

2 Cross-Cultural Experiments

The Materiality of Medicine in West-Central Africa

Traversing the hinterland of Luanda in the 1830s, Italian doctor Tito Omboni and his entourage were ambushed one day. Omboni's domestic servant Antonio was injured on the left arm, which was pierced by a poisoned arrow and became extremely swollen. A black man in Omboni's company made Antonio swallow a large intake of a powder he carried with him, covered the wound and told the doctor to leave Antonio alone. The medicine was efficient against arrow poison. Omboni found out that it was the powder of a fruit called *angariari*. He had already encountered the same plant in Benguela upon his arrival in West-Central Africa and observed that locals used it to heal bites by poisonous reptiles. When later visiting the island of Principe, Omboni tested *angariari* on a monkey, first cutting it with a dagger dipped in a local poisonous plant called *pacopao*, then giving *angariari* as an antidote. The animal showed no signs of poisoning while Omboni stayed with it. After returning to Italy, Omboni introduced the plant at a scientific conference in Milan. A Catanian professor named Roberto Sava, who remembered that *angariari* was mentioned in Father Antonio Zucchelli's early eighteenth-century account of Angola, took charge of doing experiments to prove its usefulness. Omboni, who had witnessed a shepherd using the plant to heal a cow bitten by a snake in Africa, thought that *angariari* might prove a useful remedy against rabies.¹

Tito Omboni was certainly not the first one to dream about finding effective and universal cures among Atlantic Africa's natural medicines. Experimenting with Central African plants, minerals and animal parts had been going on for more than three centuries before Omboni's encounter with *angariari*, and as Professor Sava acknowledged, Omboni was simply making a 'rediscovery' when he brought the plant to Milan. Named in many earlier accounts and pharmacopoeias as *engariaria*, the plant was one of the most important drugs to feature in

¹ Tito Omboni, *Viaggi nell' Africa Occidentale* (Milan: Civelli, 1846), 65, 139, 246.

lists of Angolan medicines. Around 1650, Afonso Mendes presented ‘*agariária*’ as a fruit imported to the colony of Angola from the Kingdom of Kongo. It could be cooked and the extracted liquid drunk, or else the fruit could be eaten to alleviate kidney stone pain.² Similarly, Father Girolamo Merolla claimed that *engariaria* was ‘optimal’ for curing kidney stone pain.³ *Engariaria* had also found its way to England in the second half of the seventeenth century. In April of 1679, the philosopher John Locke noted in his journal that ‘Mr. Toinard give [*sic*] me a peice [*sic*] of wood cald Angarian of Angola – the infusion is believed very good for the stone.’⁴

Engariaria was still in use in the late eighteenth century. The use of indigenous Angolan medicinals gained official support from Governor Dom Miguel Antonio de Melo, who in 1798 wrote about people’s positive experiences with the medical uses of the *engariaria* fruit and other substances, namely *kikongo* wood, *enkasa* bark and *muriassangi* root. It was Melo’s wish that these simples be analysed in Lisbon and made available to the whole of humanity. He was also clearly thinking about the profit that could be made by exporting and selling these drugs. Referring to *engariaria*, Melo wrote that ‘in a few years, it would be possible to export the quantity needed to supply the pharmacies of Portugal’.⁵

Common to all these European observations, some of them based on personally experimenting with *engariaria*, was an appreciation for an African plant remedy. A shared trait in cross-cultural medical interaction during early modern European expansion was that local medicinals were regarded as the most suitable to cure diseases contracted in those places. This chapter focuses on remedies and the materiality of medicine in Angola. It discusses the exchange and transmission of medicinal knowledge between Africans and Europeans and the circulation of West-Central African medical ideas throughout the Atlantic world. This medical interaction started soon after Europeans made first contact with the

² Afonso Mendes, ‘Caderno que trata das ervas, raízes e outras cousas que se tem descoberto no Sertão do Reino de Angola, com várias virtudes’, edited by Ruela Pombo, *Diogo Cão*, II Série, No. 10 (1934), 298–304, and III Série, No. 1 (1935–1936), 41–48.

³ P. Girolamo Merolla da Sorrento, *Breve, e succinta relazione del viaggio nel Regno di Congo Nell’ Africa Meridionale* (Naples: F. Mollo, 1692), 188–189.

⁴ Kenneth Dewhurst, *John Locke (1632–1704), Physician and Philosopher: A Medical Biography – with an Edition of the Medical Notes in His Journals* (London: Wellcome Historical Medical Library, 1963), 150–151.

⁵ ‘De Dom Miguel Antonio de Mello acerca do Breu, da Rezina, do Enxofre e dos Uzoz Médicos que, por constantes e bem provadas experiencias têm determinados Simples’, 5 June 1798’, *Arquivos de Angola*, First Series, 1:1 (1933), no page numbers.

Kingdom of Kongo, and the Portuguese eagerly began to learn healing methods from locals. African attempts to successfully acquire European medical knowledge will be returned to in Chapter 5, while this chapter concentrates on the better-documented Portuguese acquisitions of African natural products.

Natural Medicine and Amateur Botany

Medical knowledge played an important role in the early cultural exchanges between Europeans and Africans. In 1526, in a letter to King D. João III, D. Afonso I, the King of Kongo, requested Portuguese medical specialists. Pointing out that the Kongolese suffered from many and diverse infirmities, King Afonso argued that Kongolese Christians should benefit from Portuguese medical knowledge. Although in Kongo people cured themselves with plants and by traditional customs, Afonso argued that such drugs and ceremonies in which people put their faith were of little service to God, thus making a strong case for the eradication of indigenous healing practices. Afonso had a good sense of what the Portuguese could offer, for he specifically asked D. João III to send two physicians, two pharmacists and a surgeon.⁶

The King of Kongo was not the only African ruler interested in obtaining European healing knowledge. In 1621, as the Portuguese were making early attempts to improvise a colony in Benguela, Sumbe Ambuila requested that the governor of Angola supply soldiers, horses, a barber to offer medical treatment and a translator (*tendala*) to facilitate communication. Again, a local African ruler, who had been selling captives to European interlopers, was well aware of the kind of medical specialists the Portuguese could offer. The only problem was that the Portuguese in Benguela had enough difficulties in finding a surgeon to work in their own settlement. Simão Ferraz worked as a doctor and attended to the needs of the residents, but the quantity, and especially the quality, of available medicines in Angola was so poor that they were of little use.⁷

The great value African rulers put on certain medicinal plants is revealed by their inclusion among gifts offered to visiting Europeans. *Kikongo* wood (*Tarchonanthus camphoratus*, L.)⁸ was one of the earliest

⁶ ‘Carta do Rei do Congo a D. João III, October 18, 1526’, in Brásio, ed., *MMA*, I: 488–489.

⁷ Candido, *An African Slaving Port*, 64.

⁸ In early modern primary sources, *kikongo* was often referred to as sandalwood. In research literature I have consulted, including Simon, ‘A Luso-African Formulary’, and Bossard, *La médecine traditionnelle au centre et à l’ouest de l’Angola*, *kikongo* is identified as

wood exports to Portugal, as it was often included among the gifts offered by African rulers to Portuguese kings. In 1565, for example, forty pieces of *kikongo* were among the gifts sent by Ndongo's ruler to King Sebastião. Father Francisco de Gouveia commented that the tree was very valuable in Angola.⁹ When Paulo Dias de Novais entered Angola in 1575, larger and smaller pieces of *kikongo* were again included among the gifts to be sent to the king in Portugal.¹⁰

In their efforts to cure diseases contracted in Africa, the Portuguese were eager to learn from the local population. Jesuit Father Garcia Simões, who accompanied Paulo Dias de Novais in 1575, wrote about a red dyewood known as *takula* (*Pterocarpus soyauxii*, Taub. and *P. tinctorius*, Welw.). Local people used *takula* to paint their bodies from head to toe, and it also had a medical use. *Takula* was used by Africans and some Portuguese to cure fever and headaches. A white man who had tried *takula* told Simões that it worked very well. Simões himself had tried kola nuts but found them bitter like rhubarb. According to him, kola nuts were used as a stimulant by blacks as well as whites.¹¹

In the late sixteenth century, Duarte Lopes reported that in Kongo fever was locally cured by mixing *takula* and *kikongo* wood with palm oil and applying this to the body, from head to toe, twice or three times. *Kikongo* was among the most appreciated medicines, and hence it was expensive, with one piece costing a slave. He also noted that some trees were effective as antidotes for snake bites, and that certain poisonous snakes provided medicines to cure fever. To cure *kitanga* (yaws), the Portuguese made an unguent of *kikongo* powder, but used vinegar instead of palm oil.¹² The Portuguese willingness to use an African plant

Tarchonanthus camphoratus, L., but around Luanda a plant known as *kikongo* has been referred to as belonging to the *Brachylaena* genus. John Gossweiler, *Flora exótica de Angola: nomes vulgares e origem das plantas cultivadas ou subspontâneas* (Separata of *Agronomia Angolana*, Luanda: Repartição Central dos Serviços de Agricultura de Angola, 1950).

⁹ 'Carta do padre Francisco de Gouveia para o Colégio das Artes, May 19, 1565', in Brásio, ed., *MMA*, II: 530.

¹⁰ 'História da residência dos padres da Companhia de Jesus em Angola, e cousas tocantes ao Reino, e Conquista, May 1, 1594', in Brásio, ed., *MMA*, IV: 557.

¹¹ Gastão Sousa Dias, ed., *Relações de Angola (Primórdios da ocupação portuguesa)* (Coimbra: Imprensa da Universidade, 1934), 55–56. *Takula* remained in use over the centuries. In the 1920s, Father Wellens, a missionary and a botanical collector in Mayumbe, reported that it was used as a plaster against several diseases, for example itching, irritations, skin diseases and head parasites. É. de Wildeman, *Sur des plantes médicinales ou utiles du Mayumbe (Congo Belge) d'après des notes du R.P. Wellens* (Brussels: Institut Royal Colonial Belge, 1938), 72.

¹² Filippo Pigafetta, *Relatione del reame di Congo et delle circonvicine contrade, tratta dalli scritti e ragionamenti di Odoardo Lopez portoghese* (Rome: Appresso Bartolomeo Grassi, 1591), 14–15, 32–33, 69; Don R. Brothwell, 'Yaws', in *The Cambridge World History of Human*

product and mix it with something they were familiar with from home can be taken as an early indication of the emergence of hybrid medicinals.

The uses of *takula* and *kikongo* were also demonstrated by Barthélemy d’Espinchal de Massiac, who lived for eight years in Angola and Kongo in the 1640s. He wrote that, from time to time, the blacks covered their whole bodies with a red paste made of a mixture of *takula*, *kikongo* and palm oil. Besides its use for cosmetic and medicinal purposes, *takula* was used in Loango during female coming-of-age ceremonies. The widespread use of *takula* in West-Central Africa reflected the symbolic association between colour, the ancestral world and liminal states of initiation and rites of passage. According to Denbow, wood rather than rock-ochre was the only material available to produce the red pigment used for ritual purposes.¹³

Finding new drugs and an effective pharmacopoeia was partly fuelled by the vast fortunes to be made by selling exotic products in Europe. Yet, for Europeans living in Africa and elsewhere in the tropics, the most pressing motivation for experimenting with local natural medicines was survival. For them, the search for new remedies was a matter of necessity rather than profit or curiosity.¹⁴ As Portuguese cultural interaction with West-Central Africans deepened, medicine chests also expanded. In West-Central Africa, this was well illustrated by Sergeant-Major Afonso Mendes, who around 1650 wrote one of the most remarkable works on seventeenth-century medicine in Africa. In his manuscript on medicinal plants he had found useful in the interior of Angola, Mendes listed over eighty treatments for various diseases and ailments. Citing the Sevillian physician Nicholas Monardes as an inspiration he sought to imitate, Mendes was clearly trying to attach himself to a global discourse on medical knowledge and natural history. Demonstrating that a geographically isolated outpost in Angola could be intellectually connected to the world beyond Africa, Mendes would certainly have earned a place in the global history of science had his manuscript been published. Instead, his service in Angola remains shrouded in obscurity.¹⁵

Mendes’s pharmacopoeia demonstrates how certain drugs – such as *kikongo*, which Mendes singled out as an ‘admirable’ remedy against fevers and headaches – had remained in constant use since the sixteenth

Disease, edited by Kenneth F. Kiple (Cambridge: Cambridge University Press, 1993), 1096–1100.

¹³ ‘Relação de uma viagem a Angola, 1652’, in Brásio, ed., *MMA*, XI: 261; James Denbow, *The Archaeology and Ethnography of Central Africa* (Cambridge: Cambridge University Press, 2013), 153.

¹⁴ Schiebinger, *Plants and Empire*, 73–75. ¹⁵ Mendes, ‘Caderno que trata das ervas’.

century. One of the most versatile remedies mentioned by Mendes was cobra wood, or *kitenge*, which was used to cure fevers, stings, swellings, gout, snake bites, stomach ache, apoplexy and malaise. Only the root of the *kitenge* tree was used. It could be taken in powder form, drunk mixed with water or used as an unguent. According to Mendes, cobra wood was 'discovered' by whites in 1619, and it could be found in Mutemo, Hamba and Bango-Aquitamba. Mendes advised collecting *kitenge* only when the moon was waning, probably reflecting a local Central African custom.¹⁶

Mendes's list of treatments and remedies shows that the Portuguese in West-Central Africa had clearly adopted a number of local medical practices. Mendes did not specify who his informants were, but he had probably learned a great deal from African troops under his command and possibly from local popular healers. Some of his remedies could undoubtedly be classified as superstitious. For example, against fits of epilepsy, Mendes noted that 'an antelope claw, carried near the heart, is an admirable remedy, and many say that the left [claw] is better'.¹⁷ One can also observe hybrid medicines among the remedies introduced by Mendes. For example, one could make an antidote by mixing the root of *malula* with wine. An unguent made by grating *malula* on a stone and mixing it in water was used by people who had stepped on *feitiços* or fetishes. Finally, ground *engala* (wild boar) tooth mixed with pure water or 'water of Almeirões' was used as a fever medicine.¹⁸

Similar to Mendes, Cadornega noted that indigenous medicine in West-Central Africa consisted mainly of drugs derived from plants. Africans knew their virtues and how to apply them. However, his opinion of local medical practices was more negative than Mendes's view. Basing his opinion on humoural theory, Cadornega argued that people using indigenous medicine did not recognise whether the drugs were 'hot' or 'cold', although, as shown in Chapter 1, the hot/cold distinction was conceptually part of framing disease in West-Central Africa. In many cases, the dosages were unclear, and in Cadornega's view people rather consulted the devil than developed a proper discourse on curing disease.¹⁹

In the Portuguese colonial world, missionary orders developed the foremost European body of expertise about indigenous medicine. Jesuits recognised the potential for profit from commercialising native

¹⁶ Mendes, 'Caderno que trata das ervas', 298–300.

¹⁷ Mendes, 'Caderno que trata das ervas', 300.

¹⁸ Mendes, 'Caderno que trata das ervas', 42–43.

¹⁹ Cadornega, *História geral*, III: 318.

drugs, and they quickly became the principal disseminators of these commodities.²⁰ While Jesuits in West-Central Africa undoubtedly experimented with local natural medicine, such medicines are best documented in Italian Capuchin sources. The Capuchins were by no means unified in their attitudes towards local medicinals; they demonstrate both positive and negative views towards them. Similar to Lopes and d’Espinchal, Cavazzi listed *kikongo* wood among the remedies used to combat the secondary symptoms of yaws. In addition, people used a plant called *pau da bata*, which was also exported to Italy.²¹ Merolla was full of admiration for certain plant-derived drugs. For fever, he advised using *kiseko* wood in powder form mixed with water and spreading it on the temples or forehead of the patient. *Kikongo* wood had many virtues but, according to Merolla, it was most useful in purging the body. Finally, *mignamigna* (or *minhaminha*) produced both poison and antidote.²²

Some Capuchins had obtained medical and herbal knowledge in Italy before commencing their sojourn in Central Africa (see Chapter 6). Some of them were also intimately connected to naturalists in Italy. Carlos Almeida has revealed the interconnections between Father Ambrogio Guattini and Giacomo Zanoni, one of the most prominent botanists in Bologna in the mid-seventeenth century. Guattini never hid his curiosity and extreme carefulness in observing nature. He wrote detailed descriptions of Central Africa’s *naturalia*. According to Almeida, even when not directly connected to collectors in Europe, Capuchin accounts leave an impression of genuine interest in local nature, the qualities of plants and fruits, the behaviour of animals and the effects of ‘air’ on living beings in different latitudes.²³

Although some Capuchins gave a glowing picture of the potentials of local natural medicine, not all missionaries shared this view. For example, Marcellino d’Atri and Luca da Caltanissetta lived in constant fear of poisoning and often blamed African healing specialists for their illness. This adversity to local African medicines and medical practices can partly be explained by the fear some missionaries felt towards local popular healers. On several occasions, d’Atri claimed that he and his companions had been poisoned. Similarly, Caltanissetta, when suddenly

²⁰ Walker, ‘Acquisition and Circulation’, 250.

²¹ Cavazzi, *Istorica descrizione*, 142; Simon, ‘A Luso-African Formulary’, 108.

²² Merolla, *Breve, e succinta relazione*, 188–189.

²³ Carlos José Duarte Almeida, *Uma infelicidade feliz: A imagem de África e dos Africanos na Literatura Missionária sobre o Kongo e a região Mbundu (meados do séc. XVI – primeiro quartel do séc. XVIII)* (unpublished Ph.D. dissertation, Faculdade de Ciências Sociais e Humanas, Universidade de Lisboa, 2009), 209–214.

contracting diarrhoea or fever, recorded his suspicions that local sorcerers had added poison to the palm wine or fruits they offered to the missionaries. Capuchins employed theriac and other antidotes as well as bleedings to cure themselves when they felt that their lives were in danger on account of poisoned food or drink. Caltanisetta's opinion was that all missionaries to Central Africa should bring with them provisions of theriac, powder of Algaroth and manna and try not to be fooled by anyone, because everyone has to be prepared to act as 'one's own doctor'. Despite his antipathy towards African medicine, even Caltanisetta recognised *engariaria* as a useful medicine for curing the bladder.²⁴

Mobile Medicines: Central African Healing Materials in the Atlantic World

When Governor Melo compiled a report on popular Angolan medicinals in the late eighteenth century, he demonstrated the mobility of these plant substances within West-Central Angola. *Kikongo* wood, which was by then used to cure acute fevers, erysipelas and skin lesions, was brought to Luanda from Benguela and Kilengues; *enkasa*, which had emetic 'virtues' and was used as an antidote against certain poisons, arrived in Luanda from the Kingdom of Kongo; *engariaria*, which was used for curing cramps and dysenteries, originated similarly in the Kingdom of Kongo; and *muriassangi* was found especially on the margins of Kwanza, near Massangano. The trade in these drugs was regional and systematic, and they could be bought in Luanda relatively easily, showing their continued popularity among the local population.²⁵

The earliest hints that Central African medicinals enjoyed some popularity outside of Africa can be found in Cavazzi's account, which mentioned a plant called *pau da bata* being exported to Italy. Another Italian

²⁴ Carlo Toso, *L'anarchia congolese nel sec. XVII: La relazione inedita di Marcellino d'Atri* (Genoa: Bozzi, 1984), 69; P. Luca da Caltanisetta, 'Relatione della missione fatta nel Regno di Congo per il Padre Fra' Luca da Caltanisetta', in *Il Congo agli inizi del settecento nella relazione di P. Luca da Caltanisetta*, edited by Romain Rainero (Florence: La Nuova Italia, 1973), 151, 155, 163, 176, 193, 337. Theriac was a medical concoction used as an antidote and considered a universal panacea in the ancient and early modern world. Gilbert Watson, *Theriac and Mithridatium: A Study in Therapeutics* (London: Wellcome Historical Medical Library, 1966). Missionaries were not the only ones who feared poisoning, for it was sometimes suspected when military officials died suddenly in the interior. On the suspected use of poisons, see AHU, CU, Angola, Cx. 30, Doc. 2950, Carta do governador e capitão-general de Angola, Rodrigo César de Meneses, ao rei, 30 August 1734.

²⁵ 'De Dom Miguel Antonio de Mello acerca do Breu'.

source from the early eighteenth century refers to many vegetables from the mountains of Kongo, hinting that Capuchin networks would have made Kongolese *materia medica* available in Italy, a topic that would merit further study.²⁶ Early eighteenth-century pharmacopoeias give a clearer picture of the West-Central African drugs known in Portugal. In Lisbon, monastic pharmacies operated by Jesuits and Augustinians provided medicines to the city's ailing population. Augustinians, especially, were known for their texts on pharmacology, including the first continental pharmacopoeia written in vernacular Portuguese by Dom Caetano de Santo António, published in 1704.²⁷ The fourth edition of Dom Caetano's pharmacopoeia, published in 1754 with the title *Pharmacopea lusitana augmentada*, includes only passing references to African medicinal plants imported from Angola, but these originated, were grown and enjoyed widespread popularity in South and South East Asia.²⁸ This clearly demonstrates that Angola was a part of global cross-cultural medical exchanges, not an isolated outpost in Africa. Similar to what was taking place in Brazil, plant-based drugs imported or transplanted by the Portuguese from India and Ceylon were spreading throughout West-Central Africa by the eighteenth century.²⁹

The central figure in popularising medical knowledge from the tropics was the Portuguese doctor João Curvo Semedo, who published a set of books containing medical prescriptions based on medical prescriptions he called 'Curvian secrets'. Many of these treatments were made with ingredients from Africa, Asia and Brazil.³⁰ Curvo Semedo's work *Memorial de vários simples* (Memorial of Various Simples) offers many examples of 'exotic' drugs exported from Angola. As evidenced in earlier works concerning Angola and Kongo, some of the Central African drugs were composed of animals. Hippopotami and elephant teeth, antelope claw, the vertebral bones of cobra and the teeth of wild boar (*engala*) were all mentioned among the drugs derived from animals. Among the drugs

²⁶ Cavazzi, *Istorica decrizione*, 142; Giuseppe Gazola, *Il mondo ingannato da falsi medici* (Venice: Marino Rossetti, 1716), 47.

²⁷ Walker, 'Acquisition and Circulation', 261–262.

²⁸ D. Caetano de Santo António, *Pharmacopea lusitana augmentada: methodo pratico de preparar os medicamentos na fôrma galenica, e chimica* (Lisbon: Mosteiro de S. Vincente de Fóra, 4th ed., 1754), 26–27.

²⁹ On Asian medicinal plants in Brazil, see Walker, 'The Medicines Trade', 413.

³⁰ Furtado, 'Tropical Empiricism', 147; Benjamin Breen, 'The Flip Side of the Pharmacopoeia: Sub-Saharan African Medicines and Poisons in the Atlantic World', in *Drugs on the Page: Pharmacopoeias and Healing Knowledge in the Early Modern Atlantic World*, edited by Matthew James Crawford and Joseph M. Gabriel (Pittsburgh: University of Pittsburgh Press, 2019), 149–150, 158.

derived from plants, Semedo mentioned the root of *minhaminha*, which was used as an antidote to poison. Cadornega, writing around 1680, claimed that this had been ‘recently’ discovered in the *presidio* of Ambaca and was the finest antidote discovered until then. From Benguela, the Portuguese exported *kiseko* wood, which was used to cure headaches. Semedo also recognised one of the oldest botanical imports from West-Central Africa, namely *kikongo* wood, and claimed that it had the same effect as *kiseko*. Merolla, Curvo Semedo’s contemporary, had also listed these three drugs in his book on West-Central Africa, and Cadornega’s chronicle confirms that *kiseko*, along with *kikongo*, was a prevalent medicinal in Benguela.³¹

Some of Curvo Semedo’s prescriptions including medicinal plants show clear continuities from the seventeenth century. Semedo, for example, recommended the *angariari* (or *engariaria*) fruit to provoke urine and to cure kidney stones and the bladder. Curvo Semedo seems to have been well aware of what had been written about local Angolan medicinals and probably had access to some of the manuscript materials. *Engariaria*, for instance, was described with the words Afonso Mendes had written in his treatise on Angolan medicinals around 1650. Another remedy also seems to come straight out of Mendes’s manuscript. Semedo listed the root of a *mutututu* tree because of its great virtue in treating erysipelas and inflammation in the testicles, exactly as mentioned by Mendes. Some drugs listed by Mendes, however, were used differently by Curvo Semedo. The *mubango* tree, which Mendes included because of its usefulness in treating cold cramps and ‘the air’, was in Curvo Semedo’s view used especially by pregnant women to alleviate childbirth pains. It was ground into powder and, when used like tobacco, made one sneeze. Curvo Semedo clearly had knowledgeable informants, as he knew that it came from Ambaca and Kasanje in the interior of Angola.³²

Although the quantities of African medicinals imported into Portugal remains unknown, these pharmacopoeias, and especially Curvo Semedo’s work, demonstrate that knowledge of West-Central African drugs was spreading in Portugal by the early eighteenth century. In Portugal, local doctors experimented with these ingredients and developed their own compounds, which they then offered to their customers. Here, one can see an antecedent to late nineteenth-century

³¹ João Curvo Semedo, *Memorial de varios simples que da India Oriental, da America e de outras partes vem ao nosso reyno* (Lisbon: Oficina de António Pedroso Galram, 1716), 11–12; Cadornega, *História geral*, III: 171, 381.

³² Semedo, *Memorial de varios simples*, 24, 29–30.

efforts by various pharmaceutical companies to bioprospect for plants in Africa and elsewhere in the tropics. It is clear that Portuguese doctors and pharmacists such as Curvo Semedo sought commercial advantages in developing these drugs, although they operated on a relatively small scale.

What about Central African natural products and medicines in Brazil? Since Brazil was the primary destination of West-Central Africans in the slave trade, and because of the well-studied interconnections of Angola and Brazil in the southern Atlantic, one would expect to find at least some celebrity drugs making the Middle Passage to the New World. After all, scholars have pointed out that Atlantic crossings of West African plants can be detected in *Candomblé* rituals, for example.³³ Another well-known example would be African oil palm, which held a central place in the development of Afro-Brazilian cultures and landscapes. The historical trade in African palm oil between Bahia and several West and West-Central African societies helped construct a cultural economy for palm oil in Bahia, and it contributed to the social and ecological development of domestic palm oil production in and around Salvador.³⁴ Yet, the medical substances deemed most popular among Portuguese settlers in Angola – *kikongo*, *takula*, *engariaria* – seem not to have been systematically exported to Brazil. The meticulous surgeon Gomes Ferreira, who listed many plants that were commonly used in Minas Gerais in the early eighteenth century, noted that other plant medicines were arriving in Brazil from Angola. He listed a fruit called *tepe* or *pepe* as an essential ingredient in a remedy used to cure asthmatic defluxions (*defluxos asmáticos*). According to Gomes Ferreira, men who had business in Angola brought the *pepe* fruit and ‘many other medicinal things’ to Bahia. In the 1740s, surgeon João Cardoso de Miranda mentioned using Angolan salt in one of his medical concoctions. He called it *sal de Quissanga*, likely referring to salt from Kisama.³⁵

³³ Robert A. Voeks, *Sacred Leaves of Candomblé: African Magic, Medicine, and Religion in Brazil* (Austin: University of Texas Press, 1997).

³⁴ Case Watkins, *An Afro-Brazilian Landscape: African Oil Palms and Socioecological Change in Bahia, Brazil* (unpublished Ph.D. dissertation, Louisiana State University, 2015), 118–176.

³⁵ Luis Gomes Ferreira, *Erário Mineral* (Lisbon: Oficina de Miguel Rodrigues, 1735), I: 260, 333 and 471; II: 556–558 and 675–678; João Cardoso de Miranda, *Relação cirurgica, e médica, na qual se trata, e declara especialmente hum novo methodo para curar a infecção escorbútica, ou mal de Loanda, e todos os seus productos, fazendo para isso manifestos dous especificos, e muy particulares remedios* (Lisbon: Oficina de Miguel Rodrigues, 1747), 64. On earlier exports of *guandu* and guinea peas from Luanda to Brazil, see Cagle, *Assembling the Tropics*, 242. On Kisama’s salt mines, see Beatrix Heintze, ‘Historical Notes on the Kisama of Angola’, *Journal of African History* 13 (1972): 407–418.

Another indication of the global movement of medicinals in the Portuguese Empire and in the Central African diaspora comes from the Inquisition case of Luzia Pinta, one of the most famous Central African healers in Minas Gerais during the eighteenth century. Sent to Lisbon in December 1741 for interrogation by the Inquisition, Luzia was described as a woman of around fifty years of age, tall and stout, with scarification marks close to her forehead and one on each cheek. She was an unmarried freed slave (*forra*) from Luanda, whose parents had been slaves. She had been baptised in Luanda in the Conceição parish. Luzia confessed to having used herbs and roots for healing purposes, but she denied the use of divinations and having a pact with the Devil. She identified the medicines she administered as the root of ‘*abatua*’ (also known as *butua* in contemporary sources) and ‘*pau-santo*’ and said that these made her patients vomit.³⁶

A plant named *butua* was also found in West-Central Africa. It was identified by Cadornega as a plant imported from India. In the early nineteenth century, Angola’s chief physician, José Maria Bomtempo, mentioned a few plants that were produced in Angola and Benguela. These were *abutua* (*Cissampellos Parreira*, L.) and *alcassús* (*Glycyrrhiza glabra*, L.). In the case of *abutua*, Bomtempo pointed to its potential economic value, writing that certain parts of West-Central Africa produced it in immense quantities. Finally, in the 1850s Welwitsch discussed a plant called *abutua* that he had found growing in the Golungo Alto, Cazengo and Dembos regions. Locals used its pounded roots as well as the leaves, branchlets, bark of the trunk and fruits as a decoction against diarrhoea, gonorrhoea and various other distempers, especially long-established syphilis. Its infallible efficacy was also recommended in cases of snakebites and as a sudorific in treating constipation.³⁷

From Kongo to Lisbon: The *Enkasa* Tree

In 1731, Sergeant-Major Francisco de Buitrago sat down in Lisbon to write a book he called *Arvore da vida*. In English, the full title of the book

³⁶ Laura de Mello e Souza, *O diabo e a terra de Santa Cruz* (São Paulo: Companhia das Letras, 1986), 352–357; Mott, ‘O calundu-angola’. The original documents are in ANTT, TSO/IL, Processo 252 (Processo de Luzia Pinta).

³⁷ Cadornega, *História geral*, III: 381; José Maria Bomtempo, *Compendios de Materia Medica* (Rio de Janeiro: Regia Officina Typografica, 1814), 27, 31; William Philip Hiern, *Catalogue of the African Plants Collected by Dr. Friedrich Welwitsch in 1853–61. Dicotyledons, Part I* (London: British Museum, 1896), 15–16.

manuscript ran *Tree of Life: The Discovered Treasure of a Tree, sister to the one from which the cross of our redemption was made; To free [oneself] from the evils of the Devil, for life and health of the bewitched or those vexed by the same Devil, and many other diseases; And many and singular remedies to many maladies all approved with many prodigious experiences, as is public and as can be seen from those treatises*. That Buitrago's manuscript was indeed intended for publication can be seen from the index that he compiled at the end of the book. However, it was never published; the book survives only in manuscript form in the Portuguese National Library. Religion and medicine were intrinsically inseparable in Buitrago's work, and he offered and dedicated the book to Our Lady of Conception. The book consisted of two treatises. The first treatise dealt with the virtues and prodigies of the bark of a tree that Buitrago called the tree of life. The second treatise was a compendium of 'many singulars' or natural remedies that Buitrago, a knight of the Order of Christ, had experimented with during more than twenty years of service in the colony of Angola.³⁸

The tree of life was identified by Buitrago as the bark of the *enkasa* (spelled *emcassa* and *cassa* by Buitrago) tree. He argued that it was 'the most singular antidote in the whole world, not surpassed by anything; [it] is very singular and miraculous against *feitiços*'. It was used and esteemed among the Kongolese and many whites who had been to the Kingdom of Kongo. Buitrago claimed that it was sold in Lisbon. A friend of a friend who constantly received people from Kongo had ordered a great quantity of *enkasa* and sold it to others, declaring its great virtues, primarily against *feitiços* and poison. Buitrago referred several times to *enkasa* as the sister of the tree from which the cross of the crucified Christ had been made.³⁹ Given the proliferation of Christianity in the Kingdom of Kongo, this apparently reflected the Kongolese interpretation of *enkasa*. It seems to have been part of Kongolese folk Catholic mythology. In Kongo, people took suspected witches to the tree to see if they could escape from it or gave signs of being witches. Buitrago had given *enkasa* in Angola to a black who was about to die, after which the man had vomited 'various things' and been freed of his illness immediately. He

³⁸ Biblioteca Nacional de Portugal, Fundo Reservados 437, Códice 13114, Francisco de Buytrago, *Arvore da vida, Thezouro descubierto da Arvore irmaã daque se fez a cruz da nossa Redempção. Para livrar dos malefícios do Demonio, p.a vida e saude dos enfeitiçados ou vexados do mesmo Demonio, e outras m.tas enfermidades E muitos e singulares remedios p.a muitos achaques aprovado tudo com muitas experiencias prodigiosas, como hé publico e se vera dos daq.les tractados*. Lisbon 1731, ff. 1r–5r. I use the modern spelling of Buitrago in the text rather than the spelling Buytrago that appears in the documentation.

³⁹ Buitrago, *Arvore da vida*, ff. 1r, 10v–11v.

had also tried it in Salvador, in Bahia, giving it to a slave who was soon freed of *feitiços*.⁴⁰

The use of *enkasa* by the Kongolese to detect witches indicates its use in poison ordeals. Judicial ordeals were found in most Atlantic African societies, as John Thornton has shown. They commonly required giving the accused poison. If the accused vomited it up, they were held to be innocent; if not, then they either died of its effects or were held to be guilty. There were a variety of judicial ordeals in Central Africa, not all of them involving the use of poison. These included the plunging of hands in hot water or seizing hot irons. In these rituals, the innocent typically went unharmed. These ordeals had a remarkable continuity and geographical spread over the centuries. They have been interpreted not only as judicial procedures, but as a struggle between good and evil, against witchcraft itself. As such, they fit well in the larger context of healing and harming in Atlantic African medicine.⁴¹

Francisco de Buitrago's career in Angola is not well documented, but traces of it survive in official letters. In 1707, while serving as an adjutant in the infantry in Luanda, Buitrago was promoted to the post of Captain Engineer (*Capitão engenheiro*) because of his knowledge 'in the science of fortifications'.⁴² After this, Buitrago disappeared from the documentary record until 1721, when he petitioned to be freed from service. In his letter, Buitrago documented that he had entered royal service in March 1692 and served for more than twenty years in Angola in various posts, including the posts of Captain-Major of the Ilha do Cazanga and Captain Engineer. In 1718, he had been allowed to leave Angola for Bahia in order to cure his ailments. However, this had not succeeded in Bahia and he had returned to Lisbon, where his treatment had continued.⁴³

The first treatise of the manuscript documented in detail how Buitrago, after returning from Angola, used the bark of *enkasa* in Lisbon to exorcise people thought to have been bewitched. It was really an exorcist's manual and perhaps partly explains why the manuscript remained unpublished. In the early 1730s, the Inquisition of Lisbon

⁴⁰ Buitrago, *Arvore da vida*, ff. 6v–8r, 39v.

⁴¹ John Thornton, *Africa and Africans in the Making of the Atlantic World, 1400–1800*, 2nd ed. (Cambridge: Cambridge University Press, 1998), 241. On poison ordeals and their historiographical interpretation in eastern Africa, see Langwick, *Bodies, Politics, and African Healing*, 42–46.

⁴² AHU, CU, Angola Cx. 18, Doc. 2027, Consulta do Conselho Ultramarino ao rei D. João V sobre a nomeação de pessoas para o posto de engenheiro de Angola, 8 February 1707.

⁴³ AHU, CU, Angola Cx. 22, Doc. 2238, Consulta do Conselho Ultramarino ao rei, D. João V sobre o requerimento de Francisco de Buitrago, 11 January 1721.

accused several priests of performing illegal exorcisms.⁴⁴ Some of these priests were Buitrago's friends, as documented in his manuscript. More importantly, however, Buitrago's work shows how Western and West-Central African ideas of healing coalesced and were transferred from the colony of Angola and the Kingdom of Kongo to Lisbon.

Buitrago was not the only person to use *enkasa* in Portugal. A manuscript source from the municipal library of Porto reveals that *enkasa* was also used in the interior of Portugal in the eighteenth century. Noting Angola as the only source for this remedy, it repeats the same belief that the plant was related to the tree from which Christ's cross had been made. Noting the 'discovered and experimented' virtues of the tree, the manuscript states that it can be used for evacuating *feitiços* but also for expelling the Devil from a possessed person. It was also useful for deflux, flatus or flatulent pain, colic, ague, fevers and the bladder. The manuscript was dated 1753, suggesting that the remedy enjoyed popularity in Portugal and was constantly imported there for decades.⁴⁵

Besides *enkasa*, Buitrago documented the names, uses and effects of fifty-four natural remedies (see Appendix A) that he had learned to use in Angola. He claimed that the variety and virtues of trees and herbs and other singulars in Angola and neighbouring provinces exceeded those found anywhere else in the world. In Buitrago's words, the people of Angola performed 'extraordinary and miraculous cures', but the Portuguese generally neglected and ignored them. Due to his many years of residence in the region, Buitrago had learned the virtues of many medicinals and the mode of using them. He stated that he had collected information 'at his own cost', hinting that monetary payments had been involved in obtaining knowledge from indigenous experts.⁴⁶

⁴⁴ Márcia Moises Ribeiro, *Exorcistas e demônios: Demonologia e exorcismos no mundo luso-brasileiro* (Rio de Janeiro: Campus, 2003).

⁴⁵ I have been unable to consult the original source, which is partially transcribed in Eugénio dos Santos, 'O homem português perante a doença no século XVIII: Atitudes e receituário', *Revista da Faculdade de Letras: História*, II série, 1 (1984): 187–201. Richard Dennett's work attests to the continued importance of *enkasa* in early twentieth-century West-Central Africa. He observed its use in poison ordeals and in detecting witches in many locations. Among the Vili, the powdered bark was given to suspected witches and wizards as a test to prove their innocence or guilt. If the accused vomited the poison, they were deemed innocent. If the poison was retained, it either poisoned the witch or else acted as a strong purge, when the culprit was set upon and killed. Dennett was eager to find an *enkasa* tree, and as there were none in Luango, he took a walk of some 12 miles to find one. He described the *enkasa* tree he saw as measuring some 12 feet in circumference. There appeared upon its trunk a great oblong patch devoid of bark. Wanting to take a sample of the bark, he broke the blade of his knife, finding the tree much harder than he had imagined. R. E. Dennett, *At the Back of the Black Man's Mind or Notes on the Kingly Office in West Africa* (London: Frank Cass, 1906), 83, 127–129.

⁴⁶ Buitrago, *Arvore da vida*, ff. 5r–6r.

There were also ways of experimenting with new substances, as Pablo Gómez has shown for the early modern Caribbean. Sensual knowledge became a main avenue for ritual practitioners to identify, classify and control the natural world. Smelling not only alerted them to the ‘virtues’ of the herbs, but also helped them to feel and sense the immaterial world of spirits in very material ways and to cure illnesses that were caused by spells and poisons.⁴⁷ Buitrago’s collection of plant medicines abounded with antidotes. Of the fifty-five medicinals, fourteen had use as an antidote (*contraveneno*). These were effective not only against snake and other animal bites, but also against poison, pointing to the prevalence of the harming register in everyday life. Some plants were useful for many purposes. For example, *engariaria*, which Buitrago had many times experimented with personally, was used not only as an antidote against the bites of poisonous animals, but to cure stone, carnosity, heat and internal sores. Some plants excited the senses by their smell. Buitrago mentioned that the *kiseko*, a white tree growing in Benguela, had a strong smell. He had used it personally and claimed that everybody uses it. The popularity of the tree was demonstrated by its being sold in pieces and as whole trees.⁴⁸

Hybrid Moments

As discussed in Chapter 1, West-Central African healing specialists were experts in determining which spirits were plaguing the body and in appeasing ancestral spirits with feasts. They treated illness with natural medicines. Healers also had knowledge of a variety of antidotes in order to counteract the effects of poisonous plants. The selection of medicinal plants in Angola was extensive. The Europeans who wrote about local medicine in Angola in the seventeenth and eighteenth centuries listed over 120 different natural ingredients that could be used in different treatments. The great majority of medicine came from plants, with only twenty derived from animals and four from mineral sources.⁴⁹ The principal illnesses for which these remedies were used in healing practices were fevers, as was noted by early European visitors to the region.⁵⁰ Other common complaints included genital-urinary infections, venereal diseases and gastro-intestinal disorders. Other pharmaceutical uses of Central African medicine included the treatment of skin diseases and their use as antidotes.⁵¹

⁴⁷ Gómez, *The Experiential Caribbean*, 95–97, 103–114.

⁴⁸ Buytrago, *Arvore da vida*, 70v–73r, 74r–75r.

⁴⁹ Dias, ‘Índice de drogas medicinais’.

⁵⁰ Pigafetta, *Relatione del reame di Congo*, 69.

⁵¹ Dias, ‘Índice de drogas medicinais’.

Portuguese settlers had quickly familiarised themselves with African medical practices. By the late sixteenth century, Duarte Lopes could report that, in the Kingdom of Kongo, natural medicine consisted of various herbs, trees and their bark, oils, waters and minerals. Fever was treated with a powder prepared from two trees that was mixed with palm oil and applied onto the body from head to toe. The cure for headaches was achieved by making cuts on the temple with small horns and then sucking through the horns so that they filled with blood. Cupping horns were used similarly on any ailing body part. Lopes saw how wounds were effectively disinfected with herbs. He concluded that people did not need doctors, surgeons and physicians or European medicine and mixtures, for they simply cured themselves with native plants.⁵² Almost a century later, Cadornega observed that herbal remedies were often mixed with water in a pan and then people washed with this water. After repeating this a couple of times, the water was thrown onto a place where two roads crossed. The belief was that the first person who walked over the remains of the water took the disease away with him or her. People coming to a crossroads were careful to not walk over these remains and sought to bypass them as best they could.⁵³

Some Portuguese openly believed in African healing practices, while others rejected them. This could cause conflict in therapeutic encounters. Lieutenant Pasqual Rodrigues de Queiroga was denounced in 1716 in Luanda for consulting African healers in order to heal his godfather, João de Moura da Silva, in Massangano. According to the testimonies, he had called a black diviner to his house, who had told him that the illness was caused by the *zumbi* of his children's wet nurse. According to the denunciations, the diviner used the *bolungo* ritual, which was used to locate witches. The diviner thus indicated that the wet nurse was behind Silva's illness. Queiroga had received a number of remedies from the diviner, but when he tried to persuade Silva to take them, the patient responded by chasing Queiroga out of the house. Besides believing in the advice of local healers, Queiroga was said to

⁵² Pigafetta, *Relazione del reame di Congo*, 96.

⁵³ Cadornega, *História geral*, III: 258. The practice of taking herbal baths to alleviate or prevent illness was also reported in Minas Gerais, Brazil, in 1777. A healer named Roque Angola had an intimate relationship with his owner, a coloured woman named Brizida Maria de Araujo, who openly consented to and encouraged Roque's healing practice. Preparing the herbal bath was a hybrid practice, in which a crucifix was immersed in a caldron together with herbs. Roque and Brizida washed themselves with the water. After washing, they dressed in their best clothes and began a *calundu* ceremony. Brizida claimed that, in this ritual, the souls of the dead took possession of the living. According to witnesses, Roque was possessed by Brizida's deceased child. Kananoja, 'Infected by the Devil', 503–504.

wash himself only with water mixed with herbs that he conserved in a pot in his house. He was also rumoured to carry gazelle horns filled with poison as amulets.⁵⁴

Medicines, then, did not signify only vegetable, mineral or animal substances, but were also used as medicinal charms and power objects. They were thought to have powers to transform and to do something, to change or protect the body.⁵⁵ Amulets and charms made of buffalo or gazelle horns were common in West-Central Africa. In the 1780s, Rafael de Castelo de Vide encountered numerous people in the Kingdom of Kongo who carried traditional talismans around their necks or wore clothing adorned with 'diabolic' symbols. When he tore these away, stamped on or burned them, people defended themselves by saying that they relied on their traditional ways because there were no priests to teach them.⁵⁶

There is nothing curious or surprising about Portuguese men believing in African magical practices. After all, similar practices were used in Portugal at the same time. The idea that illness could be caused and cured by supernatural and physical means was common to Portuguese and African world views. José Pedro Paiva has shown that popular healers in Portugal, especially in the region of Minho in the north of the country, often engaged in spirit possession rituals. The contents of these rituals were more or less equal to the ones described in Angola. When it was thought that the spirit of a dead person was causing an illness, the healers moved violently and entered into a trance. In this state, the spirit that possessed them 'talked' and revealed the proceedings that were to be adopted to heal the illness. It was common that the spirit demanded a sacrifice from the patient. People usually offered bread, cheese and wine. Rather than seeing ritual offerings as a pagan practice, Paiva has pointed out that contacting the dead fitted perfectly into the Catholic model of asking for help from the souls of the dead in Mass and through prayers. The only doctrinal problem with spirit possession ceremonies was that, from an ecclesiastical point of view, it was not possible that the dead came to this world to talk to the living.⁵⁷

⁵⁴ ANTT, TSO/IL, Caderno do Promotor 86, ff. 41–45v. See also Ferreira, *Cross-Cultural Exchange*, 186.

⁵⁵ Susan Reynolds Whyte, Sjaak van der Geest and Anita Hardon, *Social Lives of Medicines* (Cambridge: Cambridge University Press, 2002), 5–6.

⁵⁶ Academia das Ciências de Lisboa, Série Vermelha de Manuscritos, 396, *Viagem do Congo, do Missionário Frei Rafael de Castello de Vide Hoje Bispo de S. Thomé*, 185–186, 190–191; Jan Vansina, personal communication, 13 November 2009.

⁵⁷ Paiva, *Bruxaria e superstição*, 106–107.

Therapeutic practices in Portugal were also based on local empirical knowledge of the virtues of certain herbs and plants. This ancestral knowledge was often transmitted orally and secretly from generation to generation. The application of natural medicine was normally spiced up with more or less orthodox Catholic prayers. Healers routinely requested the help of divine or saintly powers throughout the country. Cooking herbs and water and then giving the mixture to the patient to drink was a part of the healers' repertoire, as was applying concoctions of herbs to the parts of the body that were ailing.⁵⁸ In practical and symbolic terms, there was thus little that would have separated the Central African and Portuguese healing methods.

In early modern Catholic and Protestant thought, there was an important distinction between natural magic and diabolic magic. The suppression of popular magic in Europe, bolstered by the Reformations of the sixteenth century, has been seen as part of a campaign by the Church to Christianise the European peasantry.⁵⁹ By extending the medieval Christian idea of the diabolical pact, popular superstitions became systematically associated with demonic magic. However, Central African everyday practices such as folk healing were not always condemned as demonic magic, but they were interpreted as un-Christian superstitions. Capuchin missionaries and Portuguese settlers acknowledged that African healers cured people by offering them herbal medicine. They might condemn spirit possession rituals as diabolical, but they were also prone to condemning popular healers as charlatans and their rituals as deception.

In practical terms, much of the European medicine available in Angola must have been seen as ineffective and even counterproductive. Bloodletting rarely resulted in the recovery of the patient, but rather led to a deterioration in health. Bleeding by cupping was used by Africans as well, but it seems not to have been as severe. It is thus not surprising that medical knowledge in Angola was quick to become hybridised as the Portuguese learned the uses of local natural medicine from Central Africans. There was a great need for this knowledge among Europeans because the number of qualified doctors and the stock of European medicine in Angola were always low. Moreover, the consequences of humoural medicine must have led many people to conclude that the herbal remedies used by African healers inflicted less harm.

⁵⁸ Paiva, *Bruxaria e superstição*, 108–109.

⁵⁹ Jean Delumeau, *Sin and Fear: The Emergence of a Western Guilt Culture, 13th–18th Centuries* (New York: St. Martin's Press, 1990).

The hybrid nature of therapeutic practices in Angola is best revealed by correspondence concerning the hospital in Massangano. In 1702, the Capuchin missionary António Maria de Florença wrote to the king, complaining about the lack of medicine and the absence of a doctor and a surgeon in the Misericórdia hospital. His letter was brought to the attention of Angola's former governor, Luís César de Meneses, who commented on medical practices in Massangano. According to him, soldiers from the *presídios* of Muxima, Cambambe, Pedras and Ambaca came to be treated in Massangano. They were treated with '*remédios da terra*', or local natural medicine, by local specialists, who knew which herbs to use because of their long experience with various illnesses. Following the former governor's advice, the Overseas Council in Lisbon told Father António Maria that the soldiers in Massangano were best cured with local medicine, 'because experience shows that it is the best way to free them from danger than if they were cured with [European] medical arts'. Moreover, the council reminded the Capuchins that it would be impossible to send surgeons and doctors to Massangano voluntarily because of its reputation as a diseased place.⁶⁰ The Overseas Council thus gave its unwitting approval for the use of African medical practices in the interior of Angola.

Hybridity also worked the other way around. Local religious mixture was evident in Angola from the beginning. Catholic material culture definitely had an influence on Central African healing practices. Jesuits established a college in Luanda in 1593 to teach interpreters in the hope that they would then help them move Atlantic Creole Christianity closer to their ideal European model. They trained and sent 'chapel boys' to the interior to teach and prepare the way for them, as they had done with the sons of nobles in Kongo. Jesuits, eager to rid Angola of unacceptable indigenous religious practices, sought to identify and burn shrines dedicated to local deities. In the process, they began another practice that was to become commonplace in Angola. When baptising the *soba* of Songa in 1581, they replaced African 'idols' and religious instruments with Christian religious objects. Soon after this, the Mbundu began to appropriate Christian objects and install them in their shrines as objects of devotion.⁶¹

The hybrid practice of appropriating Catholic objects was noted by witnesses in inquisitorial inquiries led by the Jesuit Jorge Pereira in

⁶⁰ AHU, CU, Angola, Caixa 17, Doc. 1934, Consulta do Conselho Ultramarino ao rei sobre o parecer solicitado ao Luís César de Meneses, 21 May 1703. See also António Brásio, 'As Misericórdias de Angola', *Studia* 4 (1959): 144–146.

⁶¹ Heywood and Thornton, *Central Africans, Atlantic Creoles*, 100–101.

Luanda between 1596 and 1598. They reported that in Kongo and Ndongo, Africans bought crucifixes, images of saints and even indulgences from New Christian merchants. One of these merchants had reportedly also sold 'false relics' or masks and dolls that he had called 'bones of saints' and 'children of God'. The cultural exchange really worked both ways, because Portuguese merchants also obtained African objects of religious value.⁶² Heywood and Thornton have suggested that the Catholic Church spread in Angola not only in areas where regular priests travelled, but also outside of their jurisdiction, influenced by the secular clergy. One should also include Portuguese merchants as active agents in this process, because they were responsible for the adoption of Christian objects by Africans in many locations. As a result, as Heywood and Thornton have argued, 'a new Mbundu version of Atlantic Creole Christianity was taking shape' in Angola.⁶³

Devotion to the saints was a fundamental part of Counter-Reformation religiosity. In the Kingdom of Kongo, this veneration took on a local meaning in the early eighteenth century with the religious movement of Dona Beatriz Kimpa Vita, who claimed to be possessed by Saint Anthony. The healing aspects of prophetic religious imagination were central to her emergence as a religious leader. As befits a saint, Dona Beatriz/Saint Anthony healed the sick and was said to be able cure infertility. She claimed that even women who had been sterile for a long time could have children if they devoted themselves exclusively to Saint Anthony. Dona Beatriz attracted an immediate following when she announced that she could heal the infertile. Women tied small ropes and threads onto Dona Beatriz's hand and feet as a sign of their faith, paralleling the practice of both Portuguese and Italian Christians who even today tie gifts of money and messages to the statue of Saint Anthony. But in Kongo it was also a common practice to wear chains or ropes on one's hands and feet on feast days. The Kongolese interpretation was that these cords made them slaves of the Madonna.⁶⁴

In the Kingdom of Kongo, Dona Beatriz travelled extensively as Saint Anthony and claimed that she could heal the sick, especially the infertile. She found numerous followers among the common people, who accompanied her as she moved around. They sang the *Salve Antoniana* and proclaimed openly the tenets of her preaching. In order to further her

⁶² José da Silva Horta, 'Africanos e portugueses na documentação inquisitorial, de Luanda a Mbanza Kongo (1596-1598)', in *Actas do Seminário Encontro de povos e culturas em Angola* (Lisbon: Comissão Nacional para as Comemorações dos Descobrimientos Portugueses, 1997), 307-312.

⁶³ Heywood and Thornton, *Central Africans, Atlantic Creoles*, 105.

⁶⁴ Thornton, *The Kongolese Saint Anthony*, 132-133.

goals, she commissioned her own missionaries from among her followers, calling them 'Little Anthonys' and sending them often in pairs to preach throughout the kingdom. They told people that baptism served no purpose in God's eyes and distributed little cast-metal statues of Saint Anthony, called *Ntoni Malau*, that were intended to replace the cross and other symbols of Christian worship.⁶⁵ Besides giving them a religious reading, these objects can also be interpreted as medicinal charms. It seems that belief in Saint Anthony remained constant in Kongo for many years to come. In the middle of the eighteenth century, it was still common that people carried statues of the saint carved out of wood around their necks. At the same time, black soldiers who fought for the Portuguese attributed all their victories to the same saint.⁶⁶

The syncretic nature of Atlantic Creole Christianity was also observed by Father Rosario dal Parco in Luanda. His report revealed that Catholic priests sold relics to people who used Catholic objects as protective amulets or medicinal charms.⁶⁷ Other documents confirm that the market for Christian objects observed in the late sixteenth century was still in place in the latter half of the eighteenth century. In 1767, Portuguese soldiers confiscated a statue of Our Lady of Conception among African 'idols' during one of their campaigns in the interior of Angola, showing that Catholic images were ardently adopted and placed among traditional objects of devotion.⁶⁸ Central Africans actively sought to obtain these objects from churches, either by stealing them or by persuading someone else to do so. In the 1750s, a slave named Luis André obtained a chalice from a certain Pedro Oliveira de Pinto, who had stolen a communion plate and a chalice from a chapel. As compensation, Pedro received a bottle of *aguardente* for each. The chalice was later seized from Luis André, who was sentenced to a year of penal servitude.⁶⁹ A report by Bishop Alexandre in 1788 also pointed to the obvious syncretism that had become a part of African religious practice in Angola.

⁶⁵ Thornton, *The Kongolese Saint Anthony*, 132–149.

⁶⁶ AHU, CU, Angola Cx. 37, Doc. 50, Ofício do Governador e Capitão General do Reino de Angola (Marques de Lavradio) ao Conselho Ultramarino, 19 August 1750. In this correspondence, it is claimed that the Kongolese called Saint Anthony the 'God Saint Anthony'.

⁶⁷ P. Rosario dal Parco, 'Informations sur le royaume du Congo et d'Angola du P. Rosario dal Parco, préfet des capucins en Angola et Congo, 1760', in Louis Jadin, 'Aperçu de la situation du Congo et rite d'élection des rois en 1775, d'après le P. Cherubino da Savona, missionnaire au Congo de 1759 à 1774', *Bulletin de l'Institut Historique Belge de Rome* 35 (1963): 362.

⁶⁸ AHU, CU, Angola Cx. 51, Doc. 19, Carta do Governador Geral de Angola, 3 April 1767. In this case, the statue was sent to Brazil for restoration.

⁶⁹ AHU, CU, Angola Cx. 53, Doc. 37, Sentenças da Junta, 30 July 1769.

Chalices and other holy ornaments had disappeared from the majority of churches and were being used by Africans in their rituals. Holy images were placed in African homes alongside traditional statues, leading the bishop to state that images of Christ were adored side by side with those of 'the Devil'.⁷⁰

Medical hybridity was not viewed favourably by Portuguese physicians. In a letter written in 1770, Governor Sousa Coutinho mentioned that, due to a conflict with Luanda's popular healers, or *curandeiros*, Chief Physician Damião Cosme had taken refuge in the governor's house.⁷¹ Two decades later, Chief Physician José Pinto de Azeredo clearly condemned traditional popular healing practices in Angola:

The black folk, even while living with whites and learning their customs, observing their religion, and speaking their language, never forget the heathen rites, mischief and superstitions. In their illness they do not want professors nor take pharmaceutical remedies; because they only have faith in their medicines that they call *milongos*, and these have to be administered by *feiticeiros* [sorcerers], or *curadores* [popular healers]. It is lamentable that many whites born in Angola, but even some Europeans, believe in the virtue of such remedies, and secretly subject themselves to similar doctors.⁷²

Azeredo's comment shows that the feeble efforts, whether by the Inquisition or secular authorities, to rid the Portuguese colony of Angola of traditional therapeutic practices during the eighteenth century had not borne any fruit. Many white people found it more convenient to trust African popular healers than the surgeons and bleeders employed in the hospital of Luanda. In this way, people showed their distrust of the practice of phlebotomy that had dominated much of official medical thinking in Angola and elsewhere in the tropics. At the same time, however, the practice of making cuts in the skin and drawing blood in tiny quantities from sick people seems to have been an acceptable practice to both Africans and at least some Europeans.

Cross-cultural medical interaction persisted well into the nineteenth century. Omboni drew attention to the activities of African healers in Luanda and its hinterland, claiming that they lived alone in the woods, and, possessing practical knowledge of the effects of plants, also acted as doctors. People consulted them in groups and generally obeyed their suggestions. Medicinal preparations were sometimes made in secret

⁷⁰ AHU, CU, Angola Cx. 73, Doc. 28, Fr. Alexandre Bispo de Malaca, 20–24 June 1788.

⁷¹ AHU, CU, Angola, Cx. 54, Doc. 53, Carta de D. Francisco Inocencio de Sousa Coutinho, July 11, 1770.

⁷² José Pinto de Azeredo, *Ensaio sobre algumas enfermidades d'Angola* (Lisbon: Regia Officina Typografica, 1799), 53.

nocturnal meetings. According to Omboni, the 'ignorant' European soldiers of the forts and residents in the interior districts also consulted local folk healers secretly in cases of illness and scrupulously followed their advice.⁷³

Collecting Information

The exact avenues of knowledge transmission from local Africans to Portuguese collectors remain obscure, as informants are usually not named in the sources. Information on the curative properties of plants certainly came directly from healers in the course of therapy. Information could also be bought, as Buitrago hinted in his manuscript when referring to the costs of collecting information on medicinal plants. Moreover, he claimed that the cures often circulated freely, as it was customary to 'make everything in the view of the sick, to free [the healers] from some bad suspicion'.⁷⁴

As already mentioned, Afonso Mendes probably obtained his knowledge on plant medicines from African soldiers in Portuguese service and locals in the *presídios* of the interior. Portuguese settlers and traders who travelled in the Kingdom of Kongo or the hinterlands of Luanda and Benguela must have had experimental knowledge of local medicines. After all, they hardly had other options available. In this way, knowledge of herbal remedies must have accumulated over the decades and centuries, free to be used and shared with newcomers. Local African women, who had liaisons with Portuguese men in the port cities and in the interior, also facilitated access to sources of healing knowledge. In the case of João Pereira da Cunha, his partner Catarina Juliana directed him to a local African healer while they lived in Ambaca.

Central African mineral resources were as much a part of experimentation as plant medicines.⁷⁵ In December 1769, Governor Sousa

⁷³ 'Hanno loro sacerdoti che vivono solitari ne' boschi, ed avendo pratica conoscenza degli effetti di certe erbe fanno anche da medici I reggenti de' presidii e distretti portoghesei fomentano colla loro ignoranza quelle dannosissime superstizioni, perchè anch' essi in casi di malattia, nascostamente li consultano e ne seguono scrupolosamente i consigli.' Omboni, *Viaggi*, 93–94.

⁷⁴ Biblioteca Nacional de Portugal, Fundo Reservados 437, Códice 13114, Francisco de Buytrago, *Arvore da vida*, f. 5v. 'E pellas curas, q fazem he q se devulgão muitas couzas dellas, por ser costume entre o gentio fazer tudo a vista dos enfermos, p.^a os livrar de algua roim suspeita.'

⁷⁵ On persistent beliefs that mineral wealth could sustain the Angolan economy, see Governor Melo's report 'Acerca das riquezas desta Colónia, e da possibilidade ou impossibilidade de as aproveitar, 30 July 1799', *Arquivos de Angola*, First Series, 1:4 (1935): no page numbers.

Coutinho sent a sample of a green stone (*pedra verde*) to Lisbon. Its origin was a place called Serra de Bende, about eight or ten leagues from the *presidio* of Encoje in the lands belonging to a rebellious vassal of the King of Kongo. The locals called it the unguent stone (*pedra unguento*) because it healed all their sores and wounds. Missionaries, experimenters par excellence, used it to prepare paint, which they used in painting their churches. Besides giving a green dye, Sousa Coutinho assumed it contained copper. Fearing commercial competition by the French and English in Cabinda, he was unwilling to develop commerce in the product. Sousa Coutinho also wanted to hide the value of the green stone from locals and so had the stone brought to him secretly. Being certain that Angolan soils contained many similar treasures that should be brought under the spotlight of naturalists, Sousa Coutinho was, however, sceptical that locals were ambitious enough to develop a commerce in these products, commenting that locals always mixed their remedies with superstitious beliefs, believing that these made them virtuous.⁷⁶

Sousa Coutinho's wishes to bring Central African minerals under closer scrutiny were fulfilled twenty years later, when Joaquim José da Silva sent samples of natural products to Lisbon. His shipment in November 1791 included minerals such as gypsum and marble, among many others.⁷⁷ In Portugal, however, these samples were either buried in the *Real Gabinete da Historia Natural in Ajuda* or looted by Napoleon's troops in 1808 and taken to Paris.⁷⁸

By the late eighteenth century, the Portuguese in Angola had acquired a wealth of knowledge about natural medicine. Although this knowledge had been recorded in Capuchin writings, in Portuguese pharmacopoeias and in manuscript form, the late eighteenth-century officers and crown officials sent to Angola seem to have ignored these earlier writings completely and started their efforts at collection and systematisation from scratch. Joaquim José da Silva, a botanist sent to Angola, served in a double role as Secretary of Angola and as a scientific explorer. His three-year assignment became a lifetime residence, and he made field trips to Cabinda and the Rio Dande area (1783–1784), from Luanda to

⁷⁶ 'Sousa Coutinho para o Ex.mo Sr. Francisco Xavier de Mendonça Furtado com a remessa de hum caixote em que vai huma porção de Pedra Verde – Luanda, 4 December 1769', *Arquivos de Angola*, First Series, 1:1 (1933): no page numbers; AHU, CU, Angola, Cx. 54, Doc. 113, Ofício de Sousa Coutinho, 30 December 1770.

⁷⁷ 'Relação de productos Naturaes, que pela Secretaria de Estado da Repartição do Ultramar vão remetidos ao Real Gabinete – Luanda, 5 November 1791', *Arquivos de Angola*, First Series, 1:1 (1933): no page numbers.

⁷⁸ On French looting of natural history collections in Lisbon, see Filipa Lowndes Vicente, 'Travelling Objects: The Story of Two Natural History Collections in the Nineteenth Century', *Portuguese Studies* 19 (2003): 19–37.

Massangano (1784) and from Benguela into the interior of southern Angola (1785–1787). On his field trip to Cabinda, Joaquim José da Silva and his assistants were accompanied by Captain Álvaro de Carvalho e Matoso. Through his association and friendship with Silva, Matoso prepared a shipment of *materia medica* to Lisbon. The inventory list, published by Luiz de Pina in 1938 and in English translation by William Simon in 1976, provides a detailed account of several Angolan medicinal plants.⁷⁹ One is again struck by the inclusion of *kikongo* wood in Matoso's account. According to him, carbuncles, sores, cancers and all types of lesions that might suppurate were treated with 'a most singular remedy, much in use, and well tried, being the cure which is used instead of a harmful one'.⁸⁰

Matoso's observation and detailed instructions for *kikongo*'s medicinal use show that the plant had enjoyed widespread popularity in West-Central Africa for over two centuries. Portuguese settlers had learned of its use from the local population and adopted it for curing their own infections. Matoso also listed other remedies that had already been mentioned in the preceding century. *Engariaria*, tusk of the wild boar and *engala* horn, *kiseko* and kola had all been tried by Mendes, Cadornega and the Capuchins and were listed in Portuguese pharmacopoeias. Writing of Angolan medicinal products, Matoso noted that these 'very often utilised' remedies had been tried many times 'with an indivisible effect' and had 'proven useful'.⁸¹ The habitual use of local natural products by the Portuguese in Angola leaves no doubt that, in medical matters, Europeans learned from Africans rather than relied entirely on their own ways of treating diseases.

Portuguese attempts to collect information about Central African natural history were stepped up in the 1790s. Governor Almeida e Vasconcelos sent detailed instructions to captain-majors of the *presídios* to participate in sending samples to the *Real Gabinete*. Special care was to be taken when capturing, slaying and preserving animals. Military officers were also given guidance on how to dry and preserve plant specimens and remit minerals. Most importantly, collectors were asked to provide information on the provenance of specimens and their local uses. Finally, the instructions went beyond natural history and asked soldiers to collect 'with equal curiosity' arms, agricultural implements and indigenous idols and to provide observations on the religion, rites and laws of the locals.⁸²

⁷⁹ Pina, 'Notas para a medicina'; Simon, 'A Luso-African Formulary', 112–114.

⁸⁰ Simon, 'A Luso-African Formulary', 113.

⁸¹ Simon, 'A Luso-African Formulary', 112–113.

⁸² 'Instruções Gerais aos Capitaens Mores, sobre a colheita, e remessa das Produções Naturais, que hão-de ser dirigidas ao Real Gabinete de Historia Natural, 17 October 1790', *Arquivos de Angola*, First Series, 1:4 (1935): no page numbers. It is unknown if

Although the captain-majors did not participate actively in providing knowledge on natural history, Joaquim José da Silva continued collecting and sending specimens. In February 1793, he sent a large collection containing several medicinals, including four pieces of the *kikongo* tree, *mututo* and *abutua* root and two pieces of *kiseko* wood. The shipment also included a piece of *takula* and information on using it as dye. According to Silva, a ball made by mixing *takula* powder and water, when sent from one chief to another, served as a declaration of war, and when fighting men painted their bodies with *takula* paint.⁸³

The local markets were well developed and versatile products moved between the coast and the interior. Although the slave trade has been the main point of focus in narratives of Angolan history, Matoso's report points out that medicinal plants also moved along the trade routes. Kola nuts originating in the Kingdom of Kongo were imported to and sold in Luanda, where the inhabitants used them 'almost every day'. In exchange, Kongo traders received *nzimbu* shells that served as currency in their homelands.⁸⁴

The mixing of European and African ingredients had also continued. For example, *engariaria* was mixed with brandy and gunpowder to make a concoction to cure diarrhoea and dysentery. Alcohol was an important ingredient in some medicines. Half a spoon of powder from the tusk of a wild boar given with sugar-cane brandy as well as three little balls of dark horse manure, well ground up, and half a pint of wine were regarded as 'excellent' remedies for pleurisies.⁸⁵

these instructions ever led to any actions taken by captain-majors. If they did, the specimens and accompanying reports have not surfaced in the archives yet.

⁸³ 'Relação dos Productos Naturaes que pela Secretaria de Estado da Repartição do Ultramar, vão remetidos ao Real Gabinete da Ajuda, na Rela Fragata Minerva, em Cumprimento das Reaes Ordens de Sua Magestade, 18 February 1793', *Arquivos de Angola*, First Series, 1:4 (1935): no page numbers.

⁸⁴ Simon, 'A Luso-African Formulary', 113–114, *nzimbo* transcribed as 'Limbo' by Simon. According to Azeredo, *Ensaíos*, 46, kola nuts were in constant use and chewed at all times with water, 'which makes it sweet and tasty ... it aids digestion and because of these benefits it has become such a luxury that companions offer pieces of it, which they call "legs", to one another as a courtesy, with the same gallantry with which we exchange snuff between us'. On the trade and use of the kola elsewhere in Atlantic Africa, see Paul E. Lovejoy, *Caravans of Kola: The Hausa Kola Trade 1700–1900* (Zaria: Ahmadu Bello University Press, 1980); Edmund Abaka, *Kola Is God's Gift: Agricultural Production, Export Initiatives and the Kola Industry of Asante and the Gold Coast c. 1820–1950* (Athens: Ohio University Press, 2005).

⁸⁵ Simon, 'A Luso-African Formulary', 112–113. On alcohol in West Central Africa, see José C. Curto, *Alcool e Escravos: O comércio luso-brasileiro do álcool em Mpinda, Luanda e Benguela durante o tráfico atlântico de escravos (c. 1480–1830) e o seu impacto nas sociedades da África Central Ocidental* (Lisbon: Editora Vulgata, 2002); Curto, *Enslaving Spirits*.

In the late eighteenth century, one can observe two conflicting tendencies in the Portuguese attitudes towards African medicinals. On the one hand, interest in botanical knowledge from different parts of the Portuguese Empire was growing in Lisbon, resulting in scientific expeditions to Brazil, Angola and Mozambique. On the other hand, doctors serving as chief physicians in Angola were clearly turning away from using and experimenting with African plant-derived drugs, although they might have recognised a few of these medicinals as useful in their practice. The primary intention of Portuguese physicians was to introduce the newest Western medical thinking into Angola, including the common usage of cinchona bark from Brazil in treating malaria (see Chapter 5).⁸⁶

Three centuries of European experimentation with indigenous Angolan drugs was brought to a logical conclusion when, in 1798, Governor Dom Miguel Antonio de Melo wrote about the positive experiences of the medical uses of *kikongo* wood, *enkasa* bark, *engariaria* fruit and *muriassangi* root. The diseases for which the said drugs were used had not changed over the centuries. Rather, the Portuguese had now compiled more knowledge through experimentation. *Kikongo* was still used to cure acute fevers, erysipelas and anthrax. Women used it with palm oil as a cosmetic to adorn their faces and hair. For acute fevers, a tablespoon of powder from the *kikongo* tree was dissolved in water, showing that this medicine had a fixed dosage. Anthrax was cured by covering skin lesions with *kikongo* powder and applying a poultice of maize flour and palm oil to them. According to Melo, the continuous experiences of curing anthrax with *kikongo* had demonstrated that, in contrast to Portugal, the disease was not fatal in Angola.

Unaware of Buitrago's experiments with *enkasa* in Lisbon, Melo thought that Europeans had not seen the tree before. It was known to have emetic 'virtues' and was also used as an antidote against certain poisons that abounded in the *sertão*. The first experiments with this substance were always made with great caution, as it was well known that large dosages were lethal. Melo was aware that blacks used it in their judicial rituals and poison ordeals. *Engariaria* was another plant that had a long history as a medicinal in Central Africa, but Melo was not familiar with Capuchin writings about the plant. The plant resembled nutmeg

⁸⁶ Augusto D'Ésaguy, 'A abertura da Escola Médica de Luanda (duas obras inéditas do dr. José Pinto de Azeredo)', *Imprensa Médica* 15:3 (1951): 31–37; Augusto D'Ésaguy, *Breve notícia sobre a Escola Médica de Luanda (Documentos)* (Lisbon: Ed. Império, 1951); Jaime Walter, *Um português carioca professor da primeira escola médica de Angola 1791 (as suas lições de anatomia)* (Lisbon: Junta de Investigações do Ultramar, 1970).

and was used in curing cramps and bloody dysenteries. A teaspoon of *engariaria* powder was dissolved in water together with an equal amount of *kikongo* powder.⁸⁷

Portuguese enthusiasm for West-Central African plant medicines can be compared with the scientific work of mapping the Congo River in the early nineteenth century by British explorers. By the time of Tuckey's expedition to the Congo in 1816, the epistemological effects of Linnaean systematisation were clearly discernible. The expedition's Norwegian botanist, Christen Smith, was more interested in amassing plants for physical examination than in their local names, uses and histories. He rarely recorded the vernacular names of plants in his journal and did not employ local assistants specialising in botany, although a Kongolese man named Ben served as his servant. When describing a plant Smith took for *Ximenia*, Smith noted that the locals called it *Gangi*. He also heard from Catholic priests 'long stories about its use in putrid fevers'. But that was the extent of Smith's interest. Unlike Portuguese amateur botanists before him, he did not compile a detailed list of local medicinal plants.⁸⁸

When not hunting for new specimens on the land, Smith was confined to the ship on the river, making a focused effort to preserve and examine his valued plants, many of which undoubtedly were new to science. His activity can also be attributed to the constant haste that the expedition made in navigating up the River Congo. Whereas Buitrago spent years experimenting with *enkasa* in Angola and Lisbon, Smith only had time to scribble in his journal that 'Casa is a purgative legumen'. Later, people brought him its bark and leaves, telling him it was poisonous. Smith noted that the bitter *macasso* was a nut chewed by Kongolese elites, but he was not sure whether this was the kola nut. Smith's time on the river stands in great contrast not only to the efforts of Portuguese amateur botanists, but also to those of other Scandinavian botanists who were active in West Africa shortly before Tuckey's journey. Isert and Thonning on the Gold Coast as well as Afzelius in Sierra Leone were constantly interacting with local African informants or Europeans who had resided on the coast for a longer time (see Chapters 3 and 4). The nature of Tuckey's expedition made in-depth interaction with cultural

⁸⁷ 'De Dom Miguel Antonio de Mello acerca do Breu'.

⁸⁸ Christen Smith, 'Professor Smith's Journal', in *Narrative of an Expedition to Explore the River Zaire, Usually Called the Congo, in South Africa, in 1816, under the Direction of Captain J.H. Tuckey, R.N.* (London: John Murray, 1818), 261, 276. Smith's servant Ben 'left his native country when twelve years of age', and does not seem to have commanded specialised botanical knowledge.

go-betweens impossible, and Smith's imperatives lay in systematising his findings for botanical science.⁸⁹

Conclusion

In West-Central Africa, the material world of medicine abounded with herbal, animal and mineral remedies. Experimenting with plant medicines and local curing methods was commonplace. From the early contacts onwards, the Portuguese constantly sought out local knowledge in their quest for health in a tropical environment. Exchanging medical knowledge formed the basis for cultural contacts, as local rulers requested European healing specialists and offered valued African medicinals as gifts to be sent to Portuguese kings. These exchanges were repeated over and over again in military regiments and households established by Portuguese men and African women. West-Central African medical knowledge and medicinals also spread throughout the Atlantic world, especially to Brazil and Portugal, by the eighteenth century. Further, religious connotations of healing were most prone to be cultivated cross-culturally, as the case of Saint Anthony of Padua's success in the Kingdom of Kongo attests.

Incorporating new medicinals into Luso-African pharmacopoeias was based, first and foremost, on experiment. The authority of healers, whether local *ngangas* or Portuguese men like Mendes and Buitrago, was based on public demonstrations of healing knowledge. Sensorial evaluation (taste, smell) of medical substances played a key role in their adoption. Expanding pharmacopoeias suggest that new plants and local specialties were added to lists of suitable remedies. With the 'discovery' of new ingredients in novel locations, news and knowledge of them travelled. Healers were mobile but so were the medicinals people used. Furthermore, Angola was a part of global exchanges. What had proven to work in India, moved with the Portuguese to West-Central Africa and Brazil.

⁸⁹ Smith, 'Professor Smith's Journal', 283, 286, 307, 328–329.