessor Caspar Georg Carl Reinwardt, another German, to develop an institution which, for a couple of years, had a major impact on colonial policy in the early nineteenth-century Dutch East Indies. Although the colonial government suddenly stopped the garden's funding in 1826, a better understanding of the garden's foundational years (1817–1826) allows us to get a fresh view on the political impact of plant science in the early nineteenth century Dutch empire.⁴

By approaching the garden as niche for natural inquiry and imperial politics, this essay is, of course, not the first text that deals with the early history of the garden and plant science in the Dutch East Indies.⁵ In their empirically rich studies, Lewis Pyenson, Andrew Goss, and Peter Boomgaard focus on examining how botany and other scientific disciplines diffused from Europe to the Indonesian Archipelago in the late eighteenth and early nineteenth centuries.⁶ While Lewis Pyenson analyses the production of scientific knowledge in the Indonesian Archipelago disconnected from colonial policy making, Peter Boomgaard concludes that in particular the absence of funding by the colonial government led to the 'lack of scholarly excellence' at institutions such as Bogor Botanical Gardens in the early nineteenth century.⁷ Rather to the contrary, Andrew Goss in an extensively researched study has argued that continuous interventions by the colonial state hampered the rise of enlightened science in the region. Only plant experts (or 'floracrats', as Goss dubs them) who were willing to adapt their scientific agenda to the needs of the colonial state were able to pursue a career in the Dutch East Indies.⁸ Seen from this perspective, Blume's and Reinwardt's inability to avoid the garden's discontinuation in 1826 could be read as another failure to introduce 'enlightened' science to insular Southeast Asia.

3 C.L. Blume, *Catalogus van eenige der merkwaardigste zoo in- als uit-heemsche gewassen te vinden in 's Lands Plantentuin te Buitenzorg* (Batavia 1823) 3.

4 For a detailed reconstruction of the garden's discontinuation in 1826 see: H.A.C. Boelman, *Bijdrage tot de geschiedenis der geneeskruidcultuur in Nederlandsch Oost-Indië* (Leiden 1936) 74–75. Although the garden's funding was cut, the garden continued to exist as part of the palace of the Governor general.

5 For an older study in which the garden's history is only briefly discussed, see: M. Treub, *Geschiedenis van 's Lands Plantentuin te Buitenzorg. Eerste gedeelte* (Batavia: Landsdrukkerij, 1889).

6 For an exception to this see: H. Pols, 'European physicians and botanists, indigenous herbal medicine in the Dutch East Indies, and colonial networks of mediation', *East Asia Science, Technology and Society: an International Journal* (2009) 173–208 and M. Bloembergen and M. Eickhoff, 'A moral obligation of the nation-state: archaeology and regime change in Java and the Netherlands in the early nineteenth century', in: P. Boomgaard (ed.), *Empire and science in the making. Dutch colonial scholarship in comparative global perspective, 1760–1830* (New York 2013) 185–205, and also the contributions to this theme issue.

7 L. Pyenson, *Empire of Reason. Exact Sciences in Indonesia, 1840–1940* (Leiden 1989); P. Boomgaard (ed.), *Empire and science in the making. Dutch colonial scholarship in comparative global perspective, 1760–1830* (New York 2013) Introduction.

8 A. Goss, *The floracrats: State-sponsored science and the failure of the enlightenment in Indonesia* (Madison Wis. 2011).

This essay does not divide the history of plant science in the early nineteenth century Indonesian Archipelago into a political and scientific trajectory. I have also no intention of making normative judgements about the quality of plant-related natural inquiry in the region.⁹ Instead of reading the Bogor Botanical Gardens' early history as another episode of the failed introduction of Western science to Indonesia, this essay conceptualizes the garden as a temporary site, or put differently as a niche, in which European and local administrators, collectors, gardeners and plant experts with diverse socio-economic backgrounds and networks came together to negotiate the relationship between botany and imperial politics. The use of the term 'niche' in the context of studying the garden's past is inspired by sociological research which approaches scientific and institutional change from a social and contextual perspective.¹⁰ Seen from a 'niches' perspective, the Bogor Botanical Gardens do not appear as static and under-funded, but as a dynamic and well-connected site of botanical inquiry and colonial stewardship. For almost a decade, Reinwardt and Blume could foster hope that their efforts to establish a botanical garden would play a key role in developing the colonies into a profitable annex of the Netherlands.

However, Blume's plant catalogue, which must have arrived the Hague in late 1823 or early 1824, was not received with much enthusiasm. Instead of supporting their garden project and its directors, the king and his advisors gradually realized that the colony had not developed into a source of direct financial reward to the Dutch kingdom. To the contrary, a thorough examination of newly compiled trade statistics which Reinwardt and Blume had also helped to produce revealed that recent attempts to improve the colony's management (Bogor Botanical Gardens was one of them) had resulted in a tremendous increase in costs for surveys, administration and warfare.¹¹ Moreover, the growing British dominance in the region worsened the Crown's financial situation.¹² Only a few months after Blume's plant catalogue arrived in The Hague, the Dutch King Willem I turned his back on his former colonial policy and publicly questioned support from colonial managers such as Reinwardt and to a lesser extent Blume for their inability to secure short term-profits for the Dutch crown.¹³

The king's and the colonial government's decision to stop the garden's funding in 1826 had a major impact not only on the practice of plant science in the Dutch Indies, but also on Reinwardt's and Blume's careers. Not only Reinwardt, but also Blume had expected that

- 9 I have made a similar point also in: A. Weber, 'Bitter fruits of accumulation: The case of Caspar Georg Carl Reinwardt (1773–1854)', *History of Science* 52 (2014) 297–318 and A. Weber, 'Renegotiating public debt: Chemical governance and money in the early nineteenth century Dutch empire,' in: L. Roberts and S. Werrett (eds.), *Compound Histories Materials, Governance and Production, 1760–1840* (Leiden 2017) 205–225.
- 10 The scholarship is vast. For an entry point see: R. Kemp, A. Rip, and J. Schot, 'Constructing Transition Paths Through the Management of Niches,' in R. Garud and P. Karnoe (eds.), *Path Dependence and Creation* (Mahwa and London) 269–299.
- 11 E. Horlings, 'Miracle cure for an economy in crisis? Colonial exploitation as source of growth in the Netherlands, 1815–1870,' in: B. Moore et al. (eds.), *Colonial empires compared. Britain and the Netherlands, 1750–1850* (Aldershot 2003) 145–151.
- 12 For a short political history of the colonies in these years, see: J. van Goor, *Prelude to colonialism. The Dutch in Asia* (Hilversum 2004). Geopolitical aspects are covered in: W. Mörzner Bruyns, *Met de Triton en Iris naar Nieuw-Guinea. De reisverhalen van Justin Modera en Arnoldus Johannes van Delden uit 1828* (Zutphen 2018) 11–126.
- 13 E. van Raalte (ed.), *Troonredes, openingsredes, inhuldigingsredes* ('s-Gravenhage 1964) 37–39: King's speech, 17 October 1825. A. Weber, *Hybrid Ambitions: Science, Governance and Empire in the Career of Caspar Georg Carl Reinwardt (1776–1854)* chapter VI.

the garden would serve them as vehicle to continue their careers as chroniclers of colonial nature in the early nineteenth century Dutch empire.¹⁴ However, in the end, most of Blume's and Reinwardt's publication plans were never or only partially realized. When Reinwardt and Blume approached the king to receive funding in order to publish about the colony's resources, the king reacted reluctantly. Blume's major publications on the flora of Java (such as the *Flora Javae*), which are still valued by botanists nowadays, were sponsored only after he had threatened the king with leaving the country with his valuable plant collection.¹⁵ In the early nineteenth century, collections of plants also had a political function. In particular in the years after the Napoleonic wars, Willem I and his government aimed at transforming the Netherlands into a European nation state in which the study and display of colonial natural historical collections played a pivotal role.

In order to examine the garden as temporary site in which natural inquiry and imperial politics were negotiated, this essay is split in two sections: The first section provides an historical overview of the garden's early years from its foundation in 1817 to its dissolution in 1826. This section also includes a brief discussion of the garden's key personal, networks, and the wider socio-political context in which the garden functioned. The second section examines the years after the garden's discontinuation through the lens of Reinwardt's and Blume's publication projects. Without an institutional niche in the colonies, both were forced to renegotiate their role and social status as experts of colonial nature back at home. Unlike in the late nineteenth and early twentieth centuries, when the Gardens were narrowly tied into an imperial system of agricultural exploitation and control, the second section highlights a historically open relationship between plant science and different forms of colonial management (short-term vs. long-term profits). The expertise and collections that had been accumulated in the years before the garden's temporary closure 1826 became linked to an empire-wide debate on how the colony and its natural resources could best be managed.¹⁶ Taken together this essay argues that in particular in the early nineteenth century world, histories of plant science and imperial politics need to be brought under one analytical umbrella.

The Rise of a Niche

The gradual rise of the Botanical Gardens in Buitenzorg (=now Bogor) as a place of plant science and politics is linked to the careers of the German plant experts and colonial administrators Caspar Georg Carl Reinwardt and Carl Ludwig Blume.¹⁷ Reinwardt founded the garden in 1817 and served as its first director until 1821. Carl Ludwig Blume

14 At least since the seventeenth century, plant exports from German-speaking areas considered the Dutch colonies in insular Southeast Asia as stepping stones for their careers : P. Teichfischer, 'Transnational entanglements in colonial medicine', *Histoire, médecine et santé* 10 (2016) 63–78 and B. Schär, 'Earth scientists as time travelers and agents of colonial conquest: Swiss naturalists in the Dutch East Indies', *Historical Social Research* 40 (2015) 67–80.

15 C.L. Blume, *Flora Javae, nec non insularum adjacentium* (Brussels 1828–1851).

16 Of course, many of the dried plants that Blume and Reinwardt brought back from Java to the Netherlands also circulated within Europe. How such inter-European movements of specimens shaped imperial politics in the first half of the nineteenth century still needs to be researched.

17 A. Weber, *Hybrid Ambitions: Science, Governance and Empire in the Career of Caspar Georg Carl Reinwardt (1776–1854)* (Amsterdam 2012) and T.W. van Heiningen, *The correspondence of Caspar Georg Carl Reinwardt* (The Hague 2011), 2 vols. For an online version see: www.dwc.knaw.nl/wp-content/bestanden/reinwardt.pdf, last accessed: November 22, 2018. The best older documentation of Reinwardt's work in the colonies is: W.H. de Vriese and J. Pijnappel (eds.), *Reinwardt's Reis naar het oostelijke gedeelte van den Indischen Archipel, in het jaar 1821* (Amsterdam 1858).

succeeded Reinwardt in 1821 and continued as the garden's director until the garden's closure in 1826. By contextualizing Reinwardt's and Blume's activities as garden directors, the first section of this essay illustrates how the garden evolved into a well-connected and dynamic niche for plant science and imperial policy-making in the Dutch East Indies. For a couple of years, the garden and its staff were at the forefront of a colonial policy that aimed at securing long-term profits through intensive surveys and an expansionist colonial policy in the Dutch East Indies and at home.¹⁸ Until the garden's discontinuation in 1826, the king and the colonial government in Batavia considered institutions such as the botanical garden in Buitenzorg as one of the key instruments to secure the colony's long-term profitability.

For Reinwardt everything began in 1814, when the Dutch king Willem I appointed him as high ranking advisor to the colonial government. Reinwardt, who was a professor of natural history and chemistry in Amsterdam at that time, received the task to advise the colonial government on a wide variety of pressing issues. Owing to high public debts in the years after the Napoleonic Wars, the king and his advisors fostered a strong interest in Reinwardt's expertise, which might help the colonial government to survey and manage the colony's valuable natural resources. The expectations in the Netherlands were high. Before Reinwardt left the Netherlands in late 1814, he received a questionnaire entailing 120 questions about the colony's geography, population, export products, the local processing of raw materials and trade.¹⁹ Apart from his function as surveyor and advisor to the colonial government, the king also obliged Reinwardt to use his field trips to collect dried plants for the State Cabinet of Natural History ('s Lands Kabinet van Natuurlijke Historie) in Amsterdam. In order to fulfill all these tasks, Reinwardt was awarded a generous salary, money for assisting personal and scientific equipment, and the directorship of a new department focussing on improving the colony's agriculture and industries.²⁰

However, when Reinwardt arrived in Batavia in 1816, his high expectations were first disappointed. Even with a high salary, daily life in Batavia was very expensive and the mortality rate among European government officials was high.²¹ Moreover, the transfer of the colonies from the British to the Dutch colonial administration took longer than expected. Reinwardt was thus lodged in the house of the IJsseldijk family at Rijswijk, ten kilometres south of the harbour of Batavia.²² The IJsseldijks belonged to a clique of conservative families who had played an important role in the colonial bureaucracy in Java since the end of the eighteenth century. Many of them hoped that the new colonial government would safeguard their political influence and large possessions of land. Like many other European families in Java, the IJsseldijks made fortunes by leasing large parcels of land in the hinterland of Batavia, where they forced Javanese peasants to cultivate profitable crops

18 S. Legêne, *De bagage van Blomhoff en Van Breugel: Japan, Java, Tripoli en Suriname in de negentiende-eeuwse Nederlandse cultuur van het imperialisme* (Amsterdam 1998) and T. Stevens, *Van der Capellen's koloniale ambitie op Java. Economisch beleid in een stagnerende conjunctuur, 1816–1826* (Amsterdam 1982).

19 The questions are reprinted in De Vriese, *Reinwardt's reis*, 37–48.

20 Reinwardt's exact title was Director for Agricultural, Industries, and Sciences of Java and the neighboring islands (=Directeur tot zaken van landbouw, kunsten en wetenschappen op Java en de naburige eilanden).

21 H. Pols, 'Health and disease in the tropical zone: Nineteenth-century British and Dutch accounts of European Mortality in the Tropics', *Science, Technology & Society* 23 (2018) 1–16.

22 Weber, *Hybrid ambitions* (n. 17) 125–126.



Fig. 1: View of the botanical garden in the early nineteenth century, by P. Lauters, in C.L. Blume, *Rumphia, sive commentationes botanicae, imprimis de plantis Indiae Orientalis* (Amsterdam, 1834–1849).

such as coffee, indigo, and rice.²³ For Reinwardt, contact with many of these persons was thus an ambiguous endeavour. He depended on their administrative experience and social networks, but at the same time he had to maintain a critical distance, because many of them considered the new colonial government and the Dutch king as threats to their economic interests and political influence. It is therefore not surprising that Reinwardt's letters to friends in the Netherlands sometimes contained critical comments about the lifestyle of Batavia's wealthy elite.²⁴

In order to escape the influence of the IJsseldijks and other European families, Reinwardt suggested in late 1816 that the colonial government in Batavia establish a botanical garden in Buitenzorg (=now Bogor) behind the palace of the governor general. Until the late seventeenth century, the area had housed the fortified capital Pajajaran of the Sunda kingdom. Because plants and trees played an important role in Sundanese mythology, a high concentration of already cultivated special trees and plants can be assumed.²⁵ For Reinwardt the new garden in Buitenzorg functioned as independent political space for his activities.²⁶ In particular the proximity of the garden to the palace of the governor-general enabled Reinwardt to pursue his tasks. In addition to the cultivation of economic and medicinal plants

23 For an interesting overview for the years before the introduction of the *Cultuurstelsel* see: G.R. Knight, 'Estates and plantations in Java 1812–1834' (PhD thesis, University of London 1968).

24 KB The Hague, 121 B 8, letter Reinwardt to De Vries, Tjilodong, 25 May 1816.

25 C.S. Oldenburger-Ebbers, 'Buitenzorg bij Batavia en omliggende tuinen,' *Cascade. Bulletin voor tuinhistorie* 8 (1999) 6–19, here 12.

26 The request to found a garden by Reinwardt and the subsequent decision taken by the colonial government can be found in M. Treub, *Geschiedenis van 's Lands Plantentuin te Buitenzorg. Eerste gedeelte* (Batavia 1889) 2–4.

from all over the Archipelago, parts of the garden were used as office spaces for Reinwardt's Department of Agriculture, Arts and Sciences. From October 1817 onwards, all government officials in Java were obliged to supply Reinwardt and his helpers with accurate statistical and other information. Until the garden's discontinuation in 1826, Reinwardt as well as his successor Carl Ludwig Blume used the garden as base for various initiatives to survey the colony's resources and improve their exploitation. Reinwardt, for instance, provided the colonial government detailed advice on how to manage different industries (e.g. salpeter manufacture) in Java.²⁷ Blume advised the colonial government on how to organize the colony's health care system in the context of a cholera epidemic in Central Java.²⁸

The actual construction of the Botanical Gardens in Buitenzorg (=now Bogor) started in May 1817.²⁹ According to an early schematic plan, the garden was divided into different sections. Next to beds for local and European cash crops, flowers, and trees, the garden possessed storage rooms for living and dried plants as well as office space, which Reinwardt and Blume used to produce and collect bureaucratic paperwork. The garden also housed a small chemical laboratory which allowed Reinwardt and Blume to carry out basic chemical and microscopic analyses of plants, animals, and soil. In the early 1820s, Reinwardt was, for instance, asked to evaluate the processing of nutmeg in the Moluccas.³⁰ According to the annual budget compiled by Reinwardt, the institution employed around sixty-five local helpers who received three guilders per month. In order to facilitate the reworking of the soil, buffalos and cows were held in stables close to the garden area. Similar to botanical gardens in Europe, the garden also housed a small zoo where local animals were held.

Owing to Reinwardt's position as high-ranking advisor to the colonial government, the garden was financially well-endowed. Next to the four dozen of local helpers, the garden could rely on a number of Europeans such as William Kent, Carl Ludwig Blume, Alexander Zippelius and James Hooper.³¹ Reinwardt knew Kent from his years as an academic in the Netherlands where the latter had assisted Reinwardt in the garden and the chemical laboratory of the university in Harderwijk. Hooper, who received a salary of 150 guilders per month, had been trained in Kew Gardens – one of the centres for botanical research in the early nineteenth-century Europe. Hooper remained affiliated with the garden in Buitenzorg until 1830. Beside Kent and Hooper, Reinwardt could also draw upon another plant expert: the German physician Carl Ludwig Blume, who studied medicine in Leiden under Sebald Justinus Brugmans and who arrived in Java in late 1818.³² Impressed by Blume's eagerness and floral expertise, Reinwardt quickly affiliated him with the botanical garden and his Department of Agriculture, Arts and Sciences. Reinwardt also invited Blume to live in his house on the premises of the botanical garden. Blume's subsequent appointment

27 A. Weber, 'Hout, poep, en hydrometers: Chemische kennis en het bestuur van het Nederlandse koloniale rijk in Azië in de vroege negentiende eeuw', E. van Gelder et al. (eds.), *Dingen die ergens toe dienen': Verhalen over materiële cultuur van wetenschap* (Hilversum, 2017) 32–35.

28 Van Steenis, 'Dedication' (n. 1) 18–19.

29 See for this and the next paragraph also: Weber, *Hybrid Ambitions* (n. 17) 134–135.

30 The laboratory and the evaluation of nutmeg processing is mentioned in W. de Vriese, *Reinwardt's reis* (n. 17) 399.

31 For biographies of these individuals see M.J. Steenis van Kruseman, *Cyclopedia of Malesian collectors*, available online: <http://www.nationaalherbarium.nl/FMCcollectors/home.htm>, last accessed: November 27, 2018.

32 For Blume's attempts to approach Reinwardt see UB Leiden, BPL 2425 I, letters Blume to Reinwardt, 3 en 16 April 1819.

as inspector for the smallpox vaccination allowed him and his draftsmen and plant collectors to travel around and to investigate the flora in the hinterland of Batavia.³³ Until his appointment as Reinwardt's successor in late 1821, Blume and his helpers managed to amass thousands, possibly tens of thousands, of living and dried plants not only for the garden but also for his private herbarium.³⁴

Collecting and surveying the colony's natural resources remained a collaborative endeavour that involved individuals and knowledge from all over the Indonesian Archipelago. Blume's and Reinwardt's well-salaried affiliation with the garden and the Department also allowed them to hire collectors such as John Baptist Spanoghe, Georg Müller, Jacob d'Arnoud van Boeckholtz, Georg Josef Peitsch, and August Franz Treffz.³⁵ Reinwardt's collectors were either physicians or military men who frequently travelled and visited more remote parts of Java and the other islands of the Indonesian Archipelago. Spanoghe was born in Madras and travelled with Blume in West-Java.³⁶ Müller and Boeckholtz collected plants and other natural historical items on the island of Borneo from 1817 to 1826.³⁷ Treffz was a soldier who regularly supplied Reinwardt and the garden with natural historical items from the island of Celebes. Peitsch supplied Blume and Reinwardt with plants from Java and the Moluccas. This brief sketch of Blume's and Reinwardt's collectors' networks reveals the complexity of collecting natural historical items outside of the botanical garden. By the time the plants and other items reached Buitenzorg, they had passed through the hands of almost countless local hunters, (female) plant experts, traders in plants, colonial civil servants, sailors and harbour workers.³⁸

In the years after the garden's founding, the number of plants in the garden grew quickly. When Blume compiled the garden's first catalogue in 1823, the garden not only comprised plants from the Dutch East Indies and Europe, but also from other gardens in Asia. From the Netherlands, the garden received tulip bulbs, buckwheat, flax, birches and fruit trees. Reinwardt also regularly sent plants to various gardens in Europe and received information from Europe. In early 1819, Reinwardt asked one of his friends in Amsterdam to send him a description of a rare shrub (*Enkianthus quinqueflora*) which allowed him to acquire the plant in Canton in China.³⁹

Of particular importance were economic gardens not only in China, but also in India, South America, Africa and the Pacific, the number of which had increased tremendously in the second half of the eighteenth century.⁴⁰ Triggered by the growing need for timber and other natural resources after the Seven Years' War, British colonial administrators, for

33 In 1820, 83 000 people in Java were vaccinated, see Den Ouden, *C.L. Blume* (n. 1) 9.

34 For a detailed insight see one of Blume's letters which is quoted in: *Flora oder Botanische Zeitung*, 7 December 1825, no. 45, 713–716.

35 Teichfischer, 'Transnational entanglements' (n. 14). See for more details about individual biographies and collecting activities, Weber, *Hybrid Ambitions* (n. 17) 137–140.

36 Both Reinwardt and Blume received very high salaries. Reinwardt 24 000 guilders per year and Blume 12 000 guilders. For these numbers see Den Ouden, *C.L. Blume* (n. 1) 10 and UB Leiden, BPL 2425, 3, Royal decision 11 January 1815, Article 1. *Blume's financial background was further improved by marrying Wilhelmina N. Cranssen, adopted daughter of a very rich government official and landowner in Java.* The marriage took place in 1820. For more information about the Cranssen family see: F. de Haan, 'Personalia der periode van het Engelsch bestuur over Java 1811–1816', *Bijdragen tot de Taal-, Land- en Volkenkunde in Nederlandsch-Indië* 92 (1935) 525–526.

37 Den Ouden, *C.L. Blume* (n. 1) 10.

38 Van Steenis, 'Dedication' (n. 1) 15.

39 Van Heiningen, *The correspondence* (n. 17) 285; Letter Reinwardt to Van Marum, 10 January 1819.

40 A. Weber, *Hybrid Ambitions* (n. 17) 135–136.

instance, had set up gardens in India, Ceylon, Singapore, the Cape of Good Hope and in the West Indies.⁴¹ By joining these networks, the garden in Buitenzorg gradually emerged as an influential niche for the exchange and acclimatization of timber and other economically rewarding plants. It is therefore not surprising that the garden's first catalogue was accompanied by an illustration of a *Dipterocarpus trinervis* – which belongs to the family of rain forest trees called Dipterocarpaceae. Some of the trees in this family not only have useful medicinal properties, but they were also used for the construction and maintenance of houses and bridges in Java.⁴² The trees are usually around 35 meters high and possess very thick trunks.

However, not only the collection, but also the classification and naming of plants was a collaborative effort in which the exchange of plant-related knowledge played an important role. Most of Reinwardt's and Blume's knowledge about plants in Java stemmed from local helpers such as Indo-European women, local guides, government officials, and traders in herbs.⁴³ The garden's first catalogue published by Blume in 1823 lists not only European but also local plant names for almost all of the 900 described plants. The already-mentioned rain forest tree *Dipterocarpus trinervis*, for instance, appears also with its Sundanese name in the catalogue: *Palaglar Mienjak*, which can be translated as wing-fruit oil tree. The second part of the name (Mienjak = fat or oil) thus referred to the trees' ability to produce a lot of resin when they were cut. The resin could be wrapped in leaves and used as torches to light roads and buildings.⁴⁴ Similar to naturalists in Europe, local plant experts seemed to have, at least sometimes, assigned names to plants and trees with similar flowers which resembled Linnaeus' binominal structure.⁴⁵ In addition to local expertise, Blume and Reinwardt could also rely on the garden's library with European books. From the garden's first catalogue, we know that Blume had access to taxonomic literature by German, French and Scandinavian naturalists, including Kurt Sprengel's illustrated *Anleitung zur Kenntnis der Gewächse* (Manual for the Knowledge of Plants, 1817/1818), a manual which was widely used among naturalists in Europe and other parts of the world.

Until the institution's discontinuation in 1826, the botanical garden in Buitenzorg and its personnel were considered an important tool to develop the Dutch East Indies into a profitable annex of the Netherlands. The previous section has shown how Reinwardt and Blume used the high expectations of king and the colonial government to develop a dynamic and well-connected institution. Not only Reinwardt, but also Blume hoped that the garden's success would help them to stabilize his careers as colonial administrators and plant experts. One must not forget that in the early nineteenth-century world plant experts

41 M. Ogborn, 'Vegetable empire', in: H.A. Curry et al. (eds.), *Worlds of natural history* (Cambridge 2018) 271–286. For additional literature see also footnote 3 in the introduction of this theme issue.

42 G. Maury-Lechon and L. Curtet, 'Biogeography and evolutionary systematics of Dipterocarpaceae', S. Appanah and J.M. Turnbull (eds.), *Dipterocarps: Taxonomy, ecology and sylviculture* (Bogor 1998) 5–44, here 5.

43 For an in-depth examination of the role of local actors in the context of naming medicinal plants, see: Pols, 'European physicians' (n. 6) and L. Hesselink, *Healers on the colonial market. Native doctors and midwives in the Dutch East Indies* (Leiden 2011) 9–52. For a Blume related example see: C.L. Blume, 'Beschrijving van de Patma der Javanen', *Indisch Magazijn* (1845/46) 183–194, here: 184.

44 P.W. Korthals, 'Over enige soorten van de familie der Dipterocarpaceae', in: C.J. Temminck et al. (eds.), *Verhandelingen over de natuurlijke geschiedenis der Nederlandsche Oostindische Bezittingen*, vol. III, *Botanie* (Leiden 1839–1844) 45–76, here 61–62.

45 On the historical diversity of naming systems see: L. Schiebinger, 'Naming and knowing: the global politics of eighteenth-century botanical nomenclatures', in: P. Smith and B. Schmidt (eds.), *Making knowledge in early modern Europe: practices, objects, and texts, 1400–1800* (Chicago, Ill. 2007) 90–105.



Fig. 2: Illustration of different parts of a rain forest tree (*Dipterocarpus trinervis*) in the first catalogue of Bogor Botanical Gardens, published in 1823. The catalogue did not contain other illustrations which highlights the trees' economic importance for the colonial administration.

usually followed unstructured career paths. Individuals such as Blume and Reinwardt had to carve out and configure institutional niches according to their expertise and interests.⁴⁶ However, as the next section shows, most of Reinwardt's and Blume's expectations remained unfulfilled. Motivated by decreasing colonial revenue in the mid-1820s, the king and the colonial government not only discontinued the botanical garden's function as a niche for plant science and colonial management, they also hampered both scientists in establishing themselves as chroniclers of the colony's nature at home.

Capitalizing on a Disappeared Niche: Plant Collections as Asset

For Reinwardt and Blume, the garden's discontinuation in 1826 came at a very unfortunate moment in their careers. Since its foundation in 1817, both used the garden and its infrastructure to prepare ambitious book projects. While Blume had started working on a *Flora Javae*, Reinwardt's botanical book project carried the working title *Flora Javanicorum*.⁴⁷

46 S. Gibson, 'The careering naturalist: creating career paths in natural history, 1790–1830', *Archives of Natural History* 44 (2017) 195–214.

47 Reinwardt mentioned the project's working title in Noord-Hollands Archief Haarlem (=NHAH), 529, letter Reinwardt to Van Marum, 10 January 1819.

Books about the Dutch East Indies and its natural resources were still scarce in Europe at that time. Next to Thomas Stamford Raffles' *History of Java* published in 1817, European readers could rely only on William Marsden's *History of Sumatra* and John Crawfurd's multi-volume *History of the Indian Archipelago*.⁴⁸ However, in the end, Reinwardt's book project was never finished and Blume's *Flora Javae* was published only after years of dispute. By zooming in on Reinwardt's and Blume's publication projects, the second section of this essay shows how plant science became entangled in an empire-wide debate on the colony's management.

Blume probably heard about the government's decision to close the botanical garden in Buitenzorg in the course of 1825. After he had heard the unexpected news, he approached his superiors and asked for permission to return to the Netherlands. In order to speed up his return and the shipping of his valuable collection, it seems that he covered the costs for the passage to Europe.⁴⁹ During the first month of his stay, Blume lived in Reinwardt's house in Leiden where the latter taught as professor of natural philosophy, botany and chemistry. Reinwardt had accepted this position only grudgingly after his appointment in the colonies had come to an end in 1821.⁵⁰ The new position meant a high teaching load and hardly any time to work on his *Flora Javanicorum*. And unlike Reinwardt who had lost large parts of his botanical collection through three shipwrecks, Blume arrived in the Netherlands with 29 large boxes filled with dried plants from Java.⁵¹ Since the king considered botanical collections as a means to demonstrate the Netherlands' scientific grandeur in Europe, it is therefore not surprising that only a few months after Blume's return, the Dutch government approached Blume about whether he would be willing to sell his collection from Java to the government. Blume's reaction to the request was positive. He agreed to the king's proposal with several preconditions: apart from a financial compensation for his collection, Blume claimed the directorship of a new institution for botanical research as well as financial and political support for the publication of an illustrated *Flora Javae*, which was supposed to appear in 250 instalments.⁵²

For Reinwardt these developments came as no surprise. Already in Buitenzorg, Reinwardt had discovered that Blume had used the garden and its networks to compile a private collection of thousands of dried plants that were necessary to prepare his *Flora Javae*. In order to protect his own publication project from a competitor, Reinwardt had asked the colonial government to interfere and make sure that the collection remained in government possession.⁵³ But in the end, Reinwardt's attempts to maintain a monopoly on the documentation of Java's vegetation failed. While Reinwardt spent most of his time on advising the colonial government on various pressing issues, Blume continued enriching his herbarium and even started to prepare publications on Java's flora, which led to increased

48 The history of these books is linked to the introduction of the land-rent system during the British interregnum. The new taxation system required detailed information about the islands' soil quality, ownership and natural resources the former surveyor of British India Colin Mackenzie compiled in Java in the 1810s: H.J. Noltie, *Raffles' Ark redrawn. Natural history drawings from the collection of Sir Thomas Stamford Raffles* (London 2009) 16, Weber, *Hybrid Ambitions* (n. 17) 150–151.

49 Van Steenis, 'Dedication' (n. 1) 11.

50 Weber, *Hybrid Ambitions* (n. 17) 192–193.

51 His zoological collection was eventually transferred to the Leiden Museum of Natural History ('s Rijksmuseum van Natuurlijke Historie) in 1828.

52 Blume initially requested 50 000 guilders for this publication. In the end the king paid 7000 guilders for Blume's *Flora Javae*.

53 Weber, *Hybrid Ambitions* (n. 17) 136.

tensions between these two plant experts.⁵⁴ These early publications which preceded his *Flora Javae* were printed in Batavia and financed by the colonial government.⁵⁵ When Reinwardt discovered that Blume wanted to dispatch plants to the Netherlands under his own name, Reinwardt sought again the assistance of the colonial government. The governor general confirmed Reinwardt's claims and confiscated Blume's herbarium and placed it under Reinwardt's supervision.⁵⁶ This policy was later codified in a set of instructions for Blume, who stayed on in Java as director of the botanical garden until 1825.

Notwithstanding Blume's attempts to use the garden to build a private collection, Reinwardt continued to prepare his *Flora Javanicorum*. In January 1819, Reinwardt sent a friend in the Netherlands sketches made by his draftsmen and living specimens of five plants, which in his opinion had not yet been described by others.⁵⁷ In order to complete the set, Reinwardt also added short texts in which he described specific features and the environmental conditions that the plants needed. Reinwardt was particularly concerned about whether sufficient funds and a suitable engraver could be found. He thus requested his friend to approach engravers and produce proof plates which attracted book sellers, the king and other sponsors. In order to increase public interest in his work, Reinwardt also regularly rejected requests from learned periodicals in the Netherlands to send them written information about his inquiries into the colony's natural resources. Moreover, he used his inaugural lecture at Leiden University to remind the king and his advisors of his efforts to help exploiting the colony's natural resources as advisor to the colonial government and director of the botanical garden in Buitenzorg.⁵⁸

In the end, Reinwardt's *Flora Javanicorum* was never finished. While Blume used his time in Buitenzorg to enrich and publish about his and the garden's private plant collection, Reinwardt taught four, sometimes even five courses each semester at Leiden University. Beside chemistry and pharmaceuticals, Reinwardt taught medical botany, natural history and sometimes also geology and mineralogy to students from well-to-do families. Moreover, Reinwardt was responsible for managing the university's botanical garden.⁵⁹ And eventually, the king announced in his annual speech to parliament in 1825 that the costs for the colony's management had to be heavily decreased. Since the Dutch had taken over the administration from the British in 1815, expenses for the colony's management had almost doubled. The subsequent appointment of a new governor general was thus a clear sign that the king had lost his confidence in the promise of managers such as Reinwardt and Blume that the colony could be in a short time easily transformed into a profitable annex of the Netherlands. From this moment onwards, the botanical garden in Buitenzorg was considered a too-costly institution whose directors and personnel had failed to realize profits for the Crown's exchequer.⁶⁰

54 C.L. Blume, *Tabellen en platen voor de Javaansche orchideën* (Batavia 1825); C.L. Blume, *Bijdragen tot te Flora van Nederlandsch Indië* (Batavia 1825–1827).

55 Van Steenis, 'Dedication' (n. 1) 10.

56 Weber, *Hybrid Ambitions* (n. 17) 136–137.

57 *Ibidem* 170.

58 For a full analysis of the inaugural lecture see *Ibidem*, 187–192. For the text of the lecture see, C.G.C. Reinwardt, *Redevoering van C.G.C. Reinwardt over hetgeen het onderzoek van Indië tot uitbreiding der natuurlijke historie heeft voortgebracht, gehouden den 3 Mei 1823* (Amsterdam 1823).

59 Weber, *Hybrid Ambitions* (n. 17) 192–195.

60 W. van den Doel, *Het rijk van Insulinde. Opkomst en ondergang van een Nederlandse kolonie* (Amsterdam 1996) 48–50.

The brief discussion of Reinwardt's and Blume's publication projects have exemplified that imperial politics cannot be separated from the study of plants in the colony. Even in the years after the garden's closure, Blume's and Reinwardt's expertise and valuable collections remained part of an empire-wide debate on the colony's proper management. By negotiating their own careers, both contributed to reshaping the institutional character of plant science in the Netherlands. In particular Blume's return to the Netherlands eventually triggered the establishment of a new national herbarium ('s Rijksherbarium). The National Herbarium, whose extensive collections are now part of Natural Biodiversity Center in Leiden, still functions as an internationally renowned centre for the study of Southeast Asian flora. Blume also faced serious troubles in realizing his publications plans. Owing to a lack of financial support from the king and other sponsors, the last volume of his lavishly illustrated *Flora Javae* came off the press in the early 1850s, more than two decades after his return from the colonies.

Conclusion

By approaching the early history of Bogor Botanical Gardens as a temporary niche in which individuals came together to negotiate the relationship between plant science and imperial politics, this essay offers a fresh view on botany and the Dutch empire in the early nineteenth century world. In the late 1810s and 1820s, the plant-related expertise of Reinwardt and Blume was narrowly interwoven with different schemes of colonial management. In order to meet the expectations of their superiors in the colony and at home, they developed Bogor Botanical Gardens into a dynamic and well-connected niche. Next to local networks of survey and collection, the garden also regularly exchanged specimens and information about economic plants with gardens in other parts of Asia, South America and Europe. The garden's office space and vicinity to the palace of the governor general enabled Reinwardt and Blume to advise the colonial government on a wide array of pressing issues. Reinwardt alone produced hundreds of lengthy handwritten reports and letters in which he shared his knowledge and expertise. This essay also highlights that the garden's history cannot be separated from developments in Europe, and in particular in the Netherlands. By zooming in on Reinwardt's and Blume's careers after the garden's closure in 1826, this essay shows that adding value to plant collections and manuscripts by transforming them into monographs for Europe's learned public was a geographically distributed process. Owing to the lack of established career paths, plant experts had to carefully align their rhetoric and publication plans to the changing political agendas of sponsors situated in different localities. One final point needs to be made: although the essay deals largely with the institutional history of the botanical garden and the careers of two of the garden's directors, I hope to have also shown that a botanical garden and the expertise created on its premises also drew upon local European and non-European networks, labour and knowledge. In particular in the context of the Dutch presence in insular Southeast Asia, historians of botany and colonialism have only started to realize that the division of labour to produce plant-related knowledge was widespread and fine-grained.