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Hybrid ambitions : science, governance, and empire in the career of Caspar G.C. Reinwardt (1773-1854)

Weber, A

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Author: Weber, Andreas

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Conclusion

This in-depth analysis of the career of Caspar Georg Carl Reinwardt has shed light on the co-evolutionary character of governance, empire and science in the late eighteenth and early nineteenth centuries Netherlands and its possessions in the Malay Archipelago. Hybrid figures such as Reinwardt, who never received an official diploma, were apparently able to switch between the professional realms of universities, botanical gardens, museums, and domestic and colonial administrations. This study argues that the seeds of Reinwardt's professional flexibility lay mainly in his training as a chemist and apothecary in one of Amsterdam's chemical workshops and his socialization in a broader cultural context where the improvement of society and economy played a crucial role.

The first chapter of this study has tried to reconstruct the material and intellectual milieu in which Reinwardt was trained. Archival research has shown that he was employed as an assistant at a chemist's/apothecary's workshop in Amsterdam. Unlike most apothecaries, who only produced medical drugs, chemists also supplied Amsterdam's processing industries with large quantities of chemicals. Owing to quickly rising prices for raw materials in the aftermath of the Fourth Anglo-Dutch War, chemist-apothecaries such as Theodorus Petrus Schonck and Johannes Petrus

Kasteleyn turned to and promoted new chemical practices and techniques to guarantee the profitability of their small businesses. Central element of their claims voiced in letters and pleas towards the city council of Amsterdam, was the improvement of the municipal training of young chemists and apothecaries. Beside a better theoretical foundation of their education, pupils were obliged to attend practical classes preferably taught by a public lecturer who was experienced in handling and using costly measuring devices such as thermometers, barometers, scales, and aerometers. Moreover, they urged the city council to sponsor the establishment of a well-equipped public laboratory with space adequate for a large number of listeners. Such a laboratory was, in their view, necessary to demonstrate young chemists, apothecaries, and manufacturers the benefits that could accrue from applying measuring and other devices in various productive contexts. Reinwardt was thus trained in a climate where accuracy, quantification and experimentation played a crucial role.

Similar ideas were voiced in literary and learned societies in Amsterdam and Haarlem. As a member of such societies Reinwardt entered a world where students, physicians, academic professors, lawyers, merchants, chemists, agriculturists, apothecaries, civil servants, and patriot thinkers regularly came together to socialize and discuss ideas to mitigate the country's economic and moral decline. The underlying idea of these societies was the notion that individuals could strengthen their identities as virtuous and moral citizens by discussing classical texts, watching experiments and listening to each other's lectures.

Although Reinwardt had never received an official diploma for his services as chemical and pharmaceutical assistant at his brother's pharmacy, he was eventually made professor of chemistry, natural history, and botany at the university in Harderwijk in 1800. The underlying reason for this appointment lay, as the second chapter shows, in the pragmatic politics of the day. In particular in the years after the Batavian Revolution in 1795, the new administrators sparked various initiatives to improve and centralize the country's agriculture, economy and administration. For individuals such as Reinwardt who had received a thorough training in all practical aspects of chemistry and botany it was thus relatively easy to switch to the academic realm. Even the fact that Latin was still the official language at universities was no obstacle, for during his years in Amsterdam, he had acquired an excellent command of Latin and Greek. Such skills had also helped him to gain access to Amsterdam's literary societies.

During his years in Harderwijk (1800-1806), Reinwardt played a hybrid role: on the one hand, he functioned as a university teacher, on the other hand he served as a member of provincial committees for agriculture and medical supervision. As an academic teacher, he taught medical and other students how to apply chemistry and botany for various useful ends. As he had been taught during his own apprenticeship in Amsterdam, Reinwardt stressed the importance of practical laboratory experimentation in his classes. He thus taught his students how to use and calibrate measuring devices which were essential for improving chemical experiments, agriculture and manufacturing processes. He also encouraged his students to explore and investigate the flora around Harderwijk. A few of the collected plants were eventually cultivated in the university's expanding botanical garden.

In his function as administrator, Reinwardt carried out field surveys and wrote reports on various pressing issues. He also helped one of the key figures in the new Batavian administration, Jan Kops, to prepare the third volume of an illustrated and detailed description of economically exploitable plants (*Flora Batava*). The discussion of Reinwardt's years in Harderwijk demonstrates that his practical botanical and chemical expertise made his integration into the new setting a relatively easy endeavour. Apart from his academic duties, Reinwardt found time to prove his efficiency and virtue as an expert in agriculture and public health care. Since his work in the provincial committee was unsalaried, he likely expected to derive career benefits from his civic engagement.

The third chapter built a narrative around the abrupt end of Reinwardt's career as an academic in Harderwijk. When Louis Napoleon visited the university in 1806, he appointed Reinwardt almost instantly as director of a new botanical garden and menagerie in Haarlem. In his new post, Reinwardt was responsible for laying out the new garden as well as the exchange, acclimatization, and cultivation of 'oeconomic' and exotic plants. Owing to the short reign of Louis Napoleon, the garden was never fully established and Reinwardt was eventually forced to look for new ways to secure his living. His close friendship with the influential Martinus van Marum, secretary of the Dutch Society of Sciences and director of Teylers Museum, helped the former apothecary and academic to gain access to Haarlem's learned and wealthy elite. Van Marum, for instance, ensured that Reinwardt was made member of the Dutch Society of Sciences. The two men shared a deep passion for experimental chemistry and botany and Van Marum often received Reinwardt in his private garden. To compensate for his colleague's and friend's social lobbying on his behalf, Reinwardt regularly

offered Van Marum plants and reviewed papers which individuals had submitted to the Dutch Society of Sciences. During his years in Haarlem, Reinwardt thus used learned societies, a well-proven tool in Dutch society, as vehicle to secure and further his career.

Reinwardt was also a member of the Royal Institute in Amsterdam, which was established in early 1808 by Louis Napoleon who viewed it as an advisory organ for his administration. Reinwardt thus often formed part of committees set up to examine and evaluate pressing governmental issues such as the calibration of measuring devices used for the levying of taxes. At the same time, the Institute offered its members a platform to promote their skills and expertise. Reinwardt, for instance, used the Institute to fashion himself as a travelling botanist who had surveyed large parts of the flora of the province of Holland in order to compile a 'plant geography' of the region. Since he had also carried out chemical analyses of different types of soil, he stressed the fact that his fieldwork would facilitate the quest for valuable ore deposits under the earth's surface. Owing to the country's notorious lack of natural resources, such claims must have attracted attention among his superiors in Amsterdam and The Hague. The third chapter thus shows how societies such as the Dutch Society of Sciences in Haarlem and the Royal Institute in Amsterdam could function as alternative vehicles for a career in the overlapping fields of science and governance in the times of political unrest.

Reinwardt's strategy was initially successful. After the French left the country and Willem I assumed power in 1815, he was made a high-ranking colonial civil servant with the special task to survey and improve Java's agriculture, industries, public health care and educational system. Additionally, he was obliged to collect natural historical specimens for the State Cabinet of Natural History in Amsterdam. Reinwardt hoped that an extended stay in the East Indies would reward him with the status and reputation of a famous scientific traveller who could dedicate the rest of his life time in the Netherlands publishing the results of his trip to the Malay Archipelago.

The fourth chapter illustrates that, in practice, the dual task of collecting and improving the administration and agriculture of the Dutch colony turned out to be a complex endeavour. Until the summer of 1817, Reinwardt was preoccupied with pressing governmental issues that kept him most of the time in Batavia and Buitenzorg. In order to prove his virtue as an administrator, he was expected to read and evaluate a large number of official documents and advise the colonial government in the form of written reports.

The collecting of natural historical specimens was mostly carried out by other colonial administrators, adventurers and military men who were, in one way or another, connected with the colonial government. Reinwardt's draftsmen, the Bik brothers, and his gardener Kent, eventually took care that the items which arrived in Reinwardt's house were carefully prepared and packed in boxes for shipping to the Netherlands. Many of these precious cargoes—augmented by plants from the botanical garden established at Buitenzorg on Reinwardt's initiative—were lost at sea. During the first period of his stay Reinwardt and his crew thus spent most of their time and energy on developing Batavia and Buitenzorg into a nodal point for colonial governance and science.

When Reinwardt and his colleagues Baron Van der Capellen and Cornelis Theodorus Elout realized that administrating and investigating Java from Batavia and Buitenzorg proved elusive and ambiguous undertakings, they decided to organize a tour of inspection around the island. The main aim of the months-long journey was to gain more information on the current political, social, agricultural and economic state of more remote provinces. Reinwardt's task was again to collect, summarise and judge the information gathered on the spot. In a few cases, Reinwardt used his measuring devices to legitimize his advices which had to be submitted in the form of written reports. During the tour of inspection Reinwardt and his superiors depended on the colonial infrastructure and the assistance of local European and indigenous administrators. The same was even more true during subsequent journeys to the Preanger region in the hilly hinterland of Batavia, and to the Moluccas. The diaries of Reinwardt and one of his draftsmen shed considerable light on the different groups and individuals responsible for facilitating the collecting and preparing of natural historical specimens and statistical data in areas where colonial infrastructure was lacking.

The fifth chapter, however, shows that Reinwardt tended to remain silent about the exact origins of his observations and measurements in his retrospective accounts of his fieldwork in the Malay Archipelago. In lectures held in front of the members of the Batavian Society for Arts and Sciences as well as his academic colleagues, prospective sponsors, and friends in the Netherlands, Reinwardt rather fashioned himself as a solitary and virtuous traveller *and* administrator who had risked his life in Java and the neighboring islands for the public good. In his lectures Java appears as a sparsely populated island whose rich and diverse nature was ripe for further economic exploitation and natural historical investigation. Reinwardt hoped that this deliberately construed self-image would attract powerful sponsors

who would finance his planned publications on the nature and society of the Malay Archipelago. A wealthy and influential patron would also have allowed him to quit his tiresome position as academic teacher and focus on his career as a traveller and author of scientific monographs weaving the outcome of his varied field research together into a proto-ecological account on how wind, water, fire and air had shaped nature in the Netherlands and its colonial possessions. Such an account would have secured Reinwardt's status and reputation not only in the Netherlands, but also abroad.

The sixth chapter shows that in the end Reinwardt's strategy failed. When Reinwardt returned to the Netherlands, the 'oeconomic' culture in which he had been trained and socialized as a young man (see chapter one) was declining. Since the colonial possessions in the East ultimately proved to be a highly unprofitable endeavour, highly placed decision-makers in the Netherlands lost faith in Reinwardt's efficiency and virtue as a colonial administrator and scientific traveller in the late 1820s. Instead of receiving generous governmental support for popularizing his hybrid fieldwork in the Netherlands, he was confronted with the king and his ministers' decision to appoint as director of a new National Museum of Natural History Coenraad Jacob Temminck, the owner of a splendid bird collection who had never held an administrative post. While Temminck managed to set up a global network of collectors, Reinwardt was forced to spend most of his time and energy on teaching chemistry, botany, geology and natural history and administrating Leiden's *Hortus Botanicus*. Although Reinwardt tried to finish his travel account and an illustrated monograph on Java's flora (*Flora Javanicorum*), these books never came off the press owing to Reinwardt's lack of time and sponsors.

Apart from losing the support of the Dutch king and his ministers, Reinwardt's plans were also foiled by his former assistant Carl Ludwig Blume, who arrived in Leiden with an immense collection of dried plants. Since Blume was looking for a permanent position in Europe, he offered his collection to the king. In return, Blume claimed a financial compensation, the directorship of a new National Herbarium, the title of a professor, and sponsorship of a lavishly illustrated series of monographs on Java's flora. After the king had agreed to these preconditions, Reinwardt was eventually asked to hand over his own collection of dried plants and notes to Blume.

While in the years to come Blume prepared the successive publication of the *Flora Javae* and other monographs, Reinwardt focused his attention on delivering lectures on his fieldwork in the Indies at learned societies in the Netherlands and abroad. But these lectures never caught the

attention and audience which Blume's and Temminck's publications and institutions did. Reinwardt was thus soon characterized as someone who had not only failed as colonial 'administrator', but also as a 'naturalist', 'botanist', 'geologist', 'zoologist', or as a mere 'collector' of natural historical specimens. It is therefore not surprising that Reinwardt often remained outside the scope of historical narratives which used those retrospectively shaped categories and fields as starting points for their analyses. This study has shown that the opposite was the case. Owing to a shared culture of moral and economic improvement, hybrid figures such as Reinwardt could pursue an impressive, but later often forgotten career, in the co-evolutionary realms of science, governance, and empire in the late eighteenth and early nineteenth centuries Netherlands and its colonial possessions in the Malay Archipelago.

