

Local Environmental Knowledge, Cultural Go-Betweens and Linnaean Scientists in Dutch Colonial World

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Abstract:

The aim of early modern natural historians was a universal system of classification encompassing the natural resources of the whole world. The only feasible way to write global natural histories was through networks of collectors. The creation of the Linnaean Taxonomic system was achieved through a knowledge network that included correspondents and field workers sent out to explore the natural resources of different parts of the world. Although historians of science have remarked on Linnaeus' and his students' proclivity to rely on local knowledge and adopt its elements, for the most part this historiography is a celebration of European conquest over nature. This chapter examines how Linnaeus and his disciples set out to solve these disparities by silencing dissonant voices in the writing of global natural history. Yet, they could not camouflage the crucial role of cultural go-betweens in providing local environmental and medical knowledge to scientists, who were essentially outsiders in the multiple spaces of natural historical investigation.

Introduction

The aim of early modern natural historians was a universal system of classification encompassing the natural resources of the whole world. The only feasible way to write global natural histories was through networks of collectors. The creation of the Linnaean Taxonomic system was achieved through a knowledge network that included correspondents and field workers sent out to explore the natural resources of different parts of the world. Recent scholarship has shown how indigenous and enslaved people's botanical, geographical, and pharmacological expertise was central to knowledge making in various European empires.¹ Although historians of science have remarked on Linnaeus' and his students' proclivity to rely on local knowledge and adopt its elements, for the most part this historiography is a celebration of European conquest over nature.

¹ Parrish, *American Curiosity*; Cook, *Matters of Exchange*; Safier, *Measuring the New World*.

This chapter argues that, at the heart of this conquest, lay an uneasy relationship between local indigenous and universal scientific epistemologies, which ultimately turned into a moral question of authority. It examines how Linnaeus and his disciples set out to solve these disparities by silencing dissonant voices in the writing of global natural history. Yet, they could not camouflage the crucial role of cultural go-betweens in providing local environmental and medical knowledge to scientists, who were essentially outsiders in the multiple spaces of natural historical investigation.

Historians of science have in recent years turned increasingly towards studying local knowledge in the making of early modern European empires. This shift in emphasis from scientists to informants has brought to the foreground the tensions of empire; race, gender, and the cultural politics of exclusion were all important components in the making of early modern natural history.² Indigenous medical and botanical experts, women, and slaves were effectively marginalized when global natural histories were being set on paper. This chapter focuses on the strategies of inclusion and exclusion in the Atlantic networks of Linnaeus and his apostles. It analyses the works of Daniel Rolander, Anders Sparrman and Peter Thunberg, whose field work took place in Dutch colonial enclaves in Suriname and the Cape colony in South Africa.

Despite growing evidence of the contributions of indigenous and enslaved individuals to the formation of scientific knowledge outside Europe, most narratives of Enlightenment science still argue that the scientific revolution took place in Europe. The voices of slaves and indigenous peoples were often marginalised or silenced completely in accounts of natural history. Thus, finding these local authorities in published texts remains a methodological challenge while they are easier to detect in private journals and correspondence. Publicly, very few natural historians of the Enlightenment were prepared to admit that a substantial amount of the collected information came from enslaved or indigenous individuals. In the Atlantic world, scientific racism was on the rise at the same time and enslaved blacks were often portrayed as less able and intelligent both physically and morally, in a word, unreliable. Therefore, what follows is partially a methodological exercise in how to detect the contributions of slaves in early modern knowledge making.³ By focusing on Linnaean networks, this article discusses how local and slave knowledge got incorporated in Swedish natural history. It shows how Linnaeus' disciples constantly employed local people for

² Schiebinger, *Plants and Empire*; Cagle, "The Botany of Colonial Medicine."

³ Schiebinger, "Prospecting for Drugs: European Naturalists in the West Indies;" Schiebinger, *Secret Cures of Slaves*; Cagle, "The Botany of Colonial Medicine."

longer periods or purchased specimen from lay collectors they encountered in their quest for global scientific knowledge.

Linnaeus, Slavery, and Colonialism

Rolander, Sparrman and Thunberg's ending up in Dutch colonies is not surprising in the light that their teacher Carl Linnaeus had made a name for himself in the Netherlands in the 1730s. At that time, Holland was still one of most celebrated centers of natural history in Europe, although it was already losing its place to Great Britain and France. Nevertheless, Holland was still a popular destination for Swedish students who sought to complete their doctoral studies.⁴ Linnaeus had defended his doctoral thesis on malarial fevers, which he had already written before arriving in Holland, at the University of Harderwijk. Before Holland, however, was Lapland. Linnaeus' expedition to the northern parts of Sweden in 1732 had an important role in building Linnaeus' empirical credibility.⁵ In Lapland, Linnaeus first encountered and described plants such as (*Angelica archangelica*), which held an important role in Sami phytotherapies and diet. Describing the indigenous Sami, Linnaeus maintained that they were relatively healthy. When they fell ill, the Sami relied on herbal medicines, leading Linnaeus to write admiringly about Arctic traditional medicine.⁶ In recent years, historians and archaeologists have taken a critical stance towards colonial projects in Lapland, placing Linnaeus, among others, in the context of colonial encounters and colonisation of indigenous knowledge.⁷

As Thomas Gieryn has argued, Linnaeus was able to establish his own scientific truth through field work in Lapland. The location was central in his rise to fame, allowing him to collect a unique collection in a place where no other contemporary scientist had access to. Timing mattered, as this was also a moment when collecting and identifying natural historical samples was about to reach its high point. By traveling to Lapland, Linnaeus took a risk that forced him out of the easy chair – the perils of travel could be punctuated in the travel account, where a natural historian created his own prowess. Linnaeus and his apostles traveled at a time when the laboratory had not yet become the primary site for making scientific knowledge. Laboratory research brought out the limits of field

⁴ Boerman, "Linnaeus and the Scientific Relations."

⁵ Koerner, *Linnaeus: Nature and Nation*, 56–81.

⁶ Kylli, "Traditional Arctic Healing."

⁷ Nordin and Ojala, "Collecting, connecting, constructing;" However, cf. Staffan Müller-Wille, "Walnuts at Hudson Bay," 34–36.

work. Wild and pristine nature was unpredictable and uncontrollable. A scientist in the field was prone to make misperceptions and misinterpretations that could not be tested again, as they could in the laboratory. Moreover, human influence – nay, colonial influence – spread wider continuously, as Sparrman and Thunberg had to face in South Africa. In Linnaeus' time, however, the trust in natural historical field work, and on the observations made in the field, was still strong. When posing for the portrait painted in Holland, Linnaeus chose to dress in indigenous clothes he had acquired in Lapland, holding a shaman's drum and attaching trinkets to his belt. For a modern observer, these details would perhaps speak of cultural appropriation, but in the eighteenth century Netherlands, were meant to show that Linnaeus was worth all the attention that the world was ready to give him.⁸

Besides the plant specimen and doctoral thesis, Linnaeus brought several manuscripts to Holland. One of them dealt with a new system to classify plants. *Systema Naturae* (1735) soon began to assert its place as the most important taxonomical work that was adopted everywhere in Europe, and later around the world. Linnaeus, however, returned to Sweden, leaving further field work to his students, the so-called Apostles of Linnaeus. It is obvious that some of them benefited directly from their teacher's connections in the Netherlands. Although Linnaeus did not leave Sweden after his return there, he relied not only on his Apostles, but also on correspondence with numerous contacts throughout Europe. *Systema Naturae*, which Linnaeus constantly revised, and which appeared in new editions, was eagerly adopted by Dutch and English naturalists, whereas the French still continued to rely on Buffon's and Adanson's authority. Rejecting the earlier 'Great Man' narratives, the new network-oriented research on Linnaeus has shown his reliance, and even dependency, on collaborators, partners, students, amanuenses, and his own son. They all helped the master to cope with the information overload, of which Linnaeus suffered from the 1750s onwards, when the study of natural history practically expanded beyond control. The flood of natural historical specimens was ceaseless and merciless, leading Linnaeus to constantly revise and supplement his publications. This has been described as a repeating publication strategy, which not only helped to spread his fame, but also led to immediate feedback and comments from correspondents. The strategy bore fruit scientifically and economically. Although Linnaeus was overwhelmed with information, the flood of knowledge was a positive problem.⁹

⁸ Gieryn, *Truth Spots*, 35–52.

⁹ Charmantier, "Notebooks, files and slips," 32–33.

Despite its scientific merits, Linnaean science has occasionally been portrayed in a more critical light. According to Mary-Louise Pratt, Linnaean-inspired natural history asserted an urban, lettered, male authority over the whole of the planet – a learned world to which very few women had access to in the early modern period. Men like Anders Sparrman elaborated a “rationalising, extractive, dissociative understanding which overlaid functional, experiential relations among people, plants and animals,” creating an innocent vision of European global authority, to which Pratt refers to as anti-conquest. Pratt asserts that Indigenous peoples were rarely allowed to make their voices heard in European scientific travel writing.¹⁰ In other words, whereas Linnaean science focused on the taxonomies of worlds fauna and flora, local indigenous peoples had a practical relationship with natural products. Plants were used as food, medicines, for making clothing, ropes, soap and skin care products. If they were not used, they were left in peace, not disturbed with.

The multidimensional personality of Carl Linnaeus discoursed in botany, ethnography, economy, medicine, and theology. His meditations on the relationship between nature and culture marked him for life. In *Systema Naturæ* (1735), Linnaeus placed human being at the top of the animal kingdom, heading the classification of quadrupeds. Without descriptions, justifications, or explanations, humans were crudely classified in four categories: European, defined as white; American, defined as red; Asiatic, defined as dark; and African, defined as black. In later editions, descriptions became more sophisticated, and Linnaeus added two other categories of human beings: the wild man, defined as four-footed, mute, and hairy; and the monstrous man, “varying by climate and air.” In this way, humans were integrated into nature and related to other animals in an implicit hierarchy. The hierarchy of human beings was established by skin colour, from white to black. He described the Africans as phlegmatic, relaxed, indolent, negligent, crafty, and governed by caprice, while the supposedly superior Europeans were muscular, inventive, and acute.¹¹

Despite this hierarchical classification, it is well-known that Linnaeus valued the knowledge of common people without formal botanical training. When Linnaeus assumed the title of professor and medicine at the University of Uppsala in 1741, he recommended the study and travel within Sweden before turning, if at all, to foreign countries. For practical reasons, then, Linnaeus relied on a wide-cast network of people to provide him with specimen from all over the world. One of his relied correspondents was Eric Brander (Skjöldebrand), the Swedish consul in Algiers, who eagerly studied natural history during his first years in the Maghreb. On his way to Algiers, Brander had

¹⁰ Pratt 38.

¹¹ Bethencourt, *Racisms*, 252–253.

been trained in Linnaean natural history in 1753 by Mårten Kähler in Marseille. In 1756, Brander wrote Linnaeus how he devoted all his spare time to natural history. In the letter, Brander revealed that he had employed several moors and slaves in his service to seek out curiosities in places where he could not go personally. Thanks to them, he had cabinets full of seashells, insects, fossils, and plants, which he sent to Sweden in passing ships. Revealing this in a letter was easy for Brander, but what happened when the specimens were put to use by Linnaeus, is telling. The correspondence between the two lasted from 1754 to 1761, and Linnaeus, in the twelfth edition of *Systema naturæ*, described ca. 60 specimen collected by Brander, or rather by the slaves employed by him. The subalterns' role in the making of the Brander collection was nowhere to be seen. It was effectively erased from the pages of history. Moreover, even for Brander the moors and slaves were an anonymous mass rather than individuals with names, personalities, families, and interests.¹² This was symptomatic for Linnaeus' apostles.

Rolander in Surinam

Linnaeus and his apostles connected with the Dutch colonial world during a period when it was already in decline. The Dutch East India Company (VOC) had lost its hegemony in the Indian Ocean world, and in the Atlantic, the West Indian Company (WIC) was a small operator compared to English, French, and Luso-Brazilian slaving empires. Nevertheless, the Dutch companies could still offer a ride to exotic locations around the world, and this was the main goal of the Swedes. Daniel Rolander took advantage of opportunities for field work in Surinam, and Daniel Sparrman and Carl-Peter Thunberg ended up in South Africa, with the former joining Captain Cook's globetrotting expedition, and the latter sailing from Cape Town to Java and Japan with the Dutch. Despite the different locations and cultures they encountered, the work of all three naturalists speak to the problems of moral authority and "tensions of empire" inherent in the Dutch colonial system.

Daniel Rolander spend a little over six months in Suriname between 1755 and 1756. His return to Sweden was marked by a conflict with Linnaeus because Rolander refused to share his collection with the master. Infuriated, Linnaeus even broke into Rolander's house, and the two never spoke to each other again. Due to this break-up, Rolander's sojourn in Suriname remained poorly studied for a long time. His diary *Diarium Surinamicum, quod sub itinere exotico conscripsit Daniel Rolander*,

¹² Letter 611, E. Brander to Linnaeus, 23 August 1756, in Fries, ed., *Bref och skrivelser*, 304; Skuncke, "Eric Skjöldebrand."

tomus I & II, 1754-1756 was published posthumously only in 1811. An English translation was published in 2008 and will be used here.¹³ Rolander, however, was not the only Swede who could give Linnaeus access to Surinamese collections. In fact, Rolander's short visit has to be placed in a larger context, where Carl Gustav Dahlberg (1721–1781), a Swedish lieutenant-colonel, held a central role. Historiography has largely focused on the Apostles of Linnaeus and forgotten other, academically untrained amateur naturalists such as the aforementioned Brander and Dahlberg, who were in correspondence with Linnaeus. In fact, these lay informants were often better positioned to serve as collectors because they lived for long periods in the local communities, whereas traveling naturalists worked in the field for a shorter time.

Rolander's journal provides a detailed exposé of the naturalist's reliance on slaves and indigenous peoples as sources of knowledge. This reliance already began in Sweden before Rolander's trip began. Dahlberg, in Dutch service in Suriname, was instrumental in guiding Rolander's trip. Rolander joined Dahlberg as this was preparing to return from Sweden to Suriname in 1755. As Rolander's journal makes clear, the two Swedes were constantly accompanied by Dahlberg's slave Primo, whose presence was a source of wonder to many Swedes unaccustomed to the presence of blacks in their towns. Primo acted as Rolander's first informant. Before leaving Sweden, the naturalist learned that tobacco was regarded as a sacred pleasure of the blacks in Suriname.¹⁴

Surinam's natural history was not a blank slate before Rolander's field trip and Dahlberg's collecting activities. African slaves' and indigenous Americans' environmental knowledge was central in guiding the Dutch to take advantage of Suriname's natural products. Pursuing healthy environments meant first and foremost the pursuit of local healing knowledge, namely phytotherapies used by the non-European population. In the Dutch Atlantic, this can clearly be detected in the work of Maria Sibylla Merian (1647–1717), a famed artist-naturalist, who, in 1699, traveled to South America with her daughter Dorothea. Merian is best-known for her observations on insects, which she published in *Metamorphosis Insectorum Surinamensium* after her return to Holland. Her trip was in many ways exceptional, not the least because she was interested in something else than sugar-planting. Surinamese plantation owners probably regarded Merian as an

¹³ Rolander, "Daniel Rolander's Journal."

¹⁴ Daniel Rolander, "Daniel Rolander's Journal," translated from the Latin by James Dobreff, Claes Dahlman, David Morgan, and Joseph Tipton, in *The Linnaeus Apostles: Global Science and Adventure*, Vol. 3, Book 3 (London and Whitby: The IK Foundation and Company, 2008), 1224.

eccentric fool. However, she adapted to her surrounding by becoming a slave owner almost as soon as she landed.¹⁵

In early modern natural history, it was not unusual that, in addition to plant, animal and mineral specimen, naturalists collected people. Focused on her observations and data recording, Merian had more use for Africans and Amerindians than for European plantation owners. She often quoted her slaves and joined them in search of new larva in her own garden and outside of Paramaribo. She conversed about insects and plants with the indigenous and Africans, and they brought her novel specimens to study. Illustrating her observations was central to Merian's work, and together with her daughter, she painted the insects and their metamorphosis on parchment. Contemporaries regarded Merian's paintings as the most beautiful illustrations ever made in America. Anyone reading the *Metamorphosis* today can attest that beauty was also transformed to the published work.¹⁶

Rolander's contact with Atlantic slavery intensified gradually as he travelled in Dahlberg's company. They embarked on a Dutch ship in the port of Texel in April 1755. For the first month of the Atlantic journey, the ship headed to Surinam was accompanied by another ship heading to West Africa to purchase slaves. The slave ship was captained by a Swede named Westerdal, who Rolander identified as very knowledgeable and genuinely interested in natural history. Westerdal promised to share whatever specimens he came across on the Gold Coast, which Rolander held in esteem since ship captains did not usually appreciate scientists on board.¹⁷ It was upon arrival in Surinam, however, that Rolander started to constantly refer to slaves and slavery. On June 21, 1755, he described the creole society of Surinam in some detail, writing also of blacks and slavery:

The black people have black bodies, black curly hair, dark eyes, flat noses with upturned and enlarged tips. They constitute the second variety of man common in this land. A large part of them are bought in Africa and brought here, and their descendants begotten here constitute the other part. They are held in such a great number that they fill up all the streets and houses of the city. The whites have imposed the yoke of slavery upon all of them, so that they do all the work in the houses, at the plantations, and all the whites' doings; these wretched people, whose Lady Fortuna is but a stepmother, labour all the way into their graves. Happy are those born here and used to slavery from early childhood whom the cruel desire of recuperating liberty does not oppress.¹⁸

¹⁵ Davis, *Women on the Margins*, 167–175; Schiebinger, *Plants and Empire*, 30–35.

¹⁶ Davis, *Women on the Margins*, 175–177.

¹⁷ Rolander, "Daniel Rolander's Journal," 1245.

¹⁸ Rolander, "Daniel Rolander's Journal," 1260.

Rolander clearly felt pity for the African slaves who had lost their freedom and had been brought forcibly to the Americas. He acknowledged that slaves were treated harshly by the whites. Yet, his first impression was that slaves sought solace in singing and dancing when not working. Rolander's first nights in Surinam were disturbed by the high-pitched singing of animals, fragile health, and not being used to sleeping in a hammock. His sleep was also disturbed by little sparks flying around the streets and courtyards and even inside the houses. On his fourth night onshore, Rolander could not contain his curiosity anymore. Since nobody knew for sure what the sparks were, Rolander went "running about till late in the night together with some slaves to catch them." The attempt failed since nothing could be seen in the dark of the night once the sparks extinguished. This demonstrates, however, that a natural historian's interaction with slaves could be quite intense and certainly differed from the norm in Surinam's hierarchical society. Sometimes Rolander paid for random black slaves to catch things for him. A lizard, *Lacerta mutabilis*, or *angulata*, was caught by an anonymous slave passing by, who climbed a tree chasing the chameleon. He then went on to argue with the white and black onlookers about the reasons why a chameleon changed its colour.¹⁹

In the following days and months, Rolander continued to report on the uses of local flora by Surinam's black inhabitants. He observed constantly and relied on the word of people passing by, trying to ascertain what he heard from various sources. In Rolander's scientific work, local knowledge reigned supreme. Any person with empirical knowledge of the local environment could become a trusted informant, regardless of skin colour. One day, when venturing to have a closer look at the small yards surrounding residences in the city, Rolander remarked of *Scoparia dulcis* that "the daily repeated experiments of the blacks indicate that this plant enjoys medicinal potency." Knowledge of medicinal plants, therefore, was not only based on ancient indigenous traditions or African pharmacological heritage but also on constant experimentation with new substances. In a word, new healing knowledge was constantly created through experimentation.²⁰

While the specific source of information is often unclear in Rolander's journal, it is clear that in many cases it must have been an Indian or a black slave. In some passages this was expressed directly: "The Surinamese Indians and black servants say." Information was also provided by whites who knew the ways of blacks and Indians intimately. For example, Rolander referred to the daily use of *Ricinus vulgaris*, or *communis*, among the Indians and slaves, and then went on to describe a specific way in which its leaves were used by blacks. Because its leaves wrapped around

¹⁹ Rolander, "Daniel Rolander's Journal," 1262, 1278–1282.

²⁰ Rolander, "Daniel Rolander's Journal," 1263–1264, 1267, 1270.

the head were said to remove headaches, slaves were thought to wrap the leaves around the head and pretend to have a headache in order to avoid unpleasant work. The wording here suggests that this piece of information came from slave masters. The majority of local informants remained anonymous in Rolander's journal whether they were black or white.²¹

Given the large number of informants at Rolander's disposal, anonymity in his travel journal is understandable. After all, the journal went through an editorial process before it was published. Another facet of anonymity is that pharmacological knowledge formation in Surinam cut through divides of class, race, and gender. While most medical knowledge might have originated in the experiments made by blacks and Indians and in the exchanges between the two (especially in maroon communities), white slave owners eagerly sought to profit from this knowledge and put it to use. Lodging with a white Lady, Rolander brought a poisonous plant in the house. Her landlady ordered the flowers to be thrown out and warned Rolander that he should not bring them inside. A few days later, however, the Lady allowed Rolander to examine plants in his own room, and also, accompanied by two blacks, brought some plants to him. She advised the natural historian to store them safely and not to kill anyone with them. Rolander then added that the Lady made a habit of learning from the blacks who had medical knowledge the properties of the plants Rolander brought home, in order to appropriate their conclusions and judgments about the qualities of the plants.²²

The anonymity of informants in Rolander's account can also be explained by his habit of validating information from various people. Although he wrote extensively about the healing practices of Surinam's Indians and blacks, it is as if Rolander did not want to take only their word when explaining the uses of individual plant medicines. When describing a small bush common to meadow and grove that the Dutch called *slaapers*, Rolander wrote that both whites and blacks informed him how, each evening, the bush pops together, collapses, and sleeps the night away, only to revive in the morning. At another instance, after being provided with a lengthy first-hand explanation on the nutrient value of a berry of a common tree by a black slave, Rolander hastened to add that whites testified that they had the same experience with this tree.²³

The best-known and often cited example of Rolander's reliance on slave knowledge is the story of the *Quassia amara* (Linn) or Quassy root. Although the use of the Quassy had been known in Surinam for a long time and it had been used by the natives as a stomach remedy, Rolander learned

²¹ Rolander, "Daniel Rolander's Journal," 1270, 1295.

²² Rolander, "Daniel Rolander's Journal," 1293–1294.

²³ Rolander, "Daniel Rolander's Journal," 1344, 1363–1364.

about it and purchased the knowledge from a black named Graman Quassi, who used it to treat fever.²⁴ Later, in 1761 Dahlberg brought specimens of the wood and of the fructification to Linnaeus, who drew up a botanical description of the plant, with an account of its virtues. Later experiments by Mr. Farley, a practitioner in Antigua, and medical thesis by Dr. Ebeling, confirmed its medical powers. The Quassy was added to many pharmacopeias, but Dahlberg was infuriated with Linnaeus for giving the credit to Quassi and for naming the plant after a black slave. In Linnaeus' words, Dahlberg "wanted to be great but he was not."²⁵

Besides Quassi, Rolander's native and enslaved informants had a very limited effect on the naming of plants. This influence was often indirect, as in the case of *Coccolobis emetica*. Rolander named it thus because a decoction of its flowers and inner bark was used by the Indians and blacks as an effective emetic. Rolander went on to divided the medicinal plants used by Surinam's natives into two primary classes: the emetics, with purging properties; and the others, with astringent and tonic properties. At the onset of common fevers, Indians drank plant-based emetics. Their experiments had revealed the properties of a great number of emetic plants in Surinam.²⁶

Graman Quassi was part of Suriname's plural medical culture, in which European physicians and surgeons had a small role. Although the methods of indigenous Americans and African slaves were often regarded as mere superstition and quackery, they were Suriname's primary healers. Amerindians and Africans understood that illnesses were caused by natural reasons, but this did not reveal why illness struck a certain person. This question was usually explained through a spiritual framework, in which ancestral and nature spirits played a central role. Healing disease was based on herbal remedies. Many people commonly shared this kind of everyday knowledge, but certain healers had more extensive knowledge of phytotherapies that could be used to treat a wide variety of ailments. Besides the natural historians discussed above, some physicians described local healing knowledge in detail.²⁷

Surinamese folk remedies did not consist solely of plants native to the Americas, but Old World plants also spread to the New through the Columbian exchange. Watermelon, sesame, and oil palm were some of the indigenous African plants that arrived in the Americas. Slave healers could also make use of Asian plants that had earlier spread to Africa and eventually came to be used in the

²⁴ Lantjouw and Uittien, "Surinaamsche geneeskruiden."

²⁵ Letter 1048, Linnaeus to Abraham Bäck, 4 September 1764, in *Bref och skrivelser af och till Carl von Linné*, Första avdelningen, Del V, edited by Thedor Magnus Fries (Upsala: Upsala Universitet, 1911), 127.

²⁶ Rolander, "Daniel Rolander's Journal," 1357–1358.

²⁷ Andel, "The Reinvention of Household Medicine," 690–691.

Americas. Slaves had their own plots on the plantations, where they could grow African food plants for their own use. For medical uses, slaves adopted a number of plants that were related to medicinals that grew in Africa. Some Surinamese plant medicines were given African names after the names that were in use in the slaves' homelands. In other words, Africans recognized many plant families without any kind of scientific taxonomy. What the slaves could not figure out among themselves, they found out from the indigenous Americans.²⁸ According to Rolander, Africans were always the first to ask from the Amerindians about the uses of local plants, this way trying to tap into Caribbean healing knowledge. Generally, Europeans were the last ones to start using local remedies, after first seeing their slaves use them.²⁹ In this way, Suriname's nature was gradually turned into a healing, if not healthy, environment.

Sparrman and Thunberg in South Africa

In the second half of the eighteenth century, the Cape Colony in Southern Africa was one of the most important settings for natural historical research. Two Apostles of Linnaeus, Anders Sparrman (1748–1820) and Carl Peter Thunberg (1743–1828), spent time in Cape during the 1770s. Sparrman arrived in South Africa in 1771, then joined James Cook's second expedition between 1772 and 1775, after which he briefly returned to Cape Town. Thunberg stayed in the Cape colony for three years from 1772 to 1775, after which he headed to Japan via the Dutch East Indies.

Although Europeans had first made their way to southern Africa by the end of the fifteenth century, permanent colonisation did not begin until 1651, when the VOC decided to establish a base in Table Bay in order to provision the ships sailing to the East Indies. Cape Town provided water, medicinal plants, and food for the fleets, giving the ships' crews a chance to recover from illnesses before the second leg of their journey. Ships sailing under other nations' flags also began to use the Table Bay as an anchorage, but VOC ships remained in the majority until the 1770s. In the VOC infrastructure, Cape Town was clearly linked to the Indian rather than the Atlantic Ocean world. Batavia, VOC's headquarter in Asia, developed its own colonial culture, which was also reflected in South Africa. As the VOC's operations grew, the Cape Colony also changed from a rather insignificant outpost to an extended settlement, which had a significant influence on the Khoi and the San, or South Africa's indigenous population, referred to by the Dutch as *Boschjesmens*

²⁸ Andel, "The Reinvention of Household Medicine," 690–691.

²⁹ Rolander, "Daniel Rolander's Journal."

(Bushmen). These established trading relations with the Dutch and provided them with cattle. Meat protein did not suffice for the ocean-going ships, which also needed grain, vegetables, and fruits. Soon after its establishment, the settlement transformed into an agricultural colony, when the VOC gave land grants to some of its employers.³⁰

Carl Peter Thunberg's voyage to South Africa was made possible by Johannes Burman, an old Dutch contact of Linnaeus. After his doctoral disputation, Thunberg travelled to Paris, after which he headed to Amsterdam, where Burman arranged him a surgeon's contract with a VOC expedition to Japan. Anders Sparrman, in turn, was an experienced traveler before ending up in South Africa. He had made a two-year trip to China in the mid-1760s with a Swedish East India Company's ship.³¹

Cape Town drew naturalists partly because of its mild Mediterranean climate, which made its interior more attractive and much more reachable than other parts of tropical Atlantic Africa. In Angola and Mozambique, the Portuguese had managed to extend their settlements to the interior of the continent, but Portuguese colonies remained closed to foreigners. The VOC had an interest in exploring the southern Africa interior, and sent out scouts to map the region's economic potential. The results of these expeditions remained thin and they rarely, if ever, made news in Europe.³² Scientific research, however, had different goals. Sparrman and Thunberg were not only interested in biodiversity but also made observations about local populations and their cultural practices.

However, scientific research at this time was not free of Eurocentrism. Sparrman and Thunberg were well aware that Linnaeus had classified indigenous South Africans as the lowest level of humanity, barely human monsters (*Monstrosus*).³³ In other words, they were not regarded as part of the civilised world. This is of note especially because naturalists traversing southern Africa in the late eighteenth century hardly encountered untouched African communities. Cultural interaction with the Dutch had continued for over a century and resulted in sociocultural change. Isolated communities who wanted to remain so had to keep retreating deeper into the interior in order to avoid European influence. In these frontier settlements, traveling naturalists encountered whites who had adopted African practices and sometimes taken indigenous women as their partners. For

³⁰ Penn, *The Forgotten Frontier*; Ross, *Status and Respectability*.

³¹ Skuncke, *Carl-Peter Thunberg, Botanist*, 15–37.

³² Huigen, *Knowledge and Colonialism*, 3–8.

³³ Bethencourt, *Racisms*, 252–253.

travelers, these cross-cultural go-betweens served as useful informants and guides, introducing them to local environmental practices and medical botany.

As we have seen in Surinam's case, Linnaeus and his apostles were not the first ones to take an interest in extra-European natural products. European settlers were extremely interested in indigenous knowledge that could have a practical application. In Europe, as Alix Cooper has shown, this led to the invention of the indigenous, whereby naturalists began to seek out local knowledge of peasants, the primary botanical experts, who employed this environmental knowledge in their everyday lives. Of course, the practical knowledge of peasants did not make them scientists; this role was reserved to scholars. Peasants sharing their knowledge did not become celebrities, but natural historians did. With a significant discovery, the fame of a naturalist potentially spread all across Europe.³⁴

The practice of European natural history in Africa in the 1770s is worth can be examined in the light of these European precedents. Although masculine and rationalising authority was central to the literary representations of the extra-European world, this literary genre should not be oversimplified. Scientific knowledge of southern Africa – and the globe generally – was in a formative state, and it did not develop in isolation from multiple sources of knowledge. The Cape Colony's geography, vegetation, and fauna was very diverse. Knowledge about this diversity drew from multiple sources, including indigenous and colonial informants, who spoke different languages, practiced different trades and lifestyles, and who had their own environmental conceptions. Sparrman and Thunberg's writings reflect this multiplicity and at the same time offer a view of Cape society in the 1770s.

Knowledge about Cape's environment and natural products was formed by multiple linkages between observers and oral informants. Since the seventeenth century, Khoisan had worked as shepherds and servants on Dutch farms. By the time Sparrman and Thunberg made their way to the region, many of these indigenous inhabitants were at least partially dependent on income from agricultural work. Khoi women, in turn, took up employment as domestic servants in Dutch households. Environmental knowledge was made and exchanged in these everyday settings, in which whites were in a commanding position, and could also acquire information by force.³⁵

³⁴ Cooper, *Inventing the Indigenous*.

³⁵ Beinart, *The Rise of Conservation*, 28–42.

European botanists, travelers, and hunters spent time with farmers and settlers in the backlands of the Cape colony. Settlers offered food and shelter, of course, but also provided local knowledge. Travelers also met Khoisan along the way, although in communicating with them they had to rely on interpreters. Khoisan also served as guides and servants for the naturalists, offering further opportunities for the acquisition of local experience and knowledge. Indigenous Africans, in turn, learned new skills from Europeans. In addition to language skills, they learned to use fireguns and ride horses. The use of wagons spread from the Dutch to Africans, helping people to move between different places. Mobility led to increased knowledge about local environments.³⁶

Cross-cultural interaction in southern Africa was not an experience in racial equality. European naturalists exploited Cape's hierarchic society similarly to other whites, and they never questioned the subordinate role of African assistants and informants. This did not obstruct camaraderie, especially on longer expeditions to the interior, when European as outsiders were more dependent on local help. Power was further checked by the realisation that African assistants would simply abandon the expedition or lead it astray if they were treated too harshly. In other words, leading a trip to the interior meant that Europeans had to constantly negotiate with rather than whip their African assistants.

In South Africa, both the Dutch and Africans were of great value to natural historians. They were familiar with the safest passages, the best watering holes, and the whereabouts of flora and fauna. In contrast to the coastal farmers, the settlers in the interior possessed lots of local environmental knowledge, even if the Khoisan were unwilling to share all their knowledge with foreign intruders. Local knowledge became not only marketable, but also a form of political power and resistance. Europeans noted that indigenous southern Africans were often secretive about medicinal plants and healing methods.³⁷ Healing knowledge was easier to hide than knowledge related to hunting, watering, and pasturing.

Cape fauna was extremely rich and fascinated European hunters already in the seventeenth and eighteenth century. Hunting was not only a source of animal protein and monetary wealth, but also cleared space for farming. Khoisan use of arrows and spears lost some of their significance as firearms spread to the region, but indigenous hunting techniques, including the digging of hunting pits, were still being used when Sparrman and Thunberg traveled there. Khoisan taught the Dutch

³⁶ Ibid.

³⁷ Hokkanen, "Contestation, Redefinition and Healers' Tactics," 131–133.

that it was worthwhile to wait for animals at the watering holes. Horses were a Dutch import that facilitated hunting and especially the tracking of injured animals. However, in the 1770s, Sparrman still encountered remnants of the past when he saw “the hottentots” riding their bulls. Khoikhoi had a habit of taming wild bulls by piercing their nostrils. Bulls were used not only for riding but also as beasts of burden. They also facilitated the Khoikhoi’s mobile and pastoral lifestyle. These human-animal relations were given new significance when the Dutch introduced wagons in southern Africa. Sparrman was in awe of Cape servants’ unmatched skill in keeping the ox-wagons on the move.³⁸

The tracking of animals was another indigenous skill that some Dutchmen admired. Khoisan hunters were occasionally forced to rely on tracking because of the ineffectiveness of their traditional weapons compared to firearms. Families living on the frontiers often had domestic animals to track. Cattle could take off on its own or be stolen. Catching lost animals could take a lot of time. According to Sparrman, Africans’ observational skills were of great use in demanding tracking expeditions. Although the Khoikhoi impressed Europeans with their hunting skills, the Dutch were not willing to imitate everything. One of these habits was the Khoi practice of smearing their bodies with grease from the killed animals. The Dutch, however, learned that some parts of animals could be used for the preparation of healing ointments. Sparrman learned that the heart of eland could be used to prepare fat for eating on bread.³⁹

Such environmental knowledge easily translated to medical practices in pastoralist Khoikhoi societies, where medicine, health and nursing were deeply rooted and valued long before the arrival of the Dutch. As Viljoen has shown, concerted efforts were made to prioritise health and control common disorders. The Khoikhoi sought to prevent illnesses by lubricating themselves with sheep’s fat mixed with soot and ash, as Thunberg reported. Sparrman, in turn, described that a mix of grease, soot and powder ground from the leaves of the *buchu* plant shielded indigenous bodies “from the influences of the air.”⁴⁰ *Buchu*, indeed, was their principal healing herb, regarded by the Khoikhoi as a magic plant.⁴¹

One of the most remarkable ways the Dutch sought to recreate a healthy environment in the western Cape was the establishment of a warm bath facility called Hottentots Holland’s Bath, which

³⁸ Beinart, *The Rise of Conservation*, 32.

³⁹ Ibid., 34.

⁴⁰ Viljoen, “Medicine, health and medical practice,” 516–518.

⁴¹ Low, “Different Histories of Buchu.”

Sparrman visited in July 1775. Given the widespread use and popularity of mineral baths in European medicine in the early modern period, this should come as no surprise. Perhaps more surprising is the variety of patients using the bath, as Sparrman reported it. According to a list Sparrman saw at the establishment, the annual number of patients was between 150 and 200 persons. Only eight people were bathing at the time of his visit during the cold season. Sparrman encountered at least two slaves who had been sent by their masters to seek a cure at the bath. One of them was dead within a few hours of his first bathing. The other was a young slave from Madagascar, who accompanied Sparrman to the bath, and who had been given over as incurable by a surgeon at the Cape. This anonymous slave had an inveterate ulcer in his leg, and he claimed to have been healed of a similar ulcer before his enslavement in Madagascar by means of a certain bark. Like the African slaves taken to the Americas, the Malagasy slave had sought the tree in South Africa after arriving there, but had not been able to find it.⁴² Directing his words at “[t]he Christians who arm the natives of Madagascar against each other,” this set Sparrman on a tirade upon the usefulness of indigenous knowledge:

The Peruvian *bark*, *senega*, *ophiorbiza*, *sarsaparilla*, *quassia*, with many other useful remedies, calculated for preserving millions of our species, have not we learned them all from those we call Savages? and perhaps might learn still more, if our tyranny had not already, I had almost said, entirely extirpated them, and together with them lost the result of their useful experience.⁴³

The bath establishment at Hottentots Holland’s Bath consisted of a brick house, which Sparrman found very unhealthy due to dampness, for accommodation of guests and to serve as housing for the overseer of the bath. The bathing house was located about a hundred paces from the welling house, and it had a cistern or pit. Warm water ran from its underwater source to one of the gables of the house, and from there in an open channel to the cistern, where it came pouring down. Patients lay down or sat in the cistern till the water reached their chin. Due to the warmth, it was recommended that bathing should take between eight and ten minutes; patients who staid longer sometimes passed out and drowned. After taking a bath, the patients lay down, in their clothes, at the other end of the room to sweat. The cistern could be emptied by turning a cock in the interval between each person’s bathing, if required. Each patient bathed mostly once or twice a day, and very seldom three times. At the site, there were two other baths used by slaves and free blacks. In fact, Sparrman did not

⁴² Sparrman, *Resa till Goda-Hopps-Udden*, 146–147.

⁴³ Sparrman, *A Voyage to the Cape*, 144.

specify whether the slaves who had been sent to the facility by their masters were allowed to use the bathing house.⁴⁴

Although Sparrman was familiar with the use of warm and mineral baths in Sweden and elsewhere in Europe, the southern African variant did not convince him. Patients generally did not follow the methodical advice of physicians in using the bath, because they hardly ever had an opportunity to consult a physician there. Therefore, they used the bath at their own whim and convenience, without any regular order, without the least attention to diet, or any distinction of disorders. Patients often went into the bath directly after meals, which Sparrman found troubling. According to common lore, rheumatisms and contractions of the limbs were usually cured in three or four days, but, in the gout, it was not regarded as a powerful remedy. Sparrman encountered a girl patient who was using the bath for the second year for a swelling and ulcers in her leg. She had also used an herbal remedy of mallows and other plants which had brought no relief. Sparrman, however, suggested to her another folk remedy, namely a salve made of wax and honey. This remedy healed the ulcer. In Sparrman's opinion, the cures of the bath depended very little on the minerals in the water, and instead proceeded from the repeated mutations of the humours by sweating.⁴⁵ Therefore, he suggested that the bath might be used more efficiently with a more suitable diet and course of medicine. More benefit, Sparrman claimed,

would perhaps be found by making use of the natural baths at the Cape with a more moderate degree of warmth, which would allow of the water being absorbed in the body; and likewise by using them with addition of herbs: as for example, of *bucku* (*diosma*) and wild *dacka* (*phlomis leonurus*) which are known both by the colonists and the Hottentots to be as efficacious as they are common, and of the powerful effect of which, in pains and contractions of the limbs, when used in the form of baths, I myself have seen instances.⁴⁶

A balanced diet of milk, plant foods and water kept the Khoikhoi in relatively good health. Thunberg believed that unseasoned and unsalted food was a key to low susceptibility to disease.⁴⁷ Khoikhoi practitioners made use of botanic medicine, some surgery and cupping. Environment played an essential role in how medicines were devised, and the ingredients and the methods used by indigenous healers were rarely debated. What mattered was experience of their desired effects.⁴⁸ Like in Surinam, southern African healers guarded their secrets and did not reveal the contents of

⁴⁴ Sparrman, *Resa till Goda-Hopps-Udden*, 139–142.

⁴⁵ Sparrman, *Resa till Goda-Hopps-Udden*, 144–145, 148–149.

⁴⁶ Sparrman, *A Voyage to the Cape*, 145.

⁴⁷ Thunberg, *Resa uti Europa, Africa*, 217.

⁴⁸ Viljoen, "Medicine, health and medical practice," 519–520.

their medicines easily. How, then, did Sparrman and Thunberg go about making their medical observations? Their travel narratives were published well after their return to Europe, and hardly give clues on their methods for gathering information. However, it is clear that, like Rolander in Suriname, Sparrman and Thunberg constantly talked with residents Boers, Dutch settlers and indigenous inhabitants, or as Sparrman noted, had their observations “confirmed... by so many Hottentots as well as Christians.”⁴⁹ Yet, in their travel accounts these individuals often remained an anonymous mass, whether they were white or black. African slaves were invariably anonymous but whites were sometimes recorded their last names. In the Cape, as Marie-Christine Skuncke has argued, Thunberg practised a system of exchanges with Dutch colonists and VOC officials, reciprocating help in his collecting activities with medical services.⁵⁰

Conclusion

Like many other earlier European collectors and botanists in Africa and the Black Atlantic world, the disciples of Linnaeus recognized the central role of subaltern informants in guarding medico-botanical knowledge and practicing healing in their everyday lives. Yet, with the exception of Graman Quassi, few Amerindian or black informants had a place in publications regarding scientific discoveries. Their role was downplayed and silenced. Eighteenth-century European men were unreluctant to show their intellectual debt to blacks and Indians, some of whom were women. In his private journal, Rolander could reveal his admiration for local informants, but in published accounts, these anticipated and fruitful encounters were often left without a mention. Similarly, in the Cape, Sparrman and Thunberg constantly talked with settlers and indigenous southern Africans, but the majority of these individuals remained anonymous and faceless in the accounts. The wealth of environmental knowledge Linnaeus’ Apostles were able to record is nevertheless remarkably rich. Medicinal plants formed the bulk of observations, but also indigenous and folk practices related to diet and hygienic practices were noted. In the Cape, Sparrman and Thunberg also recorded the use of warm baths as a major form of health seeking in the interior, clearly an attempt by the Dutch settlers to recreate European bathing culture in southern Africa as a form of health seeking practice.

⁴⁹ Sparrman, *A Voyage to the Cape*, 155.

⁵⁰ Skuncke, *Carl Peter Thunberg*, 76, 92

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