

On the Background of Engelbert Kaempfer's Studies of Japanese Herbs and Drugs

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Kaempfer's writings stand among early studies of Japan like monoliths on an empty plain. Nothing substantial had been published on 'things Japanese' in the period following the expulsion of the last Portuguese from Nagasaki in 1638. Then, in 1712, the German physician Engelbert Kaempfer (1651-1716) presented in his *Amoenitates Exoticae* several treatises on acupuncture, moxibustion, tea, amber, Japan's policy of seclusion, and above all an extensive *Flora Japonica*. His reputation as a pioneer and expert of the first rank on these subjects rapidly spread throughout Europe. Fifteen years later, an English translation of his manuscript *Heutiges Japan* (Japan Today) was published under the title *The History of Japan* and became the most influential book on Japan in the Age of Enlightenment. However, throughout his travels, Kaempfer had been forced to cope with countless difficulties, including lack of financial resources, which meant he always had to depend on others to take him to the East. Unlike C.P. Thunberg or Ph. F. von Siebold, he did not establish an academic career after his return to Europe in 1693, but spent the remaining two decades of his life in the vicinity of the rural town of Lemgo in Northern Germany. These circumstances may have contributed to forming the impression conveyed by Karl Meier-Lemgo and other scholars that Kaempfer's outstanding achievements were the products of an ingenious, somewhat misunderstood man who, in an act of individual inspiration, ventured from Europe to Japan to explore the archipelago. After 1990,

however, stimulated by two international symposia,¹⁾ intensive research, and the publication of important Kaempfer materials kept in the British Library,²⁾ attention has been drawn to Kaempfer's relationship with his contemporaries.

This study analyses how and why Kaempfer conducted botanical research in Japan. Furthermore, it shows his reactions to the work of the network of scholars and other curious men in the East and West on three plants/drugs that Kaempfer and his partners considered especially important. For a report on all of Kaempfer's studies on Japanese medicine and related fields, see the comprehensive survey published in 1993.³⁾ Kaempfer's extensive correspondence has recently been published.⁴⁾

Curious men in Batavia

Before his arrival in Batavia in autumn 1689, Kaempfer knew very little about Japan. During his long stay in Isfahan he was offered a position as physician to a Georgian nobleman. He had also considered travelling to Egypt, presumably under the influence of Prospero Alpino's famous book *De medicina Aegyptiorum*.⁵⁾ When he finally turned to East Asia, Kaempfer dreamed more about "the most noble courts of India and China" than he did about the island of Japan.⁶⁾ Whilst in Batavia, the administrative centre of the Dutch East India Company, he had intended to settle down, bring order into his collections and write a Russian-Tartaric-Persian travel account as the first part of a book about his travels in Asia. Kaempfer applied for the vacant positions of chief surgeon and apothecary in the hospital. This was a bold step considering his lengthy but unfinished education and the somewhat dubious circumstances of his employment by the company in Persia. With good reasons surgeon-general Adriaan van Strijkersberg denied him this high-ranking position.⁷⁾ Only now did Japan attract his attention, but even to obtain work at the outpost Dejima he needed help from new and old friends. Thus, Kaempfer's decision to go to Nagasaki

appears to be an attempt to get out of another impasse on his journey rather than the result of long-term planning.

Nevertheless, when Kaempfer began his explorations in Japan, he was amazingly well prepared. On 6 May 1690 he boarded the *Waalstrom* carrying with him an extremely rare “Thesaurus Linguae Japonicae” printed by the Jesuits almost a century before,⁸⁾ and copies of old diaries from the Dutch factory in Japan.⁹⁾ No doubt he had specific ideas about the kind of information that could be collected in the Japanese archipelago.¹⁰⁾ From autumn 1689 to May 1690 Kaempfer had spent many months in Batavia in intense talks with a group of people who shared a strong interest in Japanese affairs. The earlier travellers to Japan — such as the German physician and merchant Andreas Cleyer, the Dutch medical doctor Willem ten Rhijne, and the merchants and collectors Hendrik van Buijtenhem and Johannes Camphuijs — had instructed him about the state of Western knowledge of Japan and the difficulties to be reckoned with after entering that closed country. In Cleyer’s house, where Kaempfer helped out as secretary,¹¹⁾ he had read Cleyer’s extensive correspondence on botanical and medical observations in Japan, and undoubtedly had heard a lot about Meister’s and Cleyer’s attempts to sample the flora of the archipelago.¹²⁾

Ten Rhijne, head of the leper station (*Buijtenregent van’t Lazarushuijs*) on the nearby island of Pumerend, introduced Kaempfer to the secrets of Sino-Japanese acupuncture and moxibustion, subjects on which Western research had just begun.¹³⁾ He showed him not only his own *Dissertatio de Arthritide* (London 1682), but also the first Western treatise on the treatment of Podagra with “Moxa”, written by the Batavian preacher Hermann Buschoff in the mid-1670s.¹⁴⁾ Ten Rhijne had worked in Japan under the factory-chiefs Caesar and Camphuis. As can be seen from de Jager’s memorandum, he possessed a Japanese nobility calendar (cf. Fig. 1b) and samples of katakana syllabaries.¹⁵⁾

Kaempfer’s new acquaintances had great expectations, as can be

seen from a recently discovered “Memorandum for Monsieur Engelbert Kaempfer to order and procure [. . .] some things in Siam and Japan”.¹⁶⁾ This paper was handed to Kaempfer together with a list of plant names. Following some questions regarding Kaempfer’s travels in Persia, the author requests information on the plants to be found in Siam and Laos. He then turns to Japan, suggesting that Kaempfer should try to procure an alphabet and information on how the Japanese read. Then he requests detailed descriptions of the lacquer tree, camphor tree, tea plant and ginseng, referring to previous statements on that matter by Cleyer and ten Rhijne.¹⁷⁾

The memorandum has no signature, but two letters¹⁸⁾ on plants in Siam and Japan written by Kaempfer in October 1690 and the summer of 1691, show that it is Jacob van Dam (1629–1709), who had requested these favours. Van Dam was a member of the Batavian “justice committee” (*raad van justitie*) and had been its vice president since 1700. Like Kaempfer, he possessed many sketches and notes from his own travels¹⁹⁾ and it was he who had provided Kaempfer with the precious Japanese dictionary mentioned above. In his discussion of Kaempfer’s appointment to the post in Japan, Terwiel draws attention to Nicolas and Andreas Muller, whose sister was married to Cornelisz van Outhoorn, former chief of the Dejima factory.²⁰⁾ However, the biographical background, the memorandum and Kaempfer’s response suggest that van Dam too played an important part in paving the way to Nagasaki. No doubt several influential persons in Batavia approved of Kaempfer’s appointment to Japan.

An old friend from the years in Persia, the VOC merchant and orientalist Herbert de Jager, a protégé of the scholar and mayor of Amsterdam Nicolaas Witsen, had also been transferred to Batavia in 1687. He made an especially valuable contribution to Kaempfer’s research project, providing a memorandum on books and other items to be collected in Japan.²¹⁾ Hendrik van Buijtenhem, head of the Dejima factory from 1690 to 1691, was probably the only formal

receiver of these requests. He handed the memorandum to Kaempfer, who kept it in his Japanese collection. This paper, first analysed by E. Werger-Klein in 1993²²⁾ and then translated into English and discussed in the broader context of seventeenth-century Japanese studies by P.F. Kornicki²³⁾, has subsequently been shown to be an important document with respect to Kaempfer's explorations in Japan.

Although de Jager, an experienced connoisseur of Persia and the Coromandel Coast, had not set foot on Japanese soil, he was obviously part of that circle of educated men in Batavia who, with their correspondents in Europe, aimed at a more systematic exploration of Japan. His proposals by far exceeded Jacob van Dam's expectations. De Jager's memorandum embodies the studies and questions accumulated over many years. To facilitate communication with

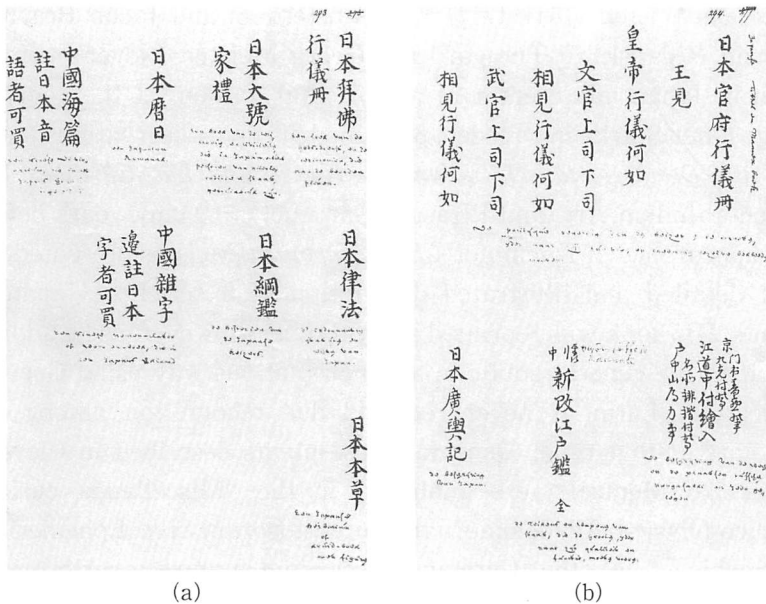


Fig. 1. Chinese list (“Sineese list”) of items to be collected in Japan. Appendix to Herbert de Jager’s memorandum (British Library, SI 2910, fol.293r-294r).

Japanese counterparts, he had even asked a Chinese living in Batavia to prepare a brief translation. This Chinese version was recently discovered in another bundle of Kaempfer's papers (Fig. 1a/b).²⁴⁾

Botanical Survey

The curious Batavian naturalists had above all hoped for a thorough survey of the Japanese plant world. During his two terms as a factory chief (*opperhoofd*) in Japan (1683-84, 1685-86), Andreas Cleyer had acquired a collection of coloured drawings of Japanese plants and had sent it to Christian Mentzel (1622-1701), head of the Prussian king's library in Berlin. Mentzel wrote a dedication to Friedrich III, and had the 599 pictures bound together with a frontispiece and other materials to form an impressive *Flora Japonica*.²⁵⁾ Several series of rough plant sketches by a Western hand went to Nicolaas Witsen (1641-1717)²⁶⁾ in Amsterdam and Jacob Breyn in Danzig (Gdansk).²⁷⁾ The gardener Georg Meister, Cleyer's companion in Japan and creator of an 'oriental garden' at the court of August der Starke in Dresden, published his own observations under the title *Der Orientalisch-Indianische Kunst- und Lust-Gärtner* (The Oriental-Indian Art- and Pleasure-Gardener).²⁸⁾ Many years before the appearance of Kaempfer's *Flora Japonica*, Meister presented the first detailed and illustrated description of a series of Japanese plants. His book was reprinted several times; however, as he addressed it to the general public in an unpretentious way using German instead of Latin, it never received due recognition among the scholars of that time. Some Japanese plants described in Cleyer's letters to Mentzel were published in the "Miscellanea curiosa medico-physica Academiae naturae curiosorum sive Ephemerides Germanicae" of the German "Collegium naturae curiosorum" (Leopoldina).²⁹⁾ These short, illustrated articles stimulated considerable general interest in Japan's plants but, as is shown below, they also caused some confusion.

Cleyer and Meister were both looking particularly for useful herbs and drugs, as Cleyer, a former head of the pharmacy in Batavia, had a keen interest in Asian substitutes for the expensive deliveries from Europe.³⁰⁾ Quite understandably, de Jager's memorandum contains a request for a Japanese herb book with illustrations of all the country's herbs, one or two camphor branches with blossoms or fruits, and some drawings of it in its natural colours.³¹⁾ Van Dam, who was well aware of interests in Batavia, had made similar requests in writing.³²⁾ The study of exotic plants was not only a source of pleasure for scholars and collectors: any discovery of a useful herb promised exorbitant profits. Therefore, pictures and dried samples were not enough. De Jager's memorandum calls for seeds of all herbs growing in Nagasaki and in gardens and naturally elsewhere. These were to be accompanied by a branch carrying blossoms or fruit, with their names in Dutch as well as in Japanese characters.³³⁾

Having conducted extensive studies in Persia, India and South-East Asia, Kaempfer was well prepared for his task. After a month's stopover in Siam, where he gathered information on the plants listed by van Dam,³⁴⁾ his ship continued on a stormy voyage and finally reached Japan on 23 September 1690. Kaempfer entered a country that distrusted Europeans and strove to control the flow of information between Japanese and foreigners. In his view, all sorts of limitations made the Dejima factory a kind of prison.³⁵⁾ However, there were hardly any obstacles when it came to botanical studies — but not because the Japanese considered botany to be a harmless science, as Kaempfer believed. They themselves had just begun to take a closer look at their natural resources. Since the 1660s, influential persons in Edo and Nagasaki had shown a growing interest in importing useful plants and seeds. They also hoped to receive hints from visiting Europeans about native plants, the benefits of which might be unknown in Japan. Annual excursions into the city and the surrounding mountains of Nagasaki by the

Europeans on Dejima, accompanied by a retinue of Japanese translators and various other personnel, served to collect herbs, and sometimes even discovered new ones. Kaempfer, too, participated in such activities.³⁶⁾

During his two journeys to the court at Edo in spring in 1691 and 1692, his Japanese companion, the representative of the Governor of Nagasaki, Asahina Sadanoshin (朝比奈定之進), who was obliged to keep the few Europeans under strict control, brought plants to Kaempfer and asked his opinion. Even the Governor Miyagi Tonomo Masazumi (宮城主殿和燈) had observed Kaempfer's botanical studies with great pleasure:

All our Japanese companions, and most of all the *bugyo* and his bailiffs, until the last day of our journey, brought me all the rare plants they could find and learned with diligence their correct names and properties from people familiar with them. The Japanese, as a reasonable people and exceptional specialists and lovers of plants, consider botany an innocent discipline, which according to the law of nations should not be obstructed or begrudged. Also, I have never encountered a foreign person anywhere in the world that hindered me in these studies, most of them being eager to promote them. Moreover, the secretary and highest councillor of the governor Tonomo once called me to his place on Dejima in his spare time and conveyed through senior interpreter Shingobe³⁷⁾ the following compliment: With great pleasure his master had heard from the *bugyo* Asahina Sadanoshin, that on the journey I had spent my leisure and found my pleasure in these lovely studies, which he (Tonemono) himself was fond of, and so forth.³⁸⁾

Understandably, Kaempfer acquired some idiomatic Japanese expressions to become more independent of the busy interpreters. He was able to ask when trees and herbs bloomed, when they carried fruits, when these ripened, and what their price was. He could ask someone to pass him a specific herb or to break off a

Table 1

Kaempfer's Japanese glossary		Transliteration
"Kono Xa [/] Ki wa itz fanano sakimaska	Dieses kraut/baum wannehr bluhet	この草 (木) はいつ花の 咲きますか
Koriwa faru ni nari masiti kara fana motzi mas.	dies, als fruhjar kompt, dan bluhmen tragt	これは春になりまして から花持ちます
Kori wa akini nari masiti kara, mi no nari massur	Er trecht im Herbst fruchte.	これは秋になりまして から実のなりまする
Itz mino nari masska	wannen tregts fruchte	いつ実のなりますか
Itz dzukus maska. geringer ist umi maska.	quando maturat	いつ熟しますか
Fa wa mo mina ootsimasta. Mina fawamo ootzi masta	folia deciderunt.	葉はもうみな落ちました みな葉はもう落ちました
Ikuiro gusarka. konō kiwa Tatta ftoiro gusarrimas.	Wie viele Sorten habt ihr von diesen baum. nur einer hand.	幾色ござるか、この木は たった一色ござります 二色、三色、四色
ftai iro, mi iro, jo iro	2, 3, 4 derley &.	
Toki dōki Wataxi ni ksabanna mote kité, kuda sarrimasce	bisweilen vor mir eine pflanze (gefast brennende) verehret.	時々私に草花持ってきて 下さりませ
Kono ki wa mino narimaska fana no sakimaska	tracht dieser baum frucht s. bluhmen	この木は実のなりますか 花の咲きますか
Kono ksa tote Jarasserre	dort da das Kraut gebt.	この草取っていらしゃい
Kono Jakusiu [/] Xawa nani ni tsikai maska [/] moziimas ka	wozu braucht man das Kraut (: mōtzii gebreuchlich:)	この薬種 [/] 草はなにに 使いますか [/] 用いますか
Dono Ksade gusarka surri surri it. sono xa	was Kraut das das.	どの草でござるか それ、それ その草

branch with blossoms.³⁹⁾

An investigation of Kaempfer's unpublished manuscripts brings up further hints. Parts of his botanical notes demonstrate that he worked very systematically using one or two pages for a single plant. We find a date at the head of many of these pages. Obviously it took him one day to collect the basic information on one or two plants. Sometimes further remarks were added later.⁴⁰⁾ In this research Kaempfer enjoyed the help of his young servant Imamura Gen'emon and two other interpreters, as can be seen from a short note. On 20 July 1691 Kaempfer was studying the ginseng root: "Tsiozin Nizin Gendemoni | Jamma Nidzin Itzrobei | Sadzin Sin-nemonis".⁴¹⁾ After removing the Latin flexions, one get as informants three persons: "Gendemon", "Itzirobe" and "Sinnemon". Imamura Gen'emon, Kaempfer's most important partner at Dejima, told him that ginseng was called chōsen ninjin (朝鮮人參), Korean ginseng. This Sino-Japanese name is still common today. Narabayashi Shin'emon alias Chinzan (榎林新右衛門, 鎮山), who enjoyed a great reputation as an expert in medical studies, contributed the term shajin (沙參). However, in his *Amoenitates Exoticae* (1712) Kaempfer explained correctly that the root "Sadsin" was used "by cheaters instead of the real ninjin".⁴²⁾ Ichirōbê knew a third term yamaninjin (山人參), literally mountain ginseng, later determined by Kaempfer to be a different plant ("Pastinaca sylvestris").⁴³⁾ During the second half of the seventeenth century there were two Ichirōbê working in the Dutch factory. One, the young apprentice Bata Ichirōbê (馬田市郎兵衛), was a son of the interpreter Bata Kurōzaemon (馬田九郎左衛門, ?-1724).⁴⁴⁾ The other, Tominaga Ichirōbê (富永市郎兵衛), was mentioned frequently in the factory diary from the 1660s, twice as chief interpreter in Edo.⁴⁵⁾ His signature can be found on a medical certificate that Arnout Dirkz issued for the physician Seo Shōtaku in 1667⁴⁶⁾ and on a glossary of plant names obtained from a European in the early 1670s.⁴⁷⁾ Tominaga's interest in medicine and related disciplines is obvious, but the Dutch factory diary as well as the

criminal register (*hankachō*) of the Japanese governor of Nagasaki reveal that he lost his job and one finger in 1677 because of his involvement in illegal business.⁴⁸⁾ This suggests that Bata Ichirōbē was one of Kaempfer's informants on botanical matters, at least once even providing plant samples.⁴⁹⁾

During his first year in Japan Kaempfer had to work without botanical literature. In a letter written in summer 1691 he explains that most of his time is used for botanical studies, but deplores this lack of herbal books. Nevertheless, he believes that he has covered all but "a hundred" of the unknown plants in the archipelago. He decided to stay for a second year at Dejima to investigate the remainder, as well as Japan's history.⁵⁰⁾ These lines suggest that the *Kinmōzui* (訓蒙図彙), a source used extensively in Kaempfer's *Amoenitates Exoticae* (1712), was acquired after this letter. This illustrated glossary of natural and man-made objects was the first of its kind in Japan and compiled by the Confucian scholar Nakamura Tekisai (中村惕齋, 1629-1702). In the parts (*maki*) dealing with plants, Kaempfer added numbers and sometimes transliterations of the headings. In his notes we find the numbers and names again together with an outline of Nakamura's explanations and other data gathered by Kaempfer.

The general level and scope of Kaempfer's botanical activities in Japan is proved by the fifth fascicle of the *Amoenitates Exoticae* (1712), which presents more than 200 plants as a *Flora Japonica*. Owing to financial problems, Kaempfer was able to print only 28 of his numerous plant drawings.⁵¹⁾ Many notes, as well as an impressive herbarium with dried specimens,⁵²⁾ remained unpublished.

Camphor

Scientific and economic interests are intrinsically intermingled in the field of Botany. Jacob van Dam and de Jager identified some plants and drugs that obviously drew considerable attention in Batavia and Europe. One was the camphor tree that delivered the

wood for the production of camphor.

In his edition of Kaempfer's *Flora Japonica* W. Muntzschik ponders why Kaempfer delivered such an extensive description of a tree that Europeans already knew from many reports.⁵³⁾ But Kaempfer had been asked to do so. For decades the Dutch East India Company had imported Japanese camphor (shônô, 樟腦) from the province of Satsuma in quantities that had once forced even the ruling house of Shimazu to impose a temporary prohibition on collection, because "the best and biggest trees were used".⁵⁴⁾ After the introduction of more efficient Korean techniques between 1711 and 1716, production was finally licensed and the trade controlled. Only the surplus went to the Dutch and Chinese merchants in Nagasaki.⁵⁵⁾ However, the quantities procured were still great enough to make camphor Japan's second largest export commodity and an important financial resource for Satsuma.

Quite understandably this tree appears in de Jager's memorandum:

"In Japan one should try to get one or two branches of camphor with blossoms and fruits together with a handful of separate blossoms and fruits and obtain a curious illustration in its colours."⁵⁶⁾

European naturalists before Kaempfer had written several treatises on camphor in the Far East. Hermann Nicolaus Grimm, once a chemist in Cleyer's Batavian pharmacy, published an illustrated observation "De Arbore Camphorae" in the ephemerides of the German Society of Naturalists (Leopoldina).⁵⁷⁾ From "Herrn Arent Silvii Rapport", written in Poulo Chinco in October 1680, Professor Michael Bernhard Valentini, one of Kaempfer's correspondents since 1689, took an illustrated description of the camphor tree for his *Museum Museorum* (1704).⁵⁸⁾ Silvius' Dutch manuscript is now housed in the Staatsbibliothek in Berlin.⁵⁹⁾ The Europeans carefully distinguished between the Japanese camphor tree (*Cinnamomum camphora* Sieb.) and the Baros or Borneo camphor (*Dryobalanops*

aromatica Gaertn.).⁶⁰⁾ The latter, although much smaller, was praised for delivering a much better product. Jacob Breyn, a merchant and plant lover in Danzig (Gdansk), admired an “Arbor camphorifera japonica” in the garden of “Mister Beverning” during his trip to the Netherlands in 1678.⁶¹⁾ The merchant and “East-Indian Councillor” Cornelisz van Outhoorn, Kaempfer’s superior at Dejima from 1691 to 1692, had a Japanese camphor tree in his Batavian garden that was mentioned in 1683 by de Jager in a letter to Eberhard Rumpf.⁶²⁾ Some remarks by Cleyer on the Japanese camphor tree (kusu-no-ki, 樟) in a letter to Mentzel were printed as an observation “De Arbore Camphorifera Japonensium Kusnoky dicta” in the ephemerides of the Leopoldina.⁶³⁾

During his stay in Nagasaki, Cleyer managed to collect information on the methods used by the Japanese to obtain camphor. His drawing of the tree, printed in the *Miscellanea Curiosa* and again in Valentini’s *Museum Museorum*, shows a Japanese sublimation vessel (Fig. 2), the only illustration of its kind in Western publications in the centuries that followed. Valentini summarizes Cleyer’s

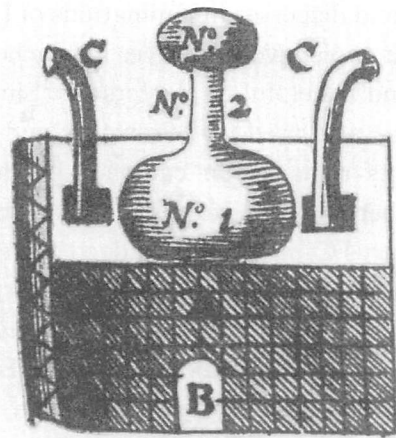


Fig. 2. Japanese apparatus for obtaining camphor: 1 vessel, 2 neck, 3 head, A oven, B burning chamber, C air pipe (From *Miscellanea Curiosa*, Dec. II, Ann. X, Obs. 37)

statements:

The Japanese take the roots and young twigs from the trees, cut them into very tiny pieces, boil them in a distilling vessel (N.I.) with water for forty-eight hours, until the camphor is sublimated and adheres to the cap (N).⁶⁴⁾

Although Kaempfer never had the chance to see this for himself, he describes the vessel and adds some details:

“The extraction of camphor is the task of peasants in the province of Satsuma and on the Gotō-Islands. They beat the roots and the wood into straw-thick pieces and boil them with added water in an iron vessel. From the big beak-like pottery lid (to avoid any cracking by steam pressure) put atop they gain the resin sublimated into the straw with which the lid is filled.”⁶⁵⁾

In 1704 Valentini summarized the opinions on the qualities of camphor. There were authors who thought camphor to be of a cold nature. Like other frigida, it was suspected to affect men’s virility: “Camphora per nares castrat odoere mares”. On the other hand, opponents pointed out that the camphor refiners in Venice sufficiently virile to father many children. According to Valentini, camphor prevents and disperses inflammations of the eyes and other parts of the body. It cools fevers, relieves headache and other pains, stops nosebleeds and is helpful in plasters etc. Since it burns under water, camphor was also used for “fireworks and waterballs”.⁶⁶⁾

In addition to his remarks on camphor extraction, Kaempfer contributed a number of botanical details about the camphor tree, which he called *Laurus Camphora*. He judged correctly the Japanese camphor tree to be different from the tree used for camphor production in Borneo and Sumatra (*Dryobalanops aromatica* Gaertn.), but thought the Cinnamon tree (*Cinnamomum cassia* Bl.) to be a species of the Japanese camphor tree.

Lacquer

In his memorandum, de Jager also asks for observations on the

paper tree and lacquer tree, and for samples of paper and lacquer, accusing Cleyer of having delivered a rather confusing description.⁶⁷⁾ Van Dam too felt the need for samples and an exhaustive description of “Cleyer’s lacquer tree”.⁶⁸⁾ In 1685 Cleyer had sent a letter from Nagasaki to Mentzel in Berlin. His remarks on the lacquer tree were promptly published in the *Miscellanea Curiosa*: “De Arbore laccifera Japonensi Fasnoky sive Namra”. De Jager’s and van Dam’s judgement on Cleyer’s outline is correct. The description is vague in many parts, and the illustration offers barely a clue to distinguish the lacquer tree from other Japanese trees.⁶⁹⁾

Cleyer’s companion in Japan, Georg Meister, published his own thoughts about the “Arbor Varschnocy or Numra, item Uruschnocy” in *Der Orientalisch-Indianische Kunst-und Lust-Gärtner*.⁷⁰⁾ Both used the term Namrak, which came from Siam and depicted a South-East Asia lacquer-tree species. As well, they both knew the Japanese names *urushi-no-ki*⁷¹⁾ and *haze-no-ki*.⁷²⁾ As trade relations between the Dutch factory in Ayutthaya and its counterpart in Nagasaki were quite close, at least one of the ships annually leaving Batavia for Japan made a stop in Siam to take on board commodities for the Japanese market. Kaempfer used these weeks in Ayutthaya to explore the city and its surroundings. Shortly after his arrival in Japan, on 20 October 1690, he wrote a letter to Jacob van Dam reporting the results of his explorations in Siam. Here we find some clarifying remarks on the subject of Namrak:

“As for the tree of Nam Rak, its home too is not located in this country but in Cambodia, in a province of this empire by the name of Corsama, that lies at a distance of one month from the Siamese capital Ayutthaya. Its name is as follows: Rak is the actual name of the plant, Tonj means tree in general, therefore they usually call this tree Tonj Rak. Nam means juice in general; therefore the juice of the tree, that serves as lacquer, is called Nam Rak. Luk designates any fruit; therefore the fruit of this tree is called Luk Rak. And this Luk Rak is in fact the fruit

of the tree *Anacardus*, *Anacardinum*, which is part of the composite medicament named *Anacardina*. The same fruit is used in Coromandel and in Malabar to dye linen.⁷³⁾

Lacquer-work from Southeast Asia was well received by Europeans; however, Japanese lacquer-work excelled in the quality of its craftsmanship and materials. Many years later, when Kaempfer wrote his manuscript *Heutiges Japan*, he considered the Japanese lacquer-tree as the most noble plant of that empire, and tried to bring order into the cacophony of opinions and reports:

The noblest tree of this country no doubt, is the Urushi or lacquer tree. With its milk the wooden furniture and all table-dishes of this country are covered, as well, so that poor and rich use it, even the imperial court prefers the lacquered dishes to the silver and golden ones. Another wild sort called Haze has narrow leaves, grows in hedges and mountains without exception, however, it only gives little and bad milk and therefore, is almost not collected. The Urushi tree is a special tree; it flourishes nowhere else than in the province Yamato, but occasionally may be found in Higo and Shikoku as well. I judge the Indian lacquer tree to be of another genus, to be the true *Anacardinus* tree. It is called by the Siamese Rak-tree.⁷⁴⁾ At several places of India⁷⁵⁾ it produces its fruits, but on the west side of river Ganges, maybe because of lack of knowledge among local people or the quality of soil, it does not give its juice. This juice from Siam and Cambodia is brought to the whole of the East Indies and even to Japan at low prices. Here it is only used for low quality dishes or as a base of their own rare and much better lacquer.⁷⁶⁾

The lacquer tree was also used for medicinal purposes, as Valentini pointed out:

“In medicine lacquer resin is praised to be useful internally to open up constipated tiny liver- and spleen-vessels and the treatment of related illnesses such as dropsy. That’s why doctors of

the Ancient School had developed and applied “Trochiscos de Lacca”. Nowadays lacquer resin is mostly used against bleeding and scurvy of the teeth. For this purpose the Mynsichti R. Laccae or the lacquer-tincture is very effective, as can be read in Ettmueller’s detailed treatise.”⁷⁷⁾

In his *Amoenitates exoticae* Kaempfer wondered why lacquer was not brought to the Netherlands (“Belgium”) and pointed out that it could be kept usable by mixing it with oil gained from “Abrasin” (aburagiri), one of the several species of Tung oil trees (Aleurites).⁷⁸⁾

Ambra

Next we find in de Jager’s memorandum a request for information on ambra, which is collected in Japan, and whether it is pus from a certain swelling of the whale, as ten Rhijne had been made to believe.⁷⁹⁾

Ambra (<Arab. anbar) is a waxy, pleasantly smelling, and cholesterol-like by-product of metabolism, mainly from the intestine of sperm whales. In Kaempfer’s time, its true nature was not yet understood. French “materialist” Pierre Pomet wrote that he could publish a whole book if he wanted to present all the assumptions about its origin. In his opinion, ambra was a beehive-like substance, fallen from cliffs into the sea and then refined by salt water. Physicians used ambra as a stimulant and against cramps. “Materialists” distinguished black ambra (ambra nigra) from the grey variety (ambra grisea),⁸⁰⁾ the latter being the linguistic root of the term ambergris or ambergrease.

Whales were plentiful in many seas. The strong Batavian interest in Japanese ambra was influenced by the already highly organized whaling industry in Japan, through which ambra frequently came onto the market. The principals of the Dejima factory occasionally mentioned large specimens of one hundred pounds and more in their diaries. Renowned naturalist Georg Eberhard Rumpf, responding to

ten Rhijne in a letter from Amboin dated 20 August 1687, repeated his opinion that ambra might be a fatty substance coming from the sea-bottom, initially tender and ductile, then increasingly hardened by salt-water. He added some observations about black ambra, but apparently even for this usually well-informed naturalist the situation was still confusing.⁸¹⁾ Andreas Cleyer, who in 1685 returned from his second stay in Japan, had seen a North-caper from which ambra grisea was taken. According to him it was a resin that whales swallowed from the bottom of the sea. When Mentzel published Cleyer's report and his drawing in the ephemerides of the Leopoldina, its president, Dr. L. Schroeck, immediately added a "scholium" expressing strong doubts.⁸²⁾ In 1694 a ship of the Dutch East India Company brought to Amsterdam an ambergris specimen of 182 pounds. Valentini writes that it was more valuable than gold,⁸³⁾ which explains why de Jager and others in Batavia were interested in more precise information on the subject.

Chinese physicians believed ambra to be the hardened saliva of dragons (Chinese *lóngxiānxiāng*, Sinojapanese *ryūsenkō*, 龍涎香). In Kaempfer's notes on "Aromata and Simplicia", we find the quite prosaic Japanese denotation whale excrement ("Kusira no fūn", 鯨の糞).⁸⁴⁾ Kaempfer also studied Japanese whaling techniques. As a son of the aged interpreter Yokoyama Yosoemon was a whaler, presumably much information came from this source. The results of Kaempfer's explorations were summarized in a treatise "Ambra Vindicata" included in the *Amoenitates Exoticae* (1712).⁸⁵⁾ Kaempfer was not partial to Pomet's idea of beehives. He reached a similar conclusion to Rumpf, that ambra was torn off the sea-bottom and floated to the beaches or was swallowed by whales. Furthermore, a very experienced Japanese physician had told him a "secret empowering usage":

Take as much as you please of crude opium, put it into a piece of linen, and suspend it in the smoke [= vapour] of boiling hot water, what sweats out of the linen, and sticks to the outside,

affords the best and purest opium. Take this substance, mix it with twice the quantity of Ambergris, and make it up into small pills. A few of these pills taken inwardly, at night before you go to bed, are said to be an excellent stimulating medicine in that case.⁸⁶⁾

Kaempfer preferred to give such delicate recommendations only in Latin; they are omitted from his German manuscript *Heutiges Japan*. However, here Kaempfer explains in detail how to identify fake ambra, since it was often imitated or diluted by additives:

Ambra is found in small amounts in Satsuma and Ryukyu, more frequently at the shores of Kumano (that is the southern sea near Kii, Ise etc.) and most often in the intestines of a whale, which is caught near Japan, and called from the length of its intestines *hyaku hiro*, that is 100 fathoms. There ambra is associated with chalky, almost rock hard excrements, which are especially found in the lower intestines, that appear when these are cut open, indicating the presence of ambra. The unsavoury location has inevitably given this noble earthy product the name of *kujira no fun* [“*Kusira no fun*”], which means whale dung. When ambra has been just torn by the waves from the bottom of the sea and flushed to the shore, or when whales swallow it, it is soft, shapeless, flat, slimy almost like a cowpat, and of an unpleasant smell. Those who find it frequently shape it into a round ball, or compress several small pieces into a large lump, by which it changes into a denser and heavier substance. Others know how to knead rice-husk powder into fresh ambra, making it bigger and heightening the colour of the black ambra. This addition, however, brings worms into the ambra, and is easily discovered because of coal remnants when burned. Others mix it with powdered, aromatic resins, which can be detected by the smell of the smoke. The Chinese detect both additions by using hot tea water. When ambra is finely scraped on the water it does not spread sufficiently. The locals use ambra only as an addition

to other pleasant-smelling substances or things, to retain the volatile odour, as they explain. It would have received little attention among them, if the foreigners had not taught them its value by paying for it highly. Everybody is at liberty to pick it up wherever he finds it and to sell it as his own property. When we were there, someone had a piece of grey ambra weighing 140 catties. As it was not allowed to be bought by a single person, it was divided and traded to various persons for sixty to seventy taels per catty. I have bought the black ambra there for thirty taels.⁸⁷⁾

Conclusion

We have discussed the medico-pharmaceutical requests in van Dam's and de Jager's memoranda and their background. As has been shown above, Kaempfer's plan to conduct research on Japan was born in Batavia after other plans to settle down had failed. His application for the post at Dejima was supported by old and new friends. Many of them were motivated to help him out of this impasse not only through friendship. They also saw in him a scholar capable of conducting extensive research on problems in which they had an interest. As in many other aspects of Kaempfer's Japan project, his investigations concerning Japanese plants and drugs were strongly influenced by questions that had circulated among curious men in Batavia and their friends in Europe. Kaempfer, who before his arrival in Batavia knew virtually nothing about Japan, obviously established a link into this circle. His descriptions of plants and drugs in the *Amoenitates Exoticae* and his manuscript *Heutiges Japan*, as well as his notes, clearly indicate that he was fully aware of the current state of knowledge. As three examples of plants and drugs considered by his partners to be of special importance show, Kaempfer was not a lone pioneer on uncharted paths. His research and his writings fit neatly into the context of previous publications and questions. On the basis of the information that he

collected in Japan, he attempts to arrange, to clarify and, as far as possible, to add new details. Even when he does not explicitly refer to specific persons, he nevertheless reacts to their opinions.

References

- 1) For the results of these symposia, see Haberland, D. (ed.): *Engelbert Kaempfer-Werk und Wirkung*. Steiner, Stuttgart, 1993.
- 2) Haberland, D., Michel, W., Gössmann, E. (eds.): *Engelbert Kaempfer. Kritische Ausgabe in Einzelbänden*. Iudicium, München. 2001. Hereafter abbreviated EKW.
- 3) Michel, W.: *Engelbert Kaempfer und die Medizin in Japan*. In: Haberland, D. (ed.): *Engelbert Kaempfer — Werk und Wirkung*. Steiner, Stuttgart, 1993, 248-293.
- 4) Haberland, D. (ed.): *Engelbert Kaempfer, Briefe 1683-1715*. EKW 2, 2001.
- 5) *Amoenitates Exoticae*, Praefatio, n.p.: “Tandem à dimissa Legatione me expediens, cogito in Ægyptum, vocor in Georgiam archiater, & variis conditionum oblationibus lacessor [...]”
- 6) Letter to Tunkelfeld written by Kaempfer in Isfahan, 1.10.1685 (British Library, Sl 3063, fol. 130r), edited by Detlev Haberland in EKW 2 (*Briefe 1683-1715*), 229.
- 7) For more on Kaempfer's application and his complaints see his letter to Nicolaas Witsen written at Dejima (summer 1691). EKW 2, 410, 416.
- 8) Probably Diego Collado's *Dictionarivm sive Thesavri Lingvae Japonicae* (Rome, 1632). Kaempfer returned it to Jacob van Dam from Dejima in 1691 together with a letter. EKW 2, 421-426.
- 9) Mentioned in his manuscript “Heutiges Japan”. EKW 1/1, 44.
- 10) For more on this subject, see Michel: *Zur Erforschung Japans durch Engelbert Kaempfer*. EKW 1/2, 73-141.
- 11) In Kaempfer's collection, we find some letters written for Cleyer by Kaempfer. For more on this matter, see Michel, EKW 1/2, 98.
- 12) The most important letter of Cleyer in this respect has been edited by Michel, W.: *Ein Ostindianisches Sendschreiben — Andreas Cleyers Brief an Sebastian Scheffer vom 20. Dezember 1683*. *Dokufutsu Bungaku Kenkyû*, 41, 15-98, 1991.
- 13) For more on ten Rhijne, see J.M.R. van Dorssen, Willem ten Rhijne. *Geneeskundig Tijdschrift van Nederlandsch Indie*, 51, 134-228, 1911. Michel, W.: *Willem ten Rhijne und die japanische Medizin (I)*. *Dokufutsu Bungaku*

- Kenkyū. 39, 75-125, 1989.
- 14) Buschoff's booklet *Het Podagra* was published in Amsterdam in 1675. Two years later, a German translation caused a lively debate among the members of the Leopoldina. Of course Cleyer, as the head of the pharmacy in Batavia, was asked for a clarification. For more on that subject, see Michel, W.: *Hermann Buschof—Erste Abhandlung über die Moxibustion in Europa*. Haug, Heidelberg, 1993.
 - 15) For more on this subject, see Michel in *EKW* 1/2, 129ff.
 - 16) British Library, Sl 2910, fol. 207r-207v: "Memorie voor Mons^r Engelbert Kempfer, in 't bestellen, procureren [...] van eenige zaken in Siam en Japan, zoo zijn E. die moege belieft te nemen."
 - 17) British Library, Sl 2910, fol. 207v: "uit Japan het alphabeth van die natie, en maniere van lezen aan my te schicken. Item van daar monsters en den volkomen bescheid van d' E. Cleyers namrakboom, met den accurate beschripte dor campher-plant, voornam. In zijn bloem den . . . als mede van de The-bloem, zovaend' ook en nar . . . te doen, hoedanich . . . gelegen is, in 't regard van de distinctie, die Dr ten Rhijne . . . de Camphora baccifera od non baccifera maakt. Een de doch naar de boom, die de H^t ten rhijne zeed dezelve met die van de codda panna Domini van rheede te zijn, met een . . . examinatie en descriptie van dezelve. Item het zelve t' observeren ontrent de plant van de wortel nisij, zulx vor de comminantis van t' selve . . . meestich geobligeerte woren."
 - 18) British Library, Sl 3063, fol. 71v-76v (edited in Haberland, D.: *EKW* 2, 359ff.) and Sl 3063, fol. 86v-87v (ditto, 421ff.)
 - 19) For van Dam's biography, see Molhuijsen, Ph. Chr. and Blok, P.J.: *Nieuw Nederlandsch Biografisch Woordenboek*. Kossman, 1911-1937, Vol. 1, Col. 677f. Further data can be found in the Dutch Nationaal Archief (former Algemeen Rijksarchief), VOC No. 828
 - 20) Terwiel, B.J.: *Kaempfer's Siamese Papers — An Introduction*. Engelbert Kaempfer Werke 3. Iudicium Verlag, München, 2003 (in print).
 - 21) "Memorie van eenige boeken en andere zaken, die den Opper-Coopman Herbert de Jager aan zijn E.E. de H^t Hendrik van Buitenheim, Opperhoofd van de Nederlandse Compe^s voortreffelijke Negotie in Japan, in alle gedienslicheid verzoekt, dat believe gedachtich te zijn, om dezelve aldaar te procureren, en t'inquireren". British Library, Sl 3064, fol. 50r-51v.
 - 22) Weger-Klein, K.E.: Engelbert Kaempfer, botanist at the VOC. In: Haberland (ed.), *Engelbert Kaempfer—Werk und Wirkung*. 39-60.
 - 23) Kornicki, P.F.: *European Japanology at the End of the Seventeenth Century*.

Bulletin of the School of Oriental and African Studies. University of London. LVI, Part 3, 502-524, 1993.

- 24) British Library, SI 2910 ("Miscellanea de rebus Asiaticis"), fol. 293r-294r. First published in Michel, W.: Zur Erforschung Japans durch Engelbert Kaempfer. EKW 1/2, 129ff.
- 25) Flora Japonica, Sive Flores Herbarum & Arborum praecipui totius serè vasti Insularum Imperii Asiaticia Japan dicti, ab ipsis barbaris incolis Japonensibus ad vica florum Exemplaria coloribus suis nativis penicillò depicti [...] â Clariss. DN: Andrea Cleyero [...] ad me per literarum commercium hu transmissi. [...] Anno Christi MDC XCV. Kept by Staatsbibliothek Preussischer Kulturbesitz, Berlin (Libri picturati A 41/42).
- 26) One of Witsen's sets contains 81 coloured drawings with their Japanese names and notes written in Dutch. It is now kept in the British Library (Add. MS. 5018). Another set from his legacy showing more than 1400 plant drawings is to be found in the Bodleian Library in Oxford (MSS. Sherard 253-255). For more information, see Wolfgang Muntshik: Ein Manuskript von Georg Meister, dem Kunst- und Lustgärtner in der British Library, *Medizinhistorisches Journal*. 19 (Heft 3), 225-232, 1984.
- 27) Breyn expressed his gratitude for a series of about 300 plant drawings in: *Jacobi Breynii, Gedanensis, Prodrum Fasciculi rariorum plantarum [...] Accedunt Icones rariorum et exoticarum plantarum [...].* Schreiber, 1689, 27, 98, 101f.
- 28) *Der Orientalisch-Indianische Kunst- und Lust-Gärtner [...] auch Vermittelst unterschiedlicher schöner ins Kupffer gebrachter Indianischer Figuren/von Bäumen/Gewächsen/Kräutern/Blumen und Nationen entworfen und fürgestellt durch George Meistern [...].* Dresden, 1692.
- 29) A complete list is given in Michel, W.: Ein 'Ostindianisches Sendschreiben'. Andreas Cleyers Brief an Sebastian Scheffer vom 20. Dezember 1683. *Dokufutsu Bungaku Kenkyû*. 41, 15-98, 1991.
- 30) Kraft, E.: Andreas Cleyer. *Tagebuch des Kontors zu Nagasaki auf der Insel Deshima 20 Oktober 1682-5 November 1683.* *Bonner Zeitschrift für Japanologie*, 6, 34ff., 1985.
- 31) British Library, SI 3064, fol. 51r: "item zoo werd gewenscht, dat zijn E.E. liefde gedachtich te zijn, om te verzorgen een Japanse Herbarium, mede in voorsz: lijst ter neder gestelt, waar in alle kruiden van dat land met hare figuren afgebeelden bezz: werden."
- 32) British Library, SI 2910, fol. 207r
- 33) British Library, SI 3064, fol. 51r: "ingevale zijn E.E. alle zaden van alle

kruiden, die ontrent nangasakki en elders anders, zoo in de tuinen, als in het wild groeijen, beliefd te laten verzamelen, en daar benevens een takjen van ijder met zijne blomen, vruchtjens etc. dede in-leggen, met bij-schrijving van ijders naam zoo in onze, als in de Japanse letters, het zelve zoud' een bijzondere verpflichting geven, zullende met het toe zenden van diergelijke zaden aan de H^t van Marseveen en andere grooten H^{en} van ons land ook en bijzondere courtoisije en dienst geschieden."

- 34) British Library, Sl 3063, fol. 71v-76v (EKW 2, 359ff.)
- 35) He explicitly used the term "claustrum" in a letter to Jacob van Dam (British Library, Sl 3063, fol. 87r; EKW 2, 422).
- 36) British Library, Sl 3060, fol. 245r (EKW 1/1, 271)
- 37) Narabayashi Shingobe alias Chinzan (榊林新五兵衛). For more on this translator, well versed in Western medicine, see Michel, W.: Zur Erforschung Japans durch Engelbert Kaempfer. EKW 1/2, 84-86.
- 38) British Library, Sl 3060, fol. 272r (EKW 1/1, 271): "alle Japanische Gefehrten, aller meist der bugjo mit seinen heschern haben mir bis auf den letzten tag unser reise, was ihnen rares von pflantzen vorgekommen, mir zu ge bracht, und den wahren Nahmen und Character von kündigen leuten mit fleiß erforschet. So halten auch die Japaner, als vernünftige Menschen und besondere kenner und liebhaber der pflantzen, die Botanike vor ein unschuldiges studium, welches man nach dem Recht der Volker keinem wehren oder invidiren müße; habe auch nirgend in der welt bey fremden volckern angetroffen, die mir in diesem Studio hinderlich gewesen wahren, als die meist schuldig wahren, daßelbe zu beforderen. Er hat auch eins der Secretarius und Obrister Raht des Gouverneurs Tonnemo mich bey müßiger Zeitt auf seinen Sitzplatz in Desima laßen ruffen, und durch den Ober tolmetsch Sinkobe mit folgendem Cõplement beehret: das sein Herr von dem bugjo Asagina Sindaa nosin mit sonderem Gefallen gehöret hätte, Wie ich meine Zeitt vertreib und plaisir auf der reise genommen in diesem lieblichen Studio, deßen Er (: Tonnemo:) selbst ein lieb haber wehre etc."
- 39) British Library, Sl 3062, fol. 372r/v
- 40) British Library, Sl 2915, fol. 14ff.
- 41) British Library, Sl 2915, fol. 89v
- 42) Kaempfer, E.: *Amoenitates Exoticae*. Meier, Lemgo, 1712, Fasc. V, 822
- 43) *Amoenitates Exoticae*, Fasc. V, 822
- 44) Nationaal Archief, NFJ 103 (Dagregister Dejima), 67, 117. Nichiran-Gakkai (ed.): *Yōgakushi jiten*. Yūshōdō, Tōkyō, 1984, 569
- 45) Katagiri, K.: *Oranda-tsūji no kenkyū*. Yoshikawa Kōbunkan, Tōkyō, 1985,

52f., 212f.

- 46) Koga J., Nagasaki yōgakushi, 2. Nagasaki bunkensha, Nagasaki 1967, 180f.
- 47) Kyōto University Library, Fujikawa Collection: Yakusō no na narabini wabun no hikae (薬草ノ名並和文抄).
- 48) Nationaal Archief, NFJ 91 (Dagregister Dejima), 31.10.1677; Morinaga, T. (ed.): Hankachō. Nagasaki bugyosho hanketsu kiroku. Nagasaki Gakkai, Nagasaki, 1956, I, 33.
- 49) British Library, SI 2915, fol. 99v (26 July 1691)
- 50) Letter to Jacob van Dam (Dejima, summer 1691), SI 3063, fol. 86v-87v; edited in EKW 2, 421ff.
- 51) Hinz, P., Holler, U. and Hoppe, P. (eds.): Zeichnungen japanischer Pflanzen. EKW 3, in print.
- 52) Hinz, P.: The Japanese plant collection of Engelbert Kaempfer (1651-1716) in the Sir Hans Sloane Herbarium at the Natural History Museum, London. Bulletin of the Natural History Museum London (Bot). 31 (1), 27-34, 2001.
- 53) Muntshik, W.: Engelbert Kaempfer, Flora Japonica (1712). Reprint des Originals und Kommentar. Steiner, Wiesbaden, 1983, 4.
- 54) Nationalarchief, NFJ 53 (Dagregister Hirado), 15.9.1633
- 55) Tomita, H.: Hakurai jibutsu kigen jiten. Tōkyō, 1987, 169f. (富田仁『舶来事物起源辞典』). Minaminihon Shinbunsha: Kagoshima dai hyakkajiten. Kagoshima 1981 (南日本新聞社『鹿児島大百科辞典』). Sōda, H.: Nihon seiyaku gijyutsushi no kenkyū. Yakuji Nippōsha, Tōkyō, 1965, 24ff. (宗田一『日本製薬技術史の研究』薬事日報社).
- 56) British Library, SI 3064, fol. 51r: “desgelijx verzoeken van daar ook een taksken of twee van de camphur-boom, met hare bloemen of vruchten daar aan, nevens een hand vol bloemen en vruchten apart, met een curieuse aftekening van dezelve in hare couleuren.”
- 57) Miscellanea Curiosa, Decuria II, Annus I, Observatio 153. Here Grimm calls ten Rhijne his friend (“Amicus meus”).
- 58) Valentini, M.B.: Museum Museorum Oder Vollständige Schau-Bühne Aller Materialien und Specereyen. Frankfurt am Main, J.D. Zunner, 1704, 89f.
- 59) Staatsbibliothek Preussischer Kulturbesitz, Berlin (Ms. lat. fol. 95, fol. 8-9).
- 60) For more on Borneo camphor, see van Gorkom, W.: Oost-Indische Cultures. Deel 3, Amsterdam, 1919, 444ff.
- 61) Engelbert Kaempfer. Flora Japonica (1712). Reprint und Kommentar von Wolfgang Muntshik. Steiner, Wiesbaden, 1983, 41.
- 62) Valentini, M.B.: Ost-Indianische Send-Schreiben/Von allerhand raren Gewächsen/Bäumen/Jubelen [...] Von D. Michel Bernhard Valentini/Hoch-

- Fürstl. Hessen- Darmstädtischen Archiatro, Prof. Ord. zu Giessen und Academico Curioso. Frankfurt am Main. 1714 (2nd ed.), 14.
- 63) *Miscellanea Curiosa*, Dec. II, Ann. X, Obs. 37: D. Andreae Cleyeri. De Arbore Camphorifera Japonensium Kusnoky dicta.
- 64) Valentini, M.B.: *Museum Museorum oder Vollständige Schau=Bühne Aller Materialien und Specereyen*. Zunner, Frankfurt am Main, 1704, 359f.: “Es nehmen die Japonier die Wurtzel und junge Aestlein von den Bäumen/schneiden sie in gantz kleine Stücklein/kochen solche in einem destillir-Kessel N.I. voll Wasser achtundvierzig. Stunden lang/da alsdann der Campfer sich sublimiret und sich oben in dem Hut N. zwei anhänget.”
- 65) *Amoenitates Exoticae*. 772. For more on the production of camphor in Japan, see Sôda, H.: *Nihon seiyaku gijutsushi no kenkyû*, 24ff.
- 66) *Museum Museorum*, 361.
- 67) British Library, Sl 3064, fol. 51r: “item dit ook t’observeren ontrent de papier-boom, en de Namrak-boom, waar van de H^l Kleijer zeer verwart gesz: heeft, verzoekende daar nevens ook een monster van dat papier, en van die gomme of traan”.
- 68) British Library, Sl 2910, fol. 207v: “Item van daar monsters en den volkomen bescheid van d’E. Cleyers namrakboom”.
- 69) *Miscellanea Curiosa*, Dec. 2, Ann. 4, Obs. 40.
- 70) *Der Orientalisch-Indianische Kunst- und Lust-Gärtner*. 152.
- 71) Urushi-no-ki (漆樹) literally means lacquer tree. Botanically this is *Rhus verniciflua* Stokes.
- 72) Haze was used for trees now called yamahaze (*Rhus silvestris* Sieb. et Zucc.) or yama-urushi (*Rhus tripocarpa* Miq.). Present-day haze (*Rhus succedanea* L.) was brought from Ryûkyû to northern Kyûshû by the merchant Kamiya Sôtan (神谷宗湛, 1553-1635). From there, it gradually spread over the Japanese archipelago.
- 73) *EKW* 2, 360, 369: “Auch für den Baum Nam Rak ist dieses Land nicht seine Heimat, sondern Kambodscha, und zwar die Provinz dieses Reiches namens Corsama, die von der Hauptstadt Ajuthia einen Monat entfernt liegt. Seine Benennung lautet folgendermassen: Rak ist der eigentliche Name des Gewächses, Tonj bedeutet Baum im allgemeinen, daher nennen sie diesen Baum gemeinhin Tonj Rak. Nam bedeutet generell Saft; daher heisst der Saft des Baumes, der als Lack dient, Nam Rak. Luk bezeichnet jede beliebige Frucht; daher heisst die Frucht dieses Baumes speziell Luk Rak. Und dieser Luk Rak ist wirklich die Frucht des Baumes Anacardus, Anacardinum, genannt, die Bestandteil des zusammengesetzten (Heil-)Mittels ist,

das nach ihr Anacardina heißt. Dieselbe Frucht wird in Choromandel und in Malabar verwendet, um Leinen zu färben."

- 74) *Melanorrhoea usitata* Wall., a tree in Siam, also used for the production of lacquer.
- 75) In Thailand, several plants are called rak. The edible fruits lukrak are taken from *Semevarpus cassuvium*, whereas lacquer is gained from *Malanoorhæa usitata*.
- 76) British Library, SI 3060, fol. 93r/v (EKW 1/1, 93): "Vor den Edelsten Baum dieser landen passiret wol der Urusj oder Vernis Baum, mit deßen Milch daß höltzerne haußbraht und alles tafel geschier dieser landen uber zogen und verlackt wird, so wol, welcher sich arme alß reiche, ja der Keiserliche hoff selbstn bedienet, welcher die verlackte gefäße denen silbernen und güldene weit vorziehet. Eine andere wilde sorte, Faasj genant, hatt schmähle blatter, wechst durch gehends in hecken und bergen, gibt aber wenige und schlechte milch und wird dannenhero fast nicht gesamlet. Besagter Urusj Baum ist eines besonderen, und diesen lande eigenen Geschlechts, und will sich schier in keiner anderen alß der provintz Jamatto zu diesem gebrauche an ziehen laßen, fällt doch auch in Figo und hin und wieder in Tzikoku. Den Indischen vernis baumhabe ich befunden eines gantz anderen Geschlechts, und den wahren Anacardinus Baum zu seyn, Bey den Siamern Rak Baum genant, welcher an mehreren Örtern Indiens seine fruchte, aber auff der west seite der ganges, es sey auß Unkünde der Einwohner oder beschaffenheit des Erdgrundes seinen safft nicht mittheilet. Es wird derselbe auß Siam und Cambodia durch gantz Indien, auch selbst in Japan wol feil angebracht, und hier selbst nuhr zu schlechten gefäßen, oder zum grunde ihres einheimischen als raren und weit schöneren Vernißes verbraucht."
- 77) Valentini, M.B.: Museum Museorum, 398: "In der Artzney wird es innerlich zu Eröffnung der verstopfften Leber und Miltz-Äderlein und daher geleiteten Kranckheiten, als Wassersucht und dergleichen gerühet, weswegen die Alten ihre Trochiscos de Lacca erfunden und verschrieben haben. Heutiges Tages aber wird es meistens gegen das Bluten und Scharbock der Zähne gebraucht, worzu das Mynsichti R. Laccae oder Lac-Tinctur sehr heilsam ist, worvon Etmüllerus weitläufftig handelt."
- 78) *Amoenitates Exoticae*, 793f.
- 79) British Library, SI 3064, fol. 51r: "ik bidde zijn E.E., dat eens naukeurich believe te vernemen naar de Ambre de gris, hoedanich dezelve ald^e gecoligeerd werd, en of het selv' ook een etten van een zeker gezwel aan de walvissch zij, zoodanich als aan de H^e ten Rhijne wijs gemaakt is, 't welk mij

gantsch niet waarschiynlijk dunkt.”

- 80) Pommet, P.: Der aufrichtige Materialist und Specereyhändler Oder Haupt- und allgemeine Beschreibung derer Specereyen und Materialien. Georg Weidmann, Leipzig, 1717, Col. 551
- 81) This letter is published in Valentini, M.B.: Ost-Indianische Send-Schreiben/ Von allerhand raren Gewächsen/Bäumen/[...] Durch Die Gelehrteste und Berühmteste Europäer/So vormahlen in Ost=Indien gestanden [...]. Zunner, Frankfurt am Main, 1704, 44 (“Georg. Eberh. Rumphii Send-Brief an Herrn Herbertum de Jager”).
- 82) *Miscellanea Curiosa*, Dec. 2, Ann. 8, Obs. 21 (“D. Andreae Cleyeri. De Cetominore ambrophago”).
- 83) *Museum Museorum*, 477.
- 84) British Library, Sl 3062, fol. 327r/v
- 85) *Amoenitates Exoticae*, Fasc. III, Obs. XIV, 632ff.
- 86) Kaempfer, E.: *The History of Japan*. London 1727, Vol. 2, Appendix, 51f.
- 87) British Library, Sl 3060, fol. 91v-92r (EKW 1/1, 90f.): ”Ambar wird gefunden bey Satzuma und Riuku, doch wenig, häufiger an den ufern Kumano (: ist die Süd see bey Kii, Jsje et.): am meisten in den gedermen eines walfisches welcher ümb Japan gefangen wird, und Fiakfiro [百尋], daß ist 100 Klaffter, von der länge seiner gedermes genant ist. In demselben befindet er sich vergesellschaftet mit kalkichten fast stein harte excrementen, welche sich in sonderheit in den untersten gedermen häufig sehen laßen, und im auf schneiden zu erkennen Geben, das Amber verhanden sey. Der unflätige Ort hat diesem Edlen Erdschafften den Nahmen gegeben, daß Er nicht anders alß Kusura no Fu [= kujira no fun], daß ist, walfischdreck, genant wird. Der Amber wan er zu erst aus dem grunde der See durch die wellen abgerißen und aufs ufer gespühlet, oder von den wal fischen verschlucket wird, ist er weich unformig, plat, schleimig fast wie ein Kuh fladen, und eines unlieblichen Geruchs: wird alß dan öffters von seinem Finder in einen runden ball, oder verscheidene kleine stücke zu einer grosen Masse zu samen gedrückt, wodurch es zu einer deichteren und wichtigen Substantz wird. Andere wißen den frischen Amber mit Reiß hülßen Meel durch zu kneten, wodurch er größer gemacht, und der schwartze zu einer höheren farbe gebracht wird. Es ladet aber dieser Zusatz den wurm hinein, und wird durch eine nach gelaßene Kohle beym abrauchen leicht erkant. Ander untermischen alß dan zu pulver gemachte wolriechende haartze, welche durch den geruch ihres rauches sich zu erkennen geben. Beyderley Zusätze erkennen die Sinesen durch ein heißes Tee waßer, wan es sich, fein darüber geschabet nicht

gnugsam vertheilet. Amber wird von den Einwohnern anders nicht gebraucht, alß zu einem Zu satz andere wolrichenden Species oder sachen, umb den flüchtigen Geruch, wie sie sprechen, an zu halten. Solte auch wenig bey Ihnen geachtet werden, wan nicht die ausländier ihnen den wehrt, durch theüre bezahlung, gelehrt hätten. Einem Jeden stehet frey den selben auff zu heben wo Er ihn findet, und vor sein eigen zu verkauffen. Bey unserem Verbleib daselbst, hatt man ein stück von 140 Cattÿ grauen amber gehabt, welches, alß es einzelen persohnen zu kauffen nicht angestanden, ist es zertheilt, und in 60 biß 70 theil ein Catti an verschiedene persohnen verhandelt. Die schwartzliche habe ich daselbst zu 30 theil eingekauft.”