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# Laborious Transformations: Plants and Politics at the Bogor Botanical Gardens

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#### **ABSTRACT**

Contributors to this theme issue examine the history of the life sciences at the Botanical Gardens in Bogor (*Kebun Raya Bogor*) in Indonesia. Each of the essays in this theme issue focusses on a major transformation that the garden, its networks, and staff underwent in the nineteenth and twentieth centuries. Before summarizing individual contributions, this introductory essay familiarizes readers with more recent scholarship in the field. Taken together, the essays in our theme issue suggest that the practice of the life sciences at the Gardens can be best analyzed as the outcome of historical processes of coordination and competition in which different disciplines, communities, and networks not only in insular Southeast Asia but also other parts of the world played a formative role.

Keywords: history of life sciences, Kebun Bogor Raya, Buitenzorg, Indonesia, colonialism, botanical garden

The Bogor Botanical Gardens¹ in Indonesia, which was called 's *Lands Plantentuin* in what was then Buitenzorg in the Dutch Indies, has undergone several crucial transformations since its foundation in 1817. Even if one focusses only on the colonial period and leaves aside the period after the Indonesian Revolution, the Gardens' history enhances our understanding of the complex relationship between evolving colonial science practices and varying forms of imperial politics. The historical relationship between the botanical garden's political organization and practices to study plants can be best described as coevolutionary. Earlier versions of the papers in this theme issue have been presented at an

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- Over the nineteenth and twentieth century, the Botanical Gardens in Bogor have witnessed several name changes. For the sake of coherency, essays in this special issue refer to Bogor Botanical Gardens, or simply Botanical Gardens, if we refer to the garden as institution. Historical names such as 's Lands Plantentuin are used when the garden is discussed in a specific historical context.

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Fig. 1: Botanical laboratory of 's Lands Plantentuin in Buitenzorg ca. 1900. Image collection KITLV, Leiden University Library, KITLV 33398.

international symposium at the Hortus Botanicus in Leiden in autumn 2017.<sup>2</sup> The symposium, which brought together historians of natural history and biology, museum and collection professionals and colonial Southeast Asia scholars, was organized to commemorate and reflect upon the garden's bi-centennial anniversary from a historical perspective.

Authors of this theme issue are interested not only in the two decades before the First World War, when the garden was at the apex of political power. The garden had by then obtained a special position in the Indonesian Archipelago, housing the young colonial agricultural department – the highest government institution to develop colonial agricultural policy. Owing to its close links with the colonial government, the garden thus functioned as the Indies' central science institute. In the nineteenth century this was not a typical function of a botanical garden, even a tropical one.<sup>3</sup> In order to better explain the gar-

<sup>2</sup> The editors thank the Hortus Botanicus Leiden and its prefect, prof. Paul Kessler for the co-organization of the symposium. The symposium and this theme issue were made possible through generous financial support by the Royal Netherlands Institute of Southeast Asian and Caribbean Studies (KITLV), the Hortus Botanicus Leiden, the Leiden Asia Year and the Descartes Centre for the History and Philosophy of the Sciences and the Humanities.

<sup>3</sup> In the late eighteenth and early nineteenth century, the following gardens were established in Asia: Calcutta (1787), Saharanpur (1817), Bangalore (1819), Ceylon (1821), Singapore (1822), Dapurie (1828). D. P. McCracken,

den's transformations in the decades before and after World War I, the essays in this theme issue analyse Bogor Botanical Gardens' past as the result of a co-evolutionary development between the colony's science politics and politics in general over a much longer period, from the garden's foundation in 1817 until the years after the Indonesian Revolution.<sup>4</sup> Taken together this theme issue argues that the history of life sciences as they were practiced in and around the Botanical Gardens in Bogor form an important lens through which we can analyze the transformations of Dutch imperial science as a whole.

# Life sciences in the Dutch empire

At the core of this theme issue lies the claim that the development of the life sciences and colonial politics cannot be analytically separated from each other. However, although the historical relationship between science and politics at the Botanical Gardens in Buitenzorg can be in general described as co-produced, the essays below reveal how political and social organization reconfigured scientific practice. Only during a few moments in its two hundred years' existence did *new* scientific practices and forms of science organization dramatically reconfigure imperial policy. The most obvious example for this is the garden's foundational years in the early nineteenth century. Similar to governments in Europe, the colonial administration in Java heavily relied on the *Plantentuin* as a site at which knowledge about the colony's natural resources were brought together and catalogued. At least until 1826, the garden's directors were deeply embedded in the colonial infrastructure as high-ranking government official, whose advice was crucial for actual policy making not only in the field of colonial agriculture.

A similar trend can be observed in the United Kingdom of the Netherlands, which between 1815 and 1830 also included the Southern Netherlands. In the years after the Dutch state inherited the Dutch Indies from the bankrupt Dutch East Indies Company (*Vereenigde Oostindische Compagnie*, or VOC), after a short British interregnum in Java, the Netherlands witnessed the rise of various reform-oriented initiatives in which plant experts played a pivotal role. During the reign of King Willem I, several imperial science institutes were set up, too: next to the *Plantentuin* in Bogor in 1817, the king initiated in Leiden in 1820 the establishment of the National Museum of Natural History (*Rijksmuseum of Natuurlijke Historie*). In the same year, a Committee of Natural History for the Netherlands Indies (*Natuurkundige Commissie voor Nederlands Indië*) was founded. The Committee of

Gardens of Empire. Botanical institutions of the Victorian British Empire (London 1997) 6–7; A.P. Thomas, 'The establishment of Calcutta Botanic Garden: Plant transfer, science, and the East India Company, 1786–1806', Journal of the Royal Asiatic Society, series 3 16 (2006): 165–177; T. P. Barnard, Empire, Nation and Environment in the Singapore Botanic Gardens (Singapore 2016).

- 4 W.K. Storey, 'Plants, power and development: founding the Imperial Department of Agriculture for the West Indies, 1880–1914', in: Sheila Jasanoff (ed.), *States of knowledge. The co-production of science and social order* (London en New York 2004) 109–130; Robert-Jan Wille, 'The co-production of station morphology and agricultural management in the tropics. Transformations in botany at the Botanical Garden at Buitenzorg, Java 1880–1904', in: Denise Phillips and Sharon Kingsland (eds.), *New perspectives on the History of Life Sciences and Agriculture.* Archimedes series in the history and philosophy of science (Dordrecht 2015) 256–281.
- 5 For a critical assessment of imperial science in the decades around 1800 and the performance of the Dutch East Indies Company, see the many contributions in: Peter Boomgaard, *Empire and science in the making: Dutch colonial scholarship in comparative global perspective, 1760–1830* (New York en Basingstoke 2013).
- 6 A team of computer scientists, biologists, historians and heritage professionals are currently working on a searchable online edition of this archive. See: A. Weber, e.a. 'Towards a digital infrastructure for illustrated

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Natural History consisted of a network of paid Dutch, French, Swiss, and German naturalists who went to the archipelago to survey the colony's natural resources and advise the colonial government.<sup>7</sup> In 1829, the king established a National Herbarium (*'s Rijksherbarium*) in Brussels. Although it moved to Leiden the year after because of the Belgian revolt, Willem I and his advisors fostered the strong hope that these institutions would provide the scientific support for their profit-oriented agricultural and economic policy at home and in the colonies.<sup>8</sup>

These four institutes sometimes cooperated and sometimes competed with each other in their mission of cataloguing the natural resources of the Dutch Indies.9 Often their claims to study and publish about colonial nature were highly contested. In particular in the years until the dissolution of the *Natuurkundige Commissie* in 1850, the directors of the National Museum of Natural History, the Rijksherbarium and individuals with private collections competed for financial support by Willem I and Willem II. These institutions and individuals had to laboriously and continuously reinvent themselves.<sup>10</sup> And whereas the two Leiden institutes were seated in the Netherlands and the naturalists of the Committee of Natural History travelled in the Indies, the *Plantentuin* was the only institution which was solely rooted in the Dutch Indies. It was not an institute for the whole *Rijk* (= the empire constituting the Netherlands *and* the Dutch Indies) but only for the *Land*, the territory of the Dutch Indies colony itself. Interestingly, the Netherlands itself did not possess a national garden such as the British had in Kew, or the French in Paris. Botanical gardens in the Netherlands were considered the domain of the university, with the *Hortus Botanicus* in Leiden as its most famous example.

The question of who took responsibility over science organization in the Dutch Indies would be a recurring struggle in the century to come. By acknowledging such imperial connectedness and the particular position of the colony in it, this theme issue examines the historically contested nature of Dutch Indies' science, and especially the position of the life

- handwritten archives', Springer Lecture Notes in Computer Science 10605 (2018) 155–166 and L. Stork, e.a., 'Semantic annotation of natural history collections', Journal of Web Semantics, in press. On the history of the NC, see for instance, H.J. Veth, Overzicht van hetgeen, in het bijzonder door Nederland, gedaan is voor de kennis der fauna van Nederlandsch Indië (Leiden 1879) 20–123.
- 7 A. Weber, 'Studying colonial nature: foreign naturalists and the Dutch Indies in the early nineteenth century', appears in BMGN Low Countries Historical Review in late 2019.
- 8 A. Weber, Hybrid ambitions. Science, governance, and empire in the career of Caspar G. Reinwardt (1773–1854) (Leiden 2012), chapter VI.
- 9 Bert Theunissen, Nut en nog eens nut: wetenschapsbeelden van Nederlandse natuuronderzoekers, 1800–1900 (Hilversum 2000); Ad Maas, 'Tachtigers in de wetenschap. Een nieuwe kijk op het ontstaan van de "Tweede Gouden Eeuw" in de Nederlandse natuurwetenschap', Tijdschrift voor Geschiedenis 114 (2001) 354–376; Robert-Jan Wille, Mannen van de microscoop. De laboratoriumbiologie op veldtocht in Nederland en Indië, 1840–1910 (Nijmegen 2018).
- 10 P. W. Klein, 'Indië en de Akademie', Mededelingen Afdeling Letterkunde Koninklijke Nederlandse Akademie van Wetenschappen, Nieuwe Reeks 58 (1995) 249–272; D. J. van de Kaa and Y. De Roo, De leden van de Koninklijke Nederlandse Akademie van Wetenschappen: een demografisch perspectief: 1808–2008 (Amsterdam 2008) 185. However, a more structural analysis of the role of the Royal Institute in early nineteenth century Dutch Indies science is still an important desideratum, see also: Klaas van Berkel, 'Empire without science? The Dutch scholarly world and colonial science around 1800', in: Peter Boomgaard ed by., Empire and science in the making: Dutch colonial scholarship in comparative global perspective, 1760–1830 (New York en Basingstoke 2013) 89–108.
- 11 H. Maat, Science cultivating practice. A history of agricultural science in the Netherlands and its colonies, 1863–1986 (Wageningen 2001); S. Moon, Technology and ethical idealism. A history of development in the Netherlands East Indies (Leiden 2007). A. Goss, The Floracrats: State-sponsored science and the failure of enlightenment in Indonesia (Madison, WI 2011).

sciences in them.<sup>12</sup> Although most of the essays in this theme issue zoom in on the Indies, developments in the metropole are never analytically separated from the colonial sphere. Taken together, the essays in this theme issue argue that the history of the life sciences at the Botanical Gardens Bogor can be best studied as integrated political history in which metropole and colony are brought under one analytical frame.<sup>13</sup>

## The local environment: directors and their networks

What transformed the gardens, too, were altering relationships between the garden as institution and its local socio-political environment. <sup>14</sup> Key actors in this process were not only the garden's European directors and staff members, but also a myriad of laborers and visitors, known and unknown, who sustained the garden not only with their hands but also with their plant-related expertise. <sup>15</sup> Often this expertise was grounded in the area's local and global networks of trade and material exchange. In the context of this theme issue, transformations related to the Botanical Gardens in Bogor are thus also approached as the historical result of continuous labour to align an institution geared towards the scientific study of plants with its socio-political environment. By doing so, this theme issue not only summarizes recent historical scholarship on the history of the life sciences at the Botanical Gardens in Bogor and in Indonesia, but also lays a modest foundation for the labour history of plant science which provides a new avenue to study the garden's rich past. <sup>16</sup>

While Jakarta's middle class nowadays considers Bogor and its Botanical Gardens as a site for family gatherings during weekends and holidays, building on a long tradition of bourgeois leisure culture, this theme issues shows that for the longer part of history the Gardens was predominantly a site of labor and trade. Founded by the German chemistapothecary Caspar Georg Reinwardt in 1817, the main garden in Bogor (*Kebun Raya Bogor*) gradually transformed into a centre for the acclimatization of plants from the Indonesian Archipelago and other parts of the world.<sup>17</sup> By 1850, the gardens was the home of 9000 different plant species.<sup>18</sup> If one nowadays strolls across the more than 86 hectares of land which makes the garden in Bogor, one of the largest botanical gardens in the world, one

- 12 For a previous and more limited attempt to think in a similar direction, see: Eugène Cittadino, *Nature as the laboratory. Darwinian plant ecology in the German empire* 1880–1900 (Cambridge 1990).
- 13 F.C. and A.L. Stoler, 'Between metropole and colony: rethinking a research agenda', in: Frederick Cooper and Ann Laura Stoler ed by., *Tensions of Empire: Colonial Cultures in a Bourgeois World* (Berkeley CA 1997) 1–56. For two other recently published studies which are focusing on the history of other fields of scientific inquiry in insular Southeast Asia see: F. Sysling, *Racial Science and Human Diversity in Colonial Indonesia* (Singapore 2016) and B. Schär, *Tropenliebe: Schweizer Naturforscher und niederländischer Imperialismus in Südostasien um* 1900 (Frankfurt 2015).
- 14 For an elaborate view on the contemporary interaction between botanic gardens and society see: S. Blackmore, 'The future role of botanical gardens', in: I. Frijs e.a. (eds.), Tropical plant collections. Legacies from the past? Essential tools for the future? Proceedings of an international symposium held by The Royal Danish Academy of Sciences and Letters in Copenhagen, 19<sup>th</sup> – 21<sup>st</sup> March, 2015 (Copenhagen 2017) 297–299.
- 15 A. Weber, 'Bitter fruits of accumulation: the case of C.G.C. Reinwardt (1773–1854)', *History of Science* 52:3 (2014) 297–318; Goss, *The Floracrats* (n. 11), chapter 3.
- 16 For an inspiring programmatic chapter that argues in a similar direction see: D. Rood, 'Toward a global labor history of science', in: P. Manning e.a., (eds.), *Global scientific practice in an age of revolutions*, 1750–1850 (Pittsburgh 2016): 255–274.
- 17 For the garden's foundation see: Weber, *Hybrid ambitions* (n. 8), chapter 4 and C.S. Oldenburger-Ebbers, 'Buitenzorg bij Batavia en omliggende tuinen,' *Cascade. Bulletin voor tuinhistorie* 8 (1999) 6–19.
- 18 Buitenzorg Scientific Centre. A description of the scientific Institution at Buitenzorg (Buitenzorg 1948): 16.

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finds, for instance, sugarcane from Brazil, palm oil trees from Africa, corn from America, litchi trees from China, and Sago palms from the Moluccan islands.<sup>19</sup> These plants are visible reminders that the garden heavily profited from plant exchanges with other gardens all over the world.<sup>20</sup>

However, as this theme issue shows, the garden's historical integration in local networks of colonial governance and global networks of exchange was a continuous endeavor which can be best approached by focusing on a number of significant transformations. In this issue we have selected three important transformations: the first decade after the garden's foundation, the decades around 1900 in which the garden under Melchior Treub expanded the most, and the period of decolonization. This is not to say that other periods were uneventful. In the 1850s, Gerrit Jan Mulder used the Botanical Gardens as a site at which chemical analysis of sugar cane was carried out. Mulder's efforts not only shaped the practice of the life sciences in Buitenzorg, but also had a serious impact on actual agricultural policy in the Dutch Indies.<sup>21</sup> The appointment of Rudolf Scheffer in 1868 as head of a scientific directorate was important on its own right; by establishing a museum, an economic garden (cultuurtuin), a scientific journal<sup>22</sup> and an agricultural school, Scheffer created a scientific ecosystem enabled scientific outreach both locally and internationally. When Melchior Treub left in 1909 and the Gardens were disconnected from the agricultural department, Treub's successor Jacob Koningsberger experimented with new forms of scientific policy.<sup>23</sup> Although formally held in Batavia and Bandung, the garden formed a central site for the 1929 international Pacific Science Congress, creating an international platform for the many private experiment gardens that intensely cooperated with the garden, creating new responsibilities for the Netherlands as a geopolitical player in the scientific Pacific.24 And what happened at the Garden in the decades after the long decolonization phase that Andrew Goss analyzes in this issue requires a more detailed analysis of the technocratic effects of empire and decolonization on botanical ways of knowing, and vice versa.<sup>25</sup> We can only hope that in the years to come the garden's historiography is further enriched by new scholarship.<sup>26</sup> The garden's rich past not only provides a fertile ground for institutional histories but also for more specialized studies examining the relationship between science and politics in colonial and post-colonial Indonesia.

<sup>19</sup> For documentation of plants in the garden see: J. Levelink, A. Mawdsley, T.F. Rijnberg, Four guided walks: Bogor Botanic Garden (Bogor 1996). For a list of plants cultivated in the garden before 1850, see T.F. Rijnberg, 's Lands Plantentuin Buitenzorg, 1817–1992 (Enschede 1992) 46.

<sup>20</sup> On the logistics of such plant transfers see: S. McCook, "Squares of tropic summer": The Wardian case, Victorian horticulture, and the logistics of plant transfers, 1770–1910, in: P. Manning e.a., (eds.), Global scientific practice in an age of revolutions, 1750–1850 (Pittsburgh 2016): 199–215.

<sup>21</sup> M. Leidelmeijer, Van suikermolen tot grootbedrijf: technische vernieuwing in de Java suikerindustrie in de negentiende eeuw (Amsterdam 1997), chapter 7.

<sup>22</sup> The journal carried the title: Annales du Jardin botanique du Buitenzorg.

<sup>23</sup> Andrew Goss, 'Decent colonialism? Pure science and colonial ideology in the Netherlands East Indies, 1910–1929', *Journal of Southeast Asian Studies* 40(1) 187–214.

<sup>24</sup> Ibidem, 210–211; Wim van der Schoor, Zuivere en toegepaste wetenschap in de tropen. Biologisch onderzoek aan particuliere proefstations in Nederlands-Indië 1870–1940 (Utrecht 2012) 105.

<sup>25</sup> For a possible lens through which we can study Indonesian technoscience under Sukarno and Suharto, see Suzanne Moon, 'Justice, Geography, and Steel: Technology and National Identity in Indonesian Industrialization, Osiris 24 (2009) 253–277.

<sup>26</sup> See for instance the PhD project of Luthfi Adam (Northwestern University).

#### Outline of the theme issue

The first essay of this theme issue, written by Andreas Weber, focusses on the directorates 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 temporal closure of the garden in 1826. However, instead of reading Reinwardt's and Blume's efforts simply as the result of lacking scholarly excellence or government funding, an in-depth analysis of their activities unravels how the garden gradually developed into a transformative nodal point of imperial politics and in the field of agricultural management. The daily life of Reinwardt and Blume and other plant experts at the Botanical Gardens in Bogor was characterized by juggling between the interests of wealthy landowners, plant collectors, gardeners, guides, ship captains, travelers, writers, government officials and publishers. By reconstructing and contextualizing Reinwardt's and Blume's laborious efforts to manage different interests, Weber's essay highlights the networked and political character of botanical gardens in the early nineteenth century.

After the revival of the garden in the late 1830s, the garden underwent several infrastructural changes.<sup>27</sup> Next to continuously enriching the garden with new plants, Elias Teysman, a gardener from Arnhem who managed the garden until 1869, also made sure that the garden's infrastructure grew. After to the establishment of a second garden in Cibodas, the garden in Bogor also received two new buildings: a library and a herbarium. Both were opened in the 1840s. Like the library, the herbarium gradually developed into a full-fledged research facility. While the library was initially equipped with only two dozen volumes, its second catalogue, published in the 1890s listed more than 5000 titles, excluding the volumes of 500 periodicals.<sup>28</sup> Some of these books had been left by European plant collectors who had stayed for a couple of years in the colony. Nowadays, the library and also the herbarium are still situated within the garden's grounds and can be consulted for historical and plant research.

Building upon the networks and infrastructure which Elias Teysman and others had established, Melchior Treub, who was appointed as the garden director in 1880, eventually developed the garden into an attractive workplace for botanists and chemists from all over the world. Similar to Teysman, Treub also initiated a number of infrastructural changes. In particular the increase of laboratory capacity was an important feature of his directorate. On one hand, new laboratory capacity was realized in the garden area. Next to a rather basic laboratory in the rooms of a hospital building next to the garden, Treub initiated the foundation of a new agricultural and botanical laboratory in the 1890s. On the other hand, Treub managed to tie the garden and its personnel to private laboratories (*proefstations*), which were established in the colonies from the 1870s onwards. These institutions helped to catalyze the growth of plant science in Java. Many of these private laboratories were financed by European and US investors and formed part of large sugar, oil palm, tobacco, tea, rubber, cinchona, and coffee plantations in Sumatra and Java. The abilities of Treub

<sup>27</sup> Rijnberg, 's Lands Plantentuin (n. 19) 31-48.

<sup>28</sup> Catalogue de la Bibliothèque du Jardin botanique de Buitenzorg (Batavia 1894).

<sup>29</sup> Van der Schoor, Zuivere en toegepaste wetenschap (n. 24). On the transnational charter of these investors see: A. Zangger, Koloniale Schweiz. Ein Stück Globalgeschichte zwischen Europa und Südostasien (1860–1930) (Bielefeld 2011); A. Roersch van der Hoogte, 'Colonial agro-industrialism. Science, industry and the state in the Dutch golden alkaloid age, 1850–1950' PhD dissertation (Utrecht 2015); A. Roersch van der Hoogte e.a., 'From Javanese Coca to Java coca. An exemplary product of Dutch colonial agro-industrialism, 1880–1920', Technology and Culture 54 (2013) 90–116; Leidelmeijer, Van suikermolen (n. 21).

and other plant experts to link plant research at Bogor Botanical Gardens not only to the colonial state and but also to the interest of private entrepreneurs and traders have been extensively studied by Andrew Goss and Robert-Jan Wille.<sup>30</sup>

However, foregrounding private entrepreneurs and their laboratories entails the risk that the transformations at the Botanical Gardens itself remain understudied. In order to explain the spectacular growth of plants sciences at the garden's laboratories, Robert-Jan Wille's essay thus examines the rise of a new type of biologist who embraced a new kind of self-conscious evolutionary laboratory biology. Not only botanists, but also entomologists and even chemists world-wide cooperated under an emerging field which was called developmental biology. In Buitenzorg, the rise of development and symbiosis formed part of a new biology-based repertoire of technocracy. Wille's essay analyzes the developmental botany of Treub and his experimental, embryological and evolutionary study of both cryptogam and phanerogam plants as an important source for the transformation of Buitenzorg science, a process Wille has studied elsewhere.31 The evolution from a loose alliance between metropolitan chemistry, planters and economic natural history to a tight community of developmental biologists, organic chemists, plant ecologists and entomologists had one goal: developing the Dutch Indies and especially the European planter society. In this issue Wille deals with the impact of Treub's study of lichens as associational 'firms' on Buitenzorg's cooperation between science, the state and the planters. Under Treub the Botanical Gardens in Buitenzorg transformed into a site for colonial and transdisciplinary big science with links to other laboratories around the globe.

The essay of Andrew Goss eventually examines how the Gardens transformed into one of the central embodiments of an independent Indonesian science during decolonization. Between 1940 and the early 1950s, the Botanical Gardens in Bogor changed hands numerous times, as a result of war and revolution. The challenge for early republican scientist was to generate Indonesian science in a colonial vessel. In this environment, Indonesian scientists transformed the Gardens as a site for international scientific cooperation, where they joined as equal partners with established scientists across the globe. However, as Andrew Goss tellingly shows, the Gardens and its affiliated scientists did not reinvent themselves from scratch. The footprint of the Gardens proper, and the scientific buildings with their natural collections, did not change, but there was continuity of personnel as well, as many Dutch scientists remained in Bogor in the 1950s. The essay thus argues that far from leading to a decline in science at the Bogor Gardens, political changes created new opportunities and possibilities to transform the garden into a locally and globally connected center for Indonesian science.

The theme issue is concluded with a short essay by Eulàlia Gassó Miracle in which she reminds us that the history of the life sciences cannot be disconnected from the history of preservation. By focusing on a historical collection of butterflies which is of high value for biodiversity researchers nowadays, her essay shows that the Botanical Gardens in Bogor also functioned as a site at which collections of prepared animals were processed and temporarily stored. By following the collections' origins and movements in the years before and after World War II, the essay shows that the Gardens formed part of a locally and globally

<sup>30</sup> Wille, *Mannen van de microscoop* (n. 9); Goss, *The Floracrats* (n. 11), chapter 3 and 4. 31 Wille, 'The co-production' (n. 4).

networked community of individuals and institutions that fostered a strong interest in the scientific study of the area's nature.

The contributors to this theme issue have examined the history of the life sciences at the Botanical Gardens in Bogor through the lens of three major transformations and one historical collection. By doing so, we want to achieve two interrelated goals: first of all, we aim to introduce readers to a good portion of already existing scholarship on the intertwined histories of the life sciences in colonial and post-colonial Indonesia. Second, our hope is that the three episodes offer valuable starting points for further research. Taken together, our analyses have highlighted that the Gardens had to constantly renew itself in the nineteenth and twentieth centuries, with the site as only important constant. Moreover, our essays show that the daily practice of the life sciences at the Botanical Gardens was the product of coordination and competition between different disciplines, institutes, communities and networks not only in insular Southeast Asia but also beyond. We can only hope that our approach, which situates the garden in a wider social and political context, inspires historians in Indonesia and other parts of the world to intensify research into the history of the Indonesian life sciences in particular and tropical big science in general.