



HAL
open science

Jesuit recipes, Jesuit receipts: the Society of Jesus and the introduction of exotic materia medica into Europe

Samir Boumediene

► To cite this version:

Samir Boumediene. Jesuit recipes, Jesuit receipts: the Society of Jesus and the introduction of exotic materia medica into Europe. Cultural Worlds of the Jesuits in Colonial Latin America, , 2020, Knowledge Unlatched. halshs-03097608

HAL Id: halshs-03097608

<https://shs.hal.science/halshs-03097608v1>

Submitted on 28 Aug 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution - NonCommercial - NoDerivatives 4.0 International License

11. Jesuit recipes, Jesuit receipts: the Society of Jesus and the introduction of exotic *materia medica* into Europe

Samir Boumediene

They have Papal bulls allowing them to practise this art and they have, in several places, like Rome or Lyon or elsewhere, apothecary shops they supply from their stores in the Indies and, therefore having drugs, they make medicines at a low cost and they sell them for a high price, which results in a very big traffic.¹

One of the best descriptions of the role played by the Jesuits in the early modern drug trade is to be found in a text written in 1669 by the Jansenist logician Antoine Arnauld, under the name of Sébastien-Joseph du Cambout de Pontchâteau. In his book entitled *La morale pratique des jésuites* Arnauld identified three factors to explain the involvement of the Jesuits in the pharmaceutical marketplace: their influence on the papacy; their ‘corruption’, i.e., their taste for money; and their presence in the Indies. In spite of the anti-Jesuit propaganda expressed in his text, and independently of any discussion about the ‘corruption’ of the Jesuits, this chapter would like to demonstrate that in some way Arnauld was right.

For several years the Jesuit drug trade has attracted the interest of many scholars who do not necessarily share the same agenda. Some are specialists in Jesuit studies; others come from the history of science and medicine or from commercial history. A few studies have been specifically devoted to Jesuit pharmacy,² but the topic also appears in works which have a different focus: the intellectual life of the colleges, the biographies of Jesuits, the material culture

- 1 A. Arnauld, *La morale pratique des Jésuites présentée en plusieurs histoires arrivées dans toutes les parties du Monde* (Cologne: Gervinus Quentel, 1669), p. 61.
- 2 J.L. Valverde, *Presencia de la Compañía de Jesús en el desarrollo de la farmacia* (Granada: Universidad de Granada, 1978); M.E. del Río Huas and M. Revuelta González, ‘Enfermerías y boticas en las casas de La Compañía en Madrid siglos XVI–XIX’, *Archivum Historicum Societatis Iesu*, 64 (1995): 46–8; S. Anagnostou, ‘Jesuit missionaries in Spanish America and the transfer of medical-pharmaceutical knowledge’, *Archives internationales d’histoire des sciences*, 52 (2002): 176–97; and ‘Jesuits in Spanish America: contributions to the exploration of the American materia medica’, *Pharmacy in History*, 47 (2005): 3–17.

S. Boumediene, ‘Jesuit recipes, Jesuit receipts: the Society of Jesus and the introduction of exotic *materia medica* into Europe’, in L.A. Newson (ed.), *Cultural Worlds of the Jesuits in Colonial Latin America* (London: Institute of Latin American Studies, 2020), pp. 229–54. License: CC-BY-NC-ND 2.0.

of the missions, etc.³ Despite this diversity all these works agree on three points also covered by the current chapter: first, the Society of Jesus was a truly worldwide organisation; second, the involvement of the Jesuits in the trade in drugs was an important aspect of their temporal activities; third, any of these temporal activities, and notably those dealing with knowledge, were, at least theoretically, subordinate to the apostolic goal of the Society.

In accordance with this scholarship, this chapter tries to understand the involvement of the Society in the medical marketplace, situating it within all the processes which defined the 'Jesuit presence' in their urban colleges and the most remote missions, as well as in the mobility of its members. Nevertheless, this chapter is not an overview of Jesuit pharmaceutical activities since this has already been done, for instance by S. Anagnostou for their American provinces.⁴ Neither is it a study of the business the Jesuits developed in respect of medicines. Its goal is, rather, to analyse the way the Jesuits converted things into commercialised items, that is, the process of commodification itself. What does it mean to introduce a new product onto the market and why did the Jesuits play a significant role in this process with respect to medicine?

In order to answer this question, this chapter focuses on remedies imported into Europe from Spanish America. This does not mean that the introduction of a new product onto the market was necessarily similar to the introduction of other overseas products into Europe: early modern pharmacy was also transformed, for instance, by the arrival of chemical products. Nevertheless, exotic products are of particular interest since their novelty and their distant origin raised, in a significant manner, the issues of accreditation and supply. Their case allows one to venture the hypothesis that, between the 16th and the 18th centuries, the Jesuits were perhaps the only organisation able to handle every aspect of drug importation, from the extraction of materials and knowledge overseas to the design of recipes and the sale of products in Europe. Hence, the first section of the chapter presents the different sources documenting the Jesuit practice of pharmacy in order to locate it within the broader activities of the Society: education and mission. The second section shows how the Jesuits introduced into Europe new remedies from the Indies, demonstrating how this process of commodification was linked to the practice

3 L. Martín, *The Intellectual Conquest of Peru: The Jesuit College of San Pablo, 1568–1767* (New York: Fordham University Press, 1968); M. Feingold (ed.), *Jesuit Science and the Republic of Letters* (Cambridge, MA: Harvard University Press, 2003) and *The New Science and Jesuit Science: Seventeenth Century Perspectives* (Dordrecht: Kluwer, 2003); J.W. O'Malley et al. (eds.), *The Jesuits II: Cultures, Sciences and the Arts, 1540–1773* (Toronto: University of Toronto Press, 2006); A. Prieto, *Missionary Scientists: Jesuit Science in Spanish South America, 1570–1810* (Nashville, TN: Vanderbilt University Press, 2011); E.C. Hsia, *Sojourners in a Strange Land: Jesuits and Their Scientific Missions in Late Imperial China* (Chicago, IL: University of Chicago Press, 2011); M. de Asúa, *Science in the Vanished Arcadia: Knowledge of Nature in the Jesuit Missions of Paraguay and Río de La Plata* (Leiden: Brill, 2014).

4 Anagnostou, 'Jesuit missionaries in Spanish America'.

of gift-giving⁵ and to the existence of a network through which remedies moved along with texts, images and curiosities. Finally, the last section is devoted to the most important novelty introduced by the Jesuits into European medicine: Peruvian, or Jesuit, bark.

The textual legacy of Jesuit pharmacopoeia: a brief overview

The intervention of the Jesuits in the history of remedies can be observed, at a first glance, in the texts they wrote and sometimes published about them. However, even focusing on the Jesuits' American provinces it is impossible to provide an exhaustive account of their writings on the subject. On the one hand, this is because the discontinuous presence of the Jesuits implies the dispersion of their texts, which was intensified with the expulsions and the dissolution of the order which occurred in the 18th century. On the other hand, it is because their studies concerned with remedies could appear in different kinds of works – missionary reports; letters; natural histories; pharmacopoeia treatises or recipes – written by men who could themselves have different profiles. Rather than providing a complete overview, the following section examines this geographical, thematic and sociological complexity, distinguishing three configurations – natural history in urban colleges; natural history in the missions; and recipes in the Jesuit pharmacies – before showing how they were articulated.

Natural history in the colleges

A decisive aspect of the apostolic project of the Jesuits, one on which Ignatius of Loyola strongly insisted, was the education of Catholic elites. From 1548 onward, in Europe and in some urban centres of America, the Jesuits founded a growing number of colleges, for which they tried to recruit the best-trained professors. The Constitutions of the order, however, explicitly excluded them from teaching medicine,⁶ so their inquiries in the field were, in the majority of cases, undertaken by people who had studied it previously or on their own. As a consequence, their intellectual activities associated with remedies were linked above all to natural history.

Although it did not properly belong to the *Ratio studiorum*, natural history was an attractive field for the most learned members of the Society.⁷ The Humanist study of Greek and Latin was indeed linked to the translation of ancient texts, in which Pliny occupied a prominent place. Furthermore, especially in relation to non-European worlds, the study of nature was a way to celebrate the glory of God. This dimension was particularly effective, for

5 Z. Biedermann, A. Gerritsen and G. Riello (eds.), *Global Gifts: The Material Culture of Diplomacy in Early Modern Eurasia* (Cambridge: Cambridge University Press, 2018).

6 This prohibition was sometimes ignored, e.g., in Bogotá.

7 L. Millones-Figueroa and D. Ledezma (eds.), *El saber de los Jesuitas. Historias naturales y el Nuevo Mundo* (Frankfurt and Madrid: Vervuert-Iberoamericana, 2005).

instance, in the works of Juan Eusebio Nieremberg. He was a professor at the Colegio Imperial in Madrid, where he devoted a part of his teachings to natural history and published countless books in which the Jesuits' Aristotelian conceptions tended to be replaced by a neo-Platonic approach to nature. In the belief that the knowledge of the secrets of animals or plants was a way to know God, Nieremberg was keenly interested in the new lands of America and consulted many manuscript sources coming from across the Atlantic when writing his *Historia Naturae, Maxima Peregrinea* (Antwerp: Plantin, 1635). He used, for instance, Francisco Hernández's works on Mexican medicinal plants, but his primary intention was less to produce a discourse on their medical virtues than to use them as a tool for edification.

The Jesuit's interest in natural history was also rooted in the passion for curiosities which many shared with their contemporaries. From that point of view, Nieremberg could be compared to another famous protagonist of what has been called 'the baroque science' of the 17th century: Athanasius Kircher. Professor of natural philosophy at the Collegio Romano, he devoted several of his books to natural history, especially *Mundus Subterraneus* (1664) and *Arca Noë* (1675). However, his celebrity was due above all to his cabinet of curiosities, for which he gathered objects from all over the world, especially from China. Following P. Findlen, several scholars have shown how important the spectacle of these curiosities was for the Society of Jesus.⁸ Thanks to their relations with missionaries, who sent them letters and brought them objects, the Jesuits were able to address the appeal of the exotic among the European aristocracy and the republic of letters. The manufactured items or the 'marvellous' remedies the Jesuits exhibited in European towns allowed them to recruit to their colleges promising students who, sometimes, also wanted to become missionaries. This can be seen in the *Litterae Indipetae*, the letters sent to the general by the Jesuits who wanted to be dispatched to the Indies. Even if it seems quite far from the history of *materia medica*, this passion for curiosities was, as we shall see, closely linked to the Jesuit commerce in drugs.

Natural history in the missions

Practical writings

Nevertheless, the attitude of the Jesuits towards curiosity was more complex than the case of Nieremberg or Kircher suggested. The missionary activities

8 P. Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley, CA: University of California Press, 1994); P. Findlen (ed.), *Athanasius Kircher: The Last Man Who Knew Everything* (New York and Abingdon: Routledge, 2004); M.J. Gorman, 'From "The Eyes of All" to "Useful Quarries in Philosophy and Good Literature": consuming Jesuit science, 1600–1665', in J.W. O'Malley et al. (eds), *The Jesuits II: Cultures, Sciences and the Arts, 1540–1773* (Toronto: University of Toronto Press, 2006), pp. 170–89; M.A. Waddell, *Jesuit Science and the End of Nature's Secrets* (Farnham: Ashgate, 2016).

of the Society also led its members to face more practical aspects of natural and moral history. Observation, collection, description and classification of plants, animals or minerals were crucial for the beginning and subsequent development of every mission. This was true for the Jesuits as well as for other religious orders, such as the Franciscans in 16th-century New Spain. With regard to the Jesuits, the most important work in the field was without doubt José de Acosta's *Historia natural y moral de las Indias* (1590). Mainly, but not exclusively, devoted to Spanish America, this book expresses an interest in curiosities. It was grounded in Acosta's experience in Peru, but also in the information he gathered on his way back to Europe, especially in Mexico, where he consulted manuscript chronicles devoted to the history of indigenous people and contacted Alonso Sánchez, a missionary in the Philippines, and other Jesuits coming back from Macau. The fourth book of the *Historia natural y moral* contains several chapters devoted to plants and remedies – such as cacao, coca, liquidambar or the bezoar stone – in which Acosta probably combined his experience with the descriptions written, for example, by the Sevillian physician Nicolás Monardes.

Acosta's book influenced many writings, both inside and outside the Society of Jesus, and led several missionaries to inquire further about the medical traditions they observed in the field. One of the best examples of such inquiries is Michal Piotr Boym's *Flora Sinensis* (1656), devoted to China, but other books with a broader scope, like Alonso de Ovalle's *Historica relación del Reino de Chile* (Rome, 1648), contained a study of local pharmacopoeias. The *Historia del Nuevo Mundo*, written around 1653 by Bernabé Cobo, for example, was originally intended to be a comprehensive history of the New World, covering both Peru and New Spain. The remaining parts of this work illustrate Cobo's interest in medicinal plants. The Jesuit described no fewer than 350 vegetables and was amongst the first to describe the Peruvian bark tree or the San Pedro cactus (*huachuma*). Many of the descriptions contain information about the properties of the plants and, sometimes, succinct indications about dosage. His inquiry not only required detailed observation or classification, but also the acquisition of knowledge from the Indians.

Converting medicines

Like Acosta or Ovalle and later works such as José Sánchez Labrador's *El Paraguay natural* (c.1771), Cobo's history is primarily grounded in his work as a missionary. In the most remote regions the ability to appropriate local pharmacopoeia was essential for the survival of the missionaries, who could not rely on any stable supply of medicines. That is why, as early as the last decades of the 16th century, missionaries, and especially the Jesuits, were the first to learn the properties of remedies still unknown in Europe. In Brazil, for instance, father José de Anchieta (1534–97), a missionary who wrote the first Guaraní grammar, learnt the properties of ipecacuanha, a root used to treat

diarrhoea, and informed the general of the Jesuits in a letter on the 'natural things' of the Brazil. A few years later, the missionary Pedro Cardim mentioned the same plant in his *Tratados*.⁹

Besides the necessity of survival, the quest for local remedies was also part of the other great apostolic goal pursued by the Jesuits: evangelisation. If, for both Catholics and Protestants, conversion was itself considered a medicine for healing the souls of pagans, the cure of souls was always narrowly linked to the cure of bodies.¹⁰ However, the role played by medicine in evangelisation varied, depending on the local context and strategies. Meanwhile, in the early modern Asiatic world the medical action of missionaries was used mainly as a diplomatic tool for making alliances with elites at courts. The situation differed radically in Spanish America, where Catholic missionaries aimed to convert everybody, so healing was required for everybody. This strategy of conversion-through-medicine had two sides. First, as expressed by the German Jesuit Juan de Esteyneffer in 18th-century New Spain, healing sick people 'opens the doors of their souls'.¹¹ This principle, directly derived from Christ's experience, implied improving the life of the Indians in order to demonstrate the goodness of Christianity. In his *carta anua* of New Granada province (1622–23),¹² for example, Florián de Ayerbe insisted on medical assistance being given by missionaries in order to relieve the 'pagans' from diverse diseases, especially the pox.¹³ This led the religious orders to introduce European remedies, but because of difficulties of supply and the necessity to adapt to local habits they were forced to use local remedies. In Cáceres or San Jerónimo del Monte, for instance, the Jesuits learned from local populations to use balsams, Campeche, dragon blood or *anime*.¹⁴

The other benefit expected from medical assistance to 'pagans' was the possibility of challenging the power of indigenous 'priests'. Missionaries knew the latter were also 'healers': if they wanted to replace the indigenous priests as mediators with the spiritual world, they had to replace them as therapists and to know how to use local plants. Health, therefore, was an important field in the fight against 'idolatry'. As a matter of fact, the missionaries leading the extirpation of indigenous practices could incidentally learn the properties of useful plants. This confession by a woman healer in 17th-century Peru illustrates the process quite well:

9 F. Cardim, *Tratados da terra e gente do Brasil* (Rio de Janeiro: Leite, 1925), pp. 73–4.

10 I.G. Županov, 'Conversion, illness and possession: Catholic missionary healing in early modern south Asia', in C. Guenzi and I.G. Županov (eds.), *Divins remèdes. Médecine et religion en Asie du Sud* (Paris: EHESS, 2008), pp. 263–300.

11 'A los muy RR. PP. misioneros', Juan de Esteyneffer, *Florilegio medicinal de todas las enfermedades* (Madrid: Alonso Balvas, 1729).

12 Real Academia de la Historia, Madrid (hereafter RAH), 9/3702, no. 21.

13 RAH, 9/3702, fol. 258r.

14 RAH, 9/3702, fol. 271r–v.

With which herbs does she heal?

She said with the coca near the canals...

Asking her with which remedy she cures scrofula, diarrhoea.¹⁵

As A. Prieto has shown, much of the medicinal information contained in the writings of Alonso de Ovalle probably derived from such rites of confession; and the same could be said about the works of Acosta or Cobo.¹⁶

The information gathered in the missions could thus have different fates: some might appear in treatises on natural history; some in treatises on 'idolatry'; some were simply lost. The various ways in which local knowledge was processed included trials aimed not only at checking the properties of the remedies, but also at defining efficient and safe dosages, which were recorded in more practical texts like recipes, collections of recipes or pharmacopoeia.

Jesuit recipes and pharmacies

The writing of such texts, however, was not limited to missionary contexts. In Europe as well as America and other continents many Jesuits wrote about the practical use of remedies. The majority of them were brothers working as an 'apothecary' or 'nurse' in the pharmacies of the Society. Encouraged by the Constitutions of the Jesuit order, assistance to the sick was indeed an important aspect of everyday life in Jesuit settlements. Baldassare Torres, a former physician, founded the first pharmacy of the order in Rome in the middle of the 1550s. Subsequently, countless colleges equipped themselves with an apothecary shop, the original purpose of which was to take care of the Jesuits, with the distribution of remedies outside a college being limited to charitable donations. Quite rapidly, however, the Jesuits began to take part in the medical marketplace. If, in the colleges established close to missionary fringes, the main role of the pharmacy remained to supply the priests, elsewhere the Jesuit apothecaries rapidly took part in the medical marketplace of several cities, in Europe as well as in America.

The Jesuit in charge of the pharmacy had to master the basics of Galenic pharmacopoeia and to know how to use texts such as recipe books or medical treatises. The medicinal products described in such texts might be grown in the garden of the college, if there was one, or be bought by the *mayordomo*. According to library catalogues and account books, Jesuit apothecaries were open to new medical ideas and used the most recent pharmacopoeias

15 Archivo Arzobispal de Lima, Idolatrías, V/8, fols. 10v, 21r, 27v; reproduced in A. Sánchez, *Amancebados, hechiceros y rebeldes (Chanca, siglo XVII)* (Cuzco: Centro de Estudios Regionales Andinos Bartolomé de Las Casas, 1991), esp. p. XXXV.

16 Prieto, *Missionary Scientists*, p. 58; S. Boumediene, *La colonisation du savoir. Une histoire des plantes médicinales du 'Nouveau Monde' (1492–1750)* (Vaulx-en-Velin: Les éditions des mondes à faire, 2016), pp. 365–6.

written in Europe.¹⁷ More generally, in Spanish America the Jesuit practice of pharmacy changed notably when the king granted the right to participate in the New World to non-Spanish Jesuits. Several brothers and fathers from the Germanic lands and Central Europe compiled important texts on what they called 'missionary medicine'. In 1712 Juan de Esteyneffer published his *Materia medica misionera* in Mexico; meanwhile Pablo Clain was publishing his *Remedios fáciles para diferentes enfermedades* in Manila. At the end of the 18th century, father Sigismund Aperger engaged himself in a very similar enterprise, though his work is still known only indirectly.

This remark requires further comment. First, many practical texts written by the Jesuits on pharmacopoeia were never printed. This is the case for at least two *Materia médica misionera* written in Paraguay at the beginning of the 18th century, one in Spanish by Pedro Montenegro and one in Guarani and Spanish by Marcos Villodas. However, it was also the case with countless recipes used inside the pharmacies. If some of these recipes were actually printed as instruction leaflet accompanying the remedies sold by the Jesuits, the majority of them circulated in manuscript form. The Real Academia de la Historia, for example, holds several recipes written or received by the Jesuits of the Colegio Imperial in Madrid and containing Choch bark; San Ignatius bean; a *contrabierba* from New Spain; Peruvian balsam; and a bean of the Darzel.¹⁸ In the Portuguese world, Jesuit recipes were compiled in a work entitled *Coleção de várias receitas e segredos particulares das principais boticas da nossa companhia de Portugal, da Índia, de Macau e do Brasil* which has yet to be published.¹⁹

This leads to another comment, this time on circulation. Until the end of the 17th century it was almost essential for missionaries who wanted to be published to send their texts to Europe and even to take them there in person. Acosta published his work in Spain; Ovalle in Rome; but Cobo, who remained in Peru, was unable to do so. Later, Esteyneffer and Clain managed to publish their work, but first in Mexico and Manila, whereas the pharmacopoeias written in Paraguay did not cross the threshold of any printing house before the 19th century.

The example of pharmacy perfectly shows the complex interplay between the circulation of texts, the circulation of people and the circulation of things. Nieremberg and Kircher's work relied on the arrival in Europe of texts, plants and objects; and their texts contributed to persuading young people to become missionaries: circulation was both a means and a goal of the apostolic project of the Society and of the personal ambitions of its members. Conversely, the natural history written by Acosta contributed to raising the interest in

17 L. Martín, 'La biblioteca del Colegio de San Pablo (1568–1767), antecedente de la Biblioteca Nacional', *Fenix*, 21 (1971): 29–30.

18 RAH, 9/3426, no. 2; RAH, 9/3631; RAH, 9/3671, no. 65; RAH, 9/3823.

19 Archivum Romanum Societatis Iesu, Rome (hereafter ARSI), Opera Nostrorum 17.

American plants and the diffusion in Europe of recipes developed in the New World, thereby contributing to the creation of new supply chains. This explains the role the Jesuits played in the introduction of new remedies into Europe.

A Jesuit network expanding across the world

The strength of the Jesuits, compared with other religious orders, was not only their ability to gather information in their missions: behind all the texts mentioned above there was, indeed, a true art of circulation. S. Harris, amongst others, has shown how the Jesuits' mobility furthered the development of their 'scientific' activities.²⁰ In fact, this mobility also fostered their participation in commercial activities. In order to create what Arnauld calls 'a very big traffic' the Jesuits used the regular trade routes, but also organised a system of exchange quite similar to that existing in other religious orders. This network happened to be useful for communication both inside and outside the order.

An order of communication

Since the foundation of the company, the Jesuits had developed a network of communication in order to inform the upper echelons of the order about the progress of Christianisation and to ease coordination between its different houses. The official correspondence, held by the superiors of the missions, the rectors of the colleges, the provincials and the general, included several documents: missionary reports (*cartas annuas*); catalogues; accounts; and necrologies. The Jesuits also exchanged more informal letters, such as Rafael Pereyra's correspondence, now held by the Real Academia de la Historia in Madrid. In touch with Jesuits from all over Europe, this Sevillian father informed himself about diplomatic and military events, sent letters to America²¹ and sent novelties from the Indies to his correspondents.²² In a letter addressed to Gaspard Barzée on 12 February 1554, Ignatius Loyola already insisted on the importance of such communication:

[S]ome important people who, in this city [Rome], read with great edification the letters from the Indies, ordinarily desire or ask quite often that we write something on the cosmography of the countries where ours go, for instance, on the length of the day during winter and summer, if a shadow moves from the right or from the left, if there were other

20 S. Harris, 'Long-distance corporations, big sciences, and the geography of knowledge', *Configurations*, 6 (1998): 269–304; 'Jesuit scientific activity in the overseas missions, 1540–1773', *Isis*, 96 (2005): 71–79; 'Mapping Jesuit science: the role of travel in the geography of knowledge', in J.W. O'Malley et al. (eds.), *The Jesuits II: Cultures, Sciences and the Arts, 1540–1773* (Toronto: University of Toronto Press, 2006), pp. 212–40.

21 See, e.g., RAH, 9/3687, fol. 158r–v; RAH, 9/3788, fol. 381r.

22 See, e.g., the letters written by Juan de Lugo to Rafael Pereyra on 13 Jan. 1635, 19 Feb. 1635 and 26 May 1636 (RAH, 9/3686, fols. 225r–v, 263r–v; RAH, 9/3684, fols. 353r–v).

extraordinary appearances, animals or unknown or rare plants, and give information about them.²³

Within the Spanish territories, two Jesuits played key roles in these transmissions: the *procuradores* or procurators of the Indies.²⁴ Established at the end of the 1560s and at the beginning of the 1570s by General Borja, they were supposed to represent the company vis-à-vis the institutions responsible for the administration of the Indies. One *procurador* operated in Seville before the Casa de la Contratación, where he organised the reception, registration and departure of missionaries and where he sought to secure finance for the missions. Another *procurador* of the Indies worked in Madrid before the Council of the Indies, where he negotiated the foundation of new missions, visas for missionaries and fiscal exemptions from the crown. Everything coming from the Indies theoretically came through the hands of these two procurators.

Besides them, the circulation of objects among the Jesuits relied on the journeys of another kind of procurators, the ones representing their province during the general congregations of the order. Organised every six years in Rome, or after the death of the general in order to replace him, these meetings gathered together Jesuits from all over the world. These procurators took advantage of their trip to hire new missionaries but also to bring letters and objects to Europe. Thanks to their position, they could check the transactions at every stage of the process. By doing so, they could limit the costs and risks linked to commercial transactions: nobody could open their letters; nobody could steal part of the cargo. The Jesuits in Europe, even the most prominent, appreciated the security this provided. In 1636, for instance, General Vitelleschi suggested to the provincial Toledo that he might send him Nieremberg's work through a *procurador*: 'I cannot determine who has to send here the history of Father Juan Eusebio [Nieremberg]; it is easy to avoid the two inconveniences of cost and insecurity, remitting it to the procurador if nobody else from the company can bring it before'.²⁵ Outside the company, this benefit of security was also appreciated by institutions such as the Inquisition or the Council of the Indies,²⁶ or by powerful families needing to transfer letters or money.²⁷ In other words, this system of exchange contributed to defining the Jesuits as

23 Ignatius de Loyola, *Écrits* (Paris: Desclée de Brouwer, 1991), p. 873.

24 F. Zubillaga, 'El procurador de las Indias Occidentales', *Archivum Historicum Societatis Iesu*, 22 (1953): 367–417; A. Galán García, *El 'oficio de Indias' de Sevilla y la organización económica y misional de la compañía de Jesús: 1566–1767* (Seville: Fundación Fondo de Cultura de Sevilla, 1995); J.G. Martínez-Serna, 'Procurators and the making of Jesuits' Atlantic network', in B. Baylin and P. Denault (eds.), *Soundings in Atlantic History: Latent Structures and Intellectual Currents, 1500–1830* (Cambridge, MA: Harvard University Press, 2009), pp. 181–209.

25 RAH, 9/7259, no fol.

26 Archivo Histórico Nacional de España, Madrid (hereafter AHNE), Inquisición, leg. 5345 exp. 2, doc. 1.

27 Archivo General de la Nación de Perú, Lima (hereafter AGNP), Jesuitas, PR 1/14, doc. 710, fols. 41r, 70r; Caja 16, 734, fol. 6; Caja fols. 8, 492, 502.

particularly reliable suppliers. In some cases they were the only people able to make available certain objects, from *naturalia* to *artificialia* and texts. This gave European Jesuits a privileged access to the things from the Indies, but the members of the company also knew how to earn profits, sharing this privilege with non-Jesuits.

Internal affairs

Situated at the core of both the apparatus of the Spanish monarchy and the apparatus of the papacy, the Jesuit network was able to link the appropriation of things and knowledge in the Indies with their distribution in Europe and vice-versa.²⁸ The *procuradores* were the key to such a system since they directly created the link between the worlds. Their journey enabled European Jesuits to admire unseen artistic production;²⁹ to consult rare, if not forbidden, books and manuscripts, such as descriptions of Amerindian rites;³⁰ and to receive new drugs and curiosities. In 1578, for example, in the wings of the first general congregation involving the province of New Spain, its *procurador* Pedro Díaz brought ‘balsams, bezoar stones, singular roots and other medicinal things’³¹ to his co-religionists in Europe. During the following decades the procurators coming from Peru continually brought with them bezoar stones.³² A letter written on 29 January 1636 by Juan de Lugo, then professor at the Collegio Romano, sheds light on the kind of economy in which such gifts were given. Coming from Spain, Lugo was asked by the apothecary of the Collegio Romano to find him *tacamahaca*, an American resin. In order to do so, Lugo suggested to his correspondent that the procurator might undertake this task:

A lay brother in this Collegio, whose pharmacy is, according to the pope, the best in the world ... asked me insistently to make somebody bring him some tacamahaca. If a procurador came to the congregation, Your Reverence will do me the favour of asking him to endeavour to undertake this task, because this brother will pay him the whole cost, or any commodity from Rome of any kind because he will know better than anyone how to find it.³³

Juan de Lugo repeated the request several times,³⁴ which indicates that the apothecary of the Collegio Romano desperately wanted the resin. He was ready

28 On the distribution of European – often manufactured – items in America by the *procuradores* on their way back, see L.E. Alcalá, ‘“De compras por Europa”: procuradores jesuitas y cultura material en Nueva España’, *Goya*, 318 (2007): 141–58.

29 Boumediene, *La colonisation du savoir*, p. 205.

30 RAH, 9/3692, fol. 670r.

31 F.J. Alegre, *Historia de la Compañía de Jesús en Nueva España* (México: J. M. de Lara, 1841), p. 125.

32 AGNP, Jesuitas, PR 1/14, doc. 710, fol. 70r; Caja 16, 734, fol. 1v.

33 RAH, 9/3686, fol. 224r.

34 RAH, 9/3684, fols. 353r–v, 367r.

to pay its price, with money or in exchange for commodities in Rome. In short, the *procuradores* were at the heart of a gift-exchange economy. Bezoar stones from Peru, for instance, could be swapped for news from Europe.³⁵ Even without reciprocity, gift-giving was an important concern for missionaries in America because it allowed them to pay their respects to important Jesuits in Europe, such as the procurators of the Indies or Juan de Lugo, who would later become a cardinal.

If, across the Atlantic, the procurators' gifts were often related to patronage, in Europe more horizontal, even friendly, exchanges could link the members of the company. From Seville, for instance, Rafael Pereyra sent tobacco and chocolate to many of his correspondents.³⁶ From Cadiz or Granada other Jesuits supplied the colleges of Madrid and Rome, especially Diego de Carrión, Juan del Marmol, Martín de Fonseca and Joan de Pina.³⁷ They invented recipes which mixed cocoa with *achiote*, cinnamon, chili, vanilla, amber or musk.³⁸ Such recipes reached the whole of Europe. At the beginning of the 1630s, for example, Father Benito de Sojo exchanged curiosities and remedies with the 'apothecary of the Collegio Romano' and Jesuits from Warsaw or Vienna. Soto also wanted to send them chocolate but, not knowing how to prepare it, he asked Juan de Camacho, procurator of the Indies, to specify the amount for him.³⁹

The gift, the commodity and the sample

Outside the Jesuit network this 'traffic' played an important role in the wealth and political destiny of the company. In order to understand this point, it is necessary to say a few words about the canonical legislation relating to 'commerce'. In a narrow sense, commerce consists of selling at a higher price what has been previously bought at a lower price; and the clergy were not meant to be involved in it. However, they could bypass this prohibition by obtaining exceptional exemptions or by adapting their mercantile practices: reselling a previously purchased commodity at the same price, or selling what had not been bought but produced were ways to practise commerce in a broader sense without practising it in a narrow sense. In 1635, for example, the Jesuit Francisco Vilches received from Juan Viera in Jaén some chocolate which he promised to 'convert into money' in order to pay legal expenses.⁴⁰

35 AHNE, Jesuitas, leg. 121, doc. 16.

36 See, e.g., RAH, 9/3672, fol. 144; RAH, 9/3687, fols 53r, 56v, 76r-v, 725r-v; RAH, 9/3788, fol. 460v; RAH, 9/7274.

37 RAH, 9/7333.

38 Juan del Marmol to Martín de Fonseca, Seville, 18 Feb. 1641: RAH, 9/7260.

39 RAH, 9/3687, fol. 38r-v.

40 RAH, 9/3800, fols 110r, 306r, 307r-v.

However, the interest of exotic remedies did not reside only in their commercial value. In Seville the *procurador* of the Indies continuously received boxes of curiosities, chocolate or drugs which could be offered to influential people.⁴¹ This generosity allowed the Jesuits to secure the friendship of a prince, bishop or counsellor of the Indies or a member of the Curia Romana, who, when the time came, could pay them back, granting them a fiscal exemption or a visa for missionaries.⁴² In 1602 to 1603, for instance, the founder and provincial of the Paraguay mission, Diego de Torres Bollo, went to Europe in order to assist as *procurador* of Peru at the general congregation. Between Madrid, Milan and Rome, he distributed numerous American curiosities and was able to recruit 40 missionaries. In Milan, where he hired Agostino Salumbrino,⁴³ Torres Bollo gave some of the most precious items he had collected in America to the powerful Cardinal Carlo Borromeo, as has been shown by A. Maldavsky.⁴⁴ Later, in 1646, it was also in Milan that Alonso de Ovalle, as procurator of Chile, gave precious American objects to another prominent member of the urban elite, Manfredo Settala, who included them in his famous collection.⁴⁵ Several of these objects were painted in an illustrated catalogue,⁴⁶ which showed, for example, a 'priest mantle from the Indie',⁴⁷ several balsams, especially the one from Tolú,⁴⁸ bezoar stones⁴⁹ and various curiosities from Peru, Chile, Paraguay or the Philippines.

In this system whereby the Jesuit influence in Europe reinforced the Jesuit influence outside Europe and vice versa, the commerce of drugs – in a broad sense – played a significant role. Nevertheless, this does not mean that all the religious orders were important protagonists of the medical marketplace; and even the power of the Jesuits was quite limited if we take into account the quantities in which they were dealing. However, their activity should not be judged in terms of quantity for it was above all a qualitative one. The system of exchange they developed allowed them to access and spread not only manuscripts and books, but also products like drugs, curiosities, tobacco or chocolate. The boundary between these kinds of object is less clear than

41 M. Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World* (Ithaca, NY: Cornell University Press, 2008), p. 146.

42 RAH, 9/3788, fol. 160r.

43 G. Piras, *Martin de Funes S.I. (1560–1611) e gli inizi delle riduzioni dei gesuiti nel Paraguay* (Rome: Edizioni di Storia e letteratura, 1998), pp. 41–102.

44 A. Maldavsky, 'Société urbaine et désir de mission: les ressorts de la mobilité missionnaire jésuite à Milan au début du XVIIe siècle', *Revue d'histoire moderne et contemporaine*, 56 (2009): 28.

45 Biblioteca Estense di Modena (hereafter BEM), MS. gamma.h.1.21 = cam.0338, fol. 73.

46 BEM, MS. gamma.h.1.21 = cam.0338; BEM, MS. gamma.h.1.22 = cam.0339.

47 BEM, MS. gamma.h.1.21 = cam.0338, fol. 5.

48 BEM, MS. gamma.h.1.21 = cam.0338, fol. 47.

49 BEM, MS. gamma.h.1.21 = cam.0338, fol. 72.

one might assume. Important products for consumption such as tobacco or chocolate, as well as many remedies sold on the market, originally came to Europe as curiosities.

The link the Jesuits created between the Indies and Europe enabled the circulation of highly esteemed products, together with unknown items whose value depended primarily on their novelty rather than on a corroborated process of accreditation. At this stage, the item was an image, an object of spectacle which could be accredited – or not – as a medicine, as a food, as a curiosity. An item took the form of a sample and was simultaneously a gift and a means of experimentation. The sample could be useful for demonstrating the properties of a remedy which it was still impossible to supply, or for testing.

Between curiosity and drug, gift and merchandise, the sample was at the very core of the process of commodification and illustrates how the Jesuits took part in it. The distribution of gifts and curiosities was followed by the development of recipes and the selling of drugs. This pattern can be identified, with many variations, in the introduction of several drugs by the Jesuits: from the Philippines they brought a bean used against fever which they called the San Ignatius bean.⁵⁰ From the Americas they brought other febrifuges,⁵¹ especially Peruvian balsam⁵² and a remedy to be studied more closely below: Peruvian or Jesuit bark.

A Jesuit bark floating between the worlds

Extracted from a tree originally growing in the Andes, now called the cinchona tree, Peruvian bark came to Europe around 1640 as a remedy against what was then called ‘intermittent fevers’. Several studies have been devoted to the history of this reddish, bitter bark, stressing its importance in the fight against malaria and the way it simultaneously transformed medical thought, the government of health, the colonisation of Spanish America and, later, of Africa or Asia.⁵³ A major feature of its early history is the involvement of the Jesuits

50 ‘Memoria ò Receta de la virtud y modo de applicarse que tiene la Pepita llamada Catbalogan ò de S. Ignacio’, in RAH, 9/3631, n° 45. See also ‘Virtudes medicinales de una frutilla, ò pepita, que se cría mui comun en las Islas Philipinas, que llaman los Naturales en su idioma Ygasul, y los Españoles les pepitas de Sn. Ignacio’, in RAH, 9/3823, no fol.

51 ‘Methodo de usar los polvos de la corteza del Arbol llamado Choch’, in RAH, 9/3426, n°2. See also RAH, 9/3671, n°65.

52 RAH, 9/3693, fols 527r–28r.

53 A. Steele, *Flores para el rey. La expedición de Ruiz y Pavón y la Flora del Perú, 1777–1788* (Barcelona: Ediciones del Serbal, 1982); A. Moya, *El árbol de la vida. esplendor y muerte en los Andes ecuatorianos. El auge de la cascarilla en el siglo XVIII* (Quito: FLACSO, 1990); S. Jarcho, *Quinine's Predecessor: Francesco Torti and the Early History of Cinchona* (Baltimore, MD: Johns Hopkins University Press, 1993); M. Crawford, *The Andean Wonder Drug: Cinchona Bark and Imperial Science in the Spanish Atlantic, 1630–1800* (Pittsburgh, PA: University of Pittsburgh Press, 2016); Boumediene, *La colonisation du savoir*.

in its introduction into Europe. If they were not the only ones to bring it in, their involvement was so important that the remedy was rapidly called 'Jesuit bark' or 'Jesuit powder'.

Two accounts of a mysterious 'discovery'

Soon after its first use in Europe around 1640, two accounts spread about the discovery of the remedy. In spite of their differences they both attribute a decisive role to the Jesuits. The first one, by far the more famous, appeared in a treatise on Peruvian bark entitled *Anastasis Corticis peruvianae*. Its author, the Genoese physician Sebastiano Bado, claimed that in Lima the countess of Chinchón, the wife of the viceroy of Peru, was suffering intermittent fever: 'The rumour of her illness was rapidly known by the whole city, [and] spread over the region into Loja'. This small town, located in the heart of Andean valleys, was surrounded by mountains bearing the Peruvian bark tree. According to Bado, the Indians of this region for centuries used the bark for curing their fevers but hid its properties from the Spaniards. Finally, the latter were able to learn how to use it; and when Loja's *corregidor* heard about the countess's disease he quickly informed the viceroy that he was in possession of a 'secret remedy'. He brought the bark to the court, where he performed a public cure: '[S]urprising everybody, she was cured like by a miracle'. Then, according to Bado, the Jesuits transported the bark from Lima to Europe, especially to Rome. Their devotion to the healthcare of the citizens of Rome was recorded on the walls of Santo Spirito hospital in a painting which depicts Juan de Lugo, who became a cardinal, dispensing the bark in powder form to the poor.

Several scholars have expressed frank doubts about this account, which they consider a 'myth'. There is, indeed, no evidence for the 'miraculous' recovery in any contemporary sources. Moreover, the anti-malarial use of the bark would have implied that the Indians in the surroundings of Loja had precise knowledge about intermittent fevers, whereas this disease probably appeared on the continent after the Spanish conquest. The best answer to these difficulties can be found in the second account devoted to the early history of the bark. It is a letter written in 1663 by a Spanish physician, Gaspar Caldera de Heredia, as an answer to a query he received about the bark from a Roman physician named Girolamo Bardi. In this letter Heredia gives precise information about the way the Jesuits 'discovered' the effects of the bark:

At the end of this land, in this province of Quito, close to the Amazon river, some Indians come spontaneously or for a salary are taken to a gold mine ... In the paths the Indians are forced to cross a river ... so that the majority of them, when arriving on the other bank, frozen and shaking, complain pitifully. And immediately, for their relief, they take the bark of a tree they know, powdered, ground and dissolved in hot water. At this time they remark that the cold and the shivering calm down and they can go on

the road. Seeing this, the fathers of the Society of Jesus ... asked them from which tree they took the bark.⁵⁴

By analogical reasoning, the missionaries converted bark used for calming down shivering to a remedy against fever. This case of serendipity could explain why the Spaniards found a remedy against intermittent fever in a region where this disease was recent: as a matter of fact, cinchona bark does contain some alkaloids which affect the muscles in such a way that shivering stops.⁵⁵

The differences between the two accounts are quite clear: in the first, related by an Italian physician, the Indians refused to give an ancestral remedy to the Spaniards until the countess fell ill; in the second, written by a Spanish physician, the Indians gave the remedy with pleasure. Alongside these political divergences, the two accounts also allocate a different role to the Jesuits: in the first, they distributed the remedy in Europe; in the second, they learnt its properties in America. What is particularly relevant in this second account is that this 'discovery' is linked to the exploitation of gold.

The bitter gold of Mainas

In order to understand how the Jesuits appropriated the bark and why they set up an international trade in it, this section will discuss the Jesuit missions of Mainas during the 1680s and 1690s. A set of fascinating documents held in Rome, Alcalá de Henares, Seville, Lima and Santiago de Chile show that the superior of the mission at this time, the Neapolitan Francesco Viva (1656–1702),⁵⁶ designed a project to accomplish the spiritual and military conquest of the region.⁵⁷ In this part of Ecuador the Spaniards found important reserves of gold during the 16th century, but they had to face the resistance of indigenous communities they called the 'Jívaros'. The memory of the bloody assault the latter launched against the town of Logroño was still strong in the 1680s and, according to Viva, the province lacked well-trained missionaries and soldiers.⁵⁸ His plan was to make a five- to six-year trip to Spain and Italy in order to set up an expedition and to hire new missionaries.⁵⁹ Not being a Creole, Viva knew he would find it difficult to be elected procurator, so he decided to finance the trip himself. In 1685 he sent 30 Indians to sow no fewer than 50,000 vanilla

54 J.M. López Piñero and F. Calero (eds.), *De pulvere febrifugo Occidentalis Indiae (1663) de Gaspar Caldera de Heredia y la introducción de la quina en Europa* (Valencia: CSIC, 1992), pp. 34–5.

55 F. Guerra, 'El descubrimiento de la quina', *Medicina e historia*, 69 (1977): 7–25.

56 Archivo General de Indias, Seville, Contratación 5549, n.1, R.3.

57 This project was sent several times between 1686 and 1690. See ARSI, N.R.-Q. 15, doc. 26, fol. 134r; Archivo de la Provincia Jesuítica de Quito (hereafter APQ), VI/540a.

58 APQ, VI/524; APQ, VI/526; APQ, VI/529; AHPTSJ, D 107.

59 APQ, VI/520; APQ, VI/523; ARSI, N.R.-Q. 15, doc. 31.

plants.⁶⁰ Four years later the plants were almost ready to be harvested, but not in sufficient quantities. Nevertheless, it was in 1689 that Francesco Viva urged his superiors to let him go to Europe. Indeed, that very year a 'commodity ended up in his hands thanks to a divine disposition'.⁶¹ This commodity was the cinchona bark.

Francesco Viva knew the remedy very well. He had already sent the product to his brother Domenico, also a Jesuit, in Naples. In 1689 he engaged a new servant who 'grew up harvesting the bark' in the mountains around Loja and knew where to find intact forests. For several reasons trade in the bark was so high in 1688 that no merchant had a good-quality product. Thanks to finding a new forest, Viva was alone on the market and could extract 50 mule-loads of 'cascarilla'. Being in contact with Jesuits from Panama and Naples, he knew the bark would bring higher profits when it was sold in Europe. According to his calculations, the 50 mule-loads would be worth 50,000 *patacones*. Compared to that, the cost of the journey, 2,000 *pesos*, was almost derisory.

In other words, the bark was enough to fund the entire journey in Europe and to buy the gifts Viva had to offer to counsellors and members of the pontifical administration.⁶²

I sent a few Indians into the mountains gathering around 50 *mulas* of bark, which are worth 20,000 *libras* in Italy and with your permission I shall reduce it into *zurrones* well commodified in Paita ... and my brother in Naples will convert it into *plata* ... With all these dispositions ... I shall have that necessary for recruiting 40 missionaries and negotiating two boats and *cédulas*, and I will have bark, cacao, vanilla and other things to offer to the counsellors ... And for the negotiation in Madrid with His Majesty and the council I have another disposition: you have to know that close to our Missions are the Jibaros, a nation rebelling for 90 years in those mountains where there is so much gold.⁶³

Ultimately, Francesco Viva failed to reach Europe: his mission was fulfilled by another Jesuit sent to Rome as the procurator of the Quito province. Nevertheless, he kept selling the bark and invested the money in buying silver, but also gunpowder and weapons. For the Jesuits in Ecuador, the political utility of the bark trade was thus to finance a war against 'Jíbaros' in order to acquire the gold in the region. However, even before 1690 the Jesuits offered the bark as a gift in Madrid or Rome in order to gain support for their political plans in Ecuador.

60 ARSI, N.R.-Q. 15, doc. 31, fol. 230v.

61 ARSI, N.R.-Q. 15, doc. 31, fol. 231r.

62 APQ, VI/526; ARSI, N.R.-Q. 15, doc. 31, fol. 231v.

63 ARSI, N.R.-Q. 15, doc. 31.

From gifts to commodities

The first Jesuits who brought the product to Europe were the *procuradores* coming to the general congregations in Rome. The physician to viceroy Chinchón, Juan de Vega, had probably taken the bark to Seville around 1642. That very year father Bartolomé Tafur (1589–1665) was elected procurator of Peru for the congregation held in 1645; and several later sources credit him with the introduction of the remedy to Rome.⁶⁴ As a matter of fact, he seems to have been close to Cardinal de Lugo.⁶⁵ In any case, the remedy was taken to Seville by brother Pedro Salinas, who accompanied the procurator of Chile, Alonso de Ovalle, to the same congregation of 1645.⁶⁶ Two years later brother Paolo Pucciarini, then apothecary of the Collegio Romano, began to use it and saw Lugo distributing it in Rome.⁶⁷

The *procuradores* of South American provinces were thus the first to bring back the bark, either to the procurators of the Indies in Seville or to members of the Collegio Romano. Several other examples confirm this. In 1666 father Felipe de Paz and brother Alonso Gómez took with them gold, silver, clothes, books, vanilla, cocoa, chocolate, bezoar stones and ‘two boxes and one half a packet of bark against quartan fevers’.⁶⁸ Significantly, the first box was supposed to be sold and the second one was offered to Gaspar de Cugía, the former superior of the Mainas mission.⁶⁹ At the end of the 17th century this system was still in use, as is evident from the inventory of the numerous items carried by the procurators Juan de Goyochoa and Nicolás Miraval in 1699: ‘About the bezoar stones, the six *zurrones* of cascarilla or quinaquina, for a weight of 900 pounds, Copacabana, *pebeteros* [incense burners], vicuña wool, he says that he gave everything in Rome, Madrid and these regions, and especially amongst us, for not being things as appreciated there as here and because they were specifically destined to be offered’.⁷⁰ The interest of such a system was to avoid the cost and insecurity of commercial mediations. As a matter of fact, in one of the rare cases of the Jesuits deciding to send the bark without entrusting it to the procurators it ended up being seized by English corsairs: ‘Your Reverence

64 See, e.g., C.M. de La Condamine, ‘Sur l’arbre Du Quinquina’, *Histoire de l’academie royale des sciences* (1738): 226–43 (234); Real Jardín Botánico de Madrid, Mutis IV, leg. 11, 51, fol. 2v.

65 Tafur wrote the preface of Lugo’s *Privilegios*. On Tafur see also E. Torres Saldamando, *Los antiguos Jesuitas del Perú. Biografías y apuntes para su historia* (Lima: Liberal, 1882), p. 294.

66 Archivo Nacional de Chile, Santiago de Chile, Jesuitas 438, fol. 244r.

67 Bado, *Anastasis Corticis Peruuiae*, pp. 240–41.

68 AGNP, Jesuitas, PR 1/1, doc. 69; AGNP, Jesuitas, PR 1/6, doc. 440; AGNP, Jesuitas, PR 1/8, doc. 508; see also AGNP, Jesuitas, PR 1/6, doc. 442, fol. 2r for the quotation.

69 AGNP, Jesuitas, PR 1/11, doc. 586, fol. 22v. See also AGNP, Jesuitas, PR 1/6, doc. 442, fol. 22v; ANC, Jesuitas 438, 324v–325v.

70 AGNP, Jesuitas, PR 1/3, doc. 334, fol. 5v. On these gifts, see also AGNP, Jesuitas, PR 1/10, fols. 526, 528–30. These different objects were declared to the Roman customs in 1699: Universidad Montoya, Lima, Colección Vargas Ugarte 39, fols 30r–30v.

would meet the father Harnando Lavayen and would know the disgrace he suffered from the English who robbed him of a box of more than 120 pounds of Loja's bark, because the brother [Francisco] Odiago told me it was the best gift to send to your reverence, the thing being so esteemed there for quartan and tercian fevers'.⁷¹

If the bark sent by procurators was mainly devoted to gifts, either inside or outside the Jesuit network, it was commercialised in the apothecary shops of the Company. It is impossible to know when the bark was brought from Loja or Mainas to Lima and to confirm Caldera de Heredia's statement that the apothecary Gabriel de España was the one who introduced the remedy into the Colegio San Pablo of Lima.⁷² It is certain, however, that the apothecaries of this college, the Milanese Agostino Salumbrino⁷³ and his successor Claude Chicaut,⁷⁴ distributed the bark to other places in America between 1630 and 1660. At the same time, the bark was already commercialised in Europe. In Seville, for instance, the remedy seems to have been commercialised as soon as 1643 according to the account of Cinco Llagas hospital, but the involvement of the Jesuits here is not certain. Regarding the case of Madrid, Rafael Pereyra's letters offer an astounding illustration of the way the Jesuits commodified the new product. In Madrid in 1648 father Sebastián González discovered the effect of the 'barks for the quartans' which Pereyra had sent him.⁷⁵ A few weeks later he asked him to send him more: 'I've been asked for more bark for curing quartan fevers; the last you sent me produced such a good effect that the fever disappeared in the people who asked for it and at the same time they brought it to me they were killing me for them. I beg you to send me more, if it does not annoy you, since those who have asked for them are people to whom I am indebted'.⁷⁶ This extract perfectly demonstrates how demand creates a commodity: the Jesuit is 'in debt' to the people who have to ask him for the bark. In other words, a supply chain is created. González probably began to give the bark as a sample and, since many people wanted it, he had to make

71 Antonio Bastidas to Pedro Bermudo, procurator of the Indies in Madrid (Popayán, 16 Nov. 1690, in RAH, 9/7263, no fol.).

72 López Piñero and Calero, *De pulvere febrifugo Occidentalis Indiae*, p. 35. See also L.A. Newson, *Making Medicines in Early Colonial Lima, Peru* (Leiden: Brill, 2017), esp. p. 168.

73 Agostino Salumbrini had his name hispanised to Salumbrino. See Maldavsky, 'Société urbaine', 28. During the 1630s, he was the apothecary of San Pablo (ARSI, Peru 4, fols 99v, 151v, 199r, 270r, 330v, 358v; ARSI, Peru 15, fols. 188v–89r, 196v–98v; ARSI, Vitae 24, fol. 267v). He distributed his preparations throughout Lima and many places in Peru: (AGNP, Jesuitas, caja 119/2019, fols. 24r, 55r, 136r–38v; AGNP, Jesuitas, PR 1/16, doc. 738).

74 Martín, *Intellectual Conquest of Peru*, p. 104. On Chicaut, see ARSI, Peru 4, fols. 332r, 360r, 453r; ARSI, Peru 5, fol. 11r. In 1656 Chicaut exchanged with Bartolomé Barrera, a brother of Arequipa's college, several remedies, especially 'dos costales de corteza' See ANC, Jesuitas 438, fol. 228r–v; AHNE, Jesuitas, leg. 121, doc. 21.

75 RAH, 9/3702, fol. 989r.

76 RAH, 9/3702, fol. 994r.

them pay. In later letters he insists on knowing in which pharmacies the bark was being sold and what its name and price were.⁷⁷

Jesuit Charity: commodification and experimentation

Commodification was a qualitative process which occurred in several places. Besides Madrid, the same process took place in other towns, such as Lima or Rome.⁷⁸ It is, therefore, quite difficult, if not impossible, to retrace the trajectory of the bark, since it did not necessarily follow the path from Loja to Lima, Lima to Panama, Panama to Seville, Seville to Madrid, Madrid to Rome. According, for instance, to an anonymous document held by the Real Academia de la Historia in Madrid, the bark was known by the Jesuits of Spain, and especially those in Valladolid, after it was known in Rome: 'This wood or bark of the Tree of the Indies which was brought from Rome, brother Marin says that it is established that in the Indies where it grows it calms quartan [fevers] among all native peoples and from there they spread it to many regions for that purpose. And being brought to Rome by some among us, it removed fever from many people and they brought it to Spain and particularly to Valladolid'.⁷⁹ Commodification was a fragmentary, non-linear process: the accreditation granted to the effects of the bark in a place had to be replicated elsewhere. The samples sent by the Jesuits inside and outside the company were supposed to be tested. From 1647 onwards the apothecary of the Collegio Romano, Pietro Pucciarini, sent the bark to a number of hospitals in Rome, Genoa, Florence or other Tuscan cities. In order to help with the trials, he also sent a recipe which, according to him, produced the same good effects everywhere.⁸⁰ The original version of this text was known in later sources as the *Schedula Romana*. It was transcribed in several books published in Delft or Copenhagen; and a printed version, written in Italian, is available at the Bibliothèque Nationale de France.⁸¹ According to this document a dosage of two drachms of bark had to be powdered and infused in strong wine. The patient had then to be purged and made to take the remedy before the first onset. As a matter of fact, the anonymous document held in Madrid contains a Spanish translation of this dosage and includes brief additions concerning the diet the patient had to follow: 'It would be good to have the sick man bled and purged, or at least to clean his stomach three days before the cold, with

77 RAH, 9/3702, fol. 996r.

78 ARSI, F.G. 1143, 'Conti e Ricevute Della Spetieria, Casa Professa', fol. 180v.

79 RAH, 9/7263, no fol.

80 S. Bado, *Anastasis corticis Peruviae, seu chinae chinae defensio* (Genova: Pietro Giovanni Calenzani, 1663), pp. 240–41.

81 Bibliothèque nationale de France, TE151-1220, 'Modo Di Adoprare La Corteccia Chiamata Della Febre'. See also Bibliothèque d'étude et du patrimoine de Toulouse, MS. 763, 'Recueil de recettes pharmaceutiques et culinaires', fols. 71–72.

two ounces of sugar honey and some swigs of Anise water'.⁸² These comments about how to prepare not the remedy but the patient for medication are more significant than they appear. This slight addition suggests that the Jesuits truly tested both the sample and the recipe they received and found a way to improve them. They were not the only ones to do so. The printed echoes of the *Schedula romana*, reproduced in books published in Delft or Copenhagen, contain similar changes.

The utility of the sample was not only to demonstrate the virtues of a product, but also to verify them and, possibly, to increase them. This sheds an interesting light on Lugo's generous distribution of the bark in Rome: the cardinal was also testing the remedy on poor people. As a pilgrims' hospital, the Santo Spirito was the perfect site for such experiments.⁸³ The bark was not the only new remedy tested in hospitals: guaiacum wood in the 16th century and ipecacuanha at the end of the 17th century followed a similar pattern. Moreover, the involvement of charitable institutions, especially religious hospitals, in such experiments is an old tradition. The singularity of the Jesuits, especially when the case of Peruvian bark is considered, is that they conducted experiments at almost every stage of the process: before Lugo in Rome the Jesuits around Loja, who used analogical reasoning, did nothing other than test the bark on Indian bodies. If the Jesuits were masters of gathering and circulating things, their role in the history of pharmacy, and more generally in the history of science and commerce, shows they were also masters of experimentation.

Conclusion

The involvement of the Jesuits in the history of early modern pharmacopoeia illustrates perfectly how they applied their apostolic project to their temporal activities. The organisation of the Society and the circulation of its members around the world also illustrate the role played by the religious orders in the reconfiguration of science, commerce and politics at that time. Several scholars have underlined the importance of the 'go-betweenes' in the construction of a 'global intelligence'.⁸⁴ The end of the 18th century is often seen as the climax of this 'brokered-world', possibly because states began truly to handle the techniques of intermediation. However, before them the religious orders had already mastered such techniques, especially the Jesuits, which could explain the series of expulsions they had to face from the 1750s onwards. Perhaps

82 RAH, 9/7263, no fol.

83 P. de Angelis, *La spezieria dell'Arcispedale di Santo Spirito in Saxia e la lotta contro la malaria, nel III centenario della nascita di Giovanni Maria Lancisi, anno 1654–1954* (Rome: Coluzza, 1954), pp. 101–3.

84 S. Schaffer et al. (eds), *The Brokered World: Go-betweenes and Global Intelligence, 1770–1820* (Sagamore Beach, MA: Science History Publications, 2009).

the most important legacy of the Jesuit presence here: in the necessity to replace them, to appropriate their methods.⁸⁵

Bibliography

Manuscript sources

Archivo Arzobispal de Lima, Idolatrías, V/8

Archivo General de Indias, Seville, Contratación 5549, n.1, R.3.

Archivo General de la Nación de Perú (AGNP), Lima, Jesuitas, PR 1/14, doc. 710

AGNP, Jesuitas, PR 1/1, doc. 69

AGNP, Jesuitas, PR 1/3, doc. 334

AGNP, Jesuitas, PR 1/6, docs. 440, 442

AGNP, Jesuitas, PR 1/8, doc. 508

AGNP, Jesuitas, PR 1/10

AGNP, Jesuitas, PR 1/11, doc. 586

Archivo Histórico Nacional de España (AHNE), Madrid, Inquisición, leg. 5345 exp. 2, doc. 1

AHNE, Jesuitas, leg. 121, doc. 16.

Archivo Histórico de la Provincia de Toledo de la Compañía de Jesus (AHPTSJ) de Alcalá de Henares (AHPTSJ) D 107

Archivo Nacional de Chile, Santiago de Chile, Jesuitas 438

Archivo de la Provincia Jesuítica de Quito (APQ)

APQ, VI/523

APQ, VI/524

APQ, VI/526

APQ, VI/529

APQ, VI/520

Archivo del Real Jardín Botánico de Madrid, Mutis IV, leg. 11, 51

85 On 30 April 1724, e.g., John Burnet, a physician of the South Sea Company in Cartagena de Indias, wrote to Hans Sloane that he 'should be well satisfied if the Royal Society and the South Sea Company would send [him] a Missionary (as the Jesuits do) from this to Portobello, Panama, Lima, Potosí and home by way of Buenos Aires making what observations [he was] capable of, both with respect to trade and commerce, and with respect to the Natural History of these countries' (British Library, MS. Sloane 4047, fol. 330v). Later, during the Geodic Expedition around Quito, the French geometer Charles-Marie de La Condamine expressed his interest and even his admiration for the observation made by the Jesuits of Mainas on astronomy or local pharmacopoeia (Muséum d'histoire naturelle, Paris, MS. 1671, MS. 1626, fols. 25–31 and chapter 12 in this volume).

Archivum Romanum Societatis Iesu (ARSI), Rome

ARSI, N.R.-Q. 15, doc. 26

ARSI, N.R.-Q. 15, doc. 31

Biblioteca Estense di Modena, MS. gamma.h.1.21, gamma.h.1.22

Bibliothèque d'étude et du patrimoine de Toulouse, MS. 763, 'Recueil de recettes pharmaceutiques et culinaires'

Real Academia de la Historia, Madrid (RAH)

RAH, 9/3426, no. 2

RAH, 9/3631

RAH, 9/3671, no. 65

RAH, 9/3672

RAH, 9/3684

RAH, 9/3686

RAH, 9/3687

RAH, 9/3702, no. 21

RAH, 9/3788

RAH, 9/3800

RAH, 9/3823

RAH, 9/7259

RAH, 9/7263

RAH, 9/7274

RAH, 9/7333

Universidad Montoya, Lima, Colección Vargas Ugarte 39

Printed sources

Alcalá, L.E. (2007) "De compras por Europa": procuradores jesuitas y cultura material en Nueva España', *Goya*, 318: 141–58.

Alegre, F.J. (1841) *Historia de la Compañía de Jesus en Nueva España* (México: J. M. de Lara).

Anagnostou, S. (2002) 'Jesuit missionaries in Spanish America and the transfer of medical-pharmaceutical knowledge', *Archives internationales d'histoire des Sciences*, 52: 176–97.

— (2005) 'Jesuits in Spanish America: contributions to the exploration of the American materia medica', *Pharmacy in History*, 47: 3–17.

- Angelis, P. de (1954) *La spezieria dell'Arcispedale di Santo Spirito in Saxia e la lotta contro la malaria, nel III centenario della nascita di Giovanni Maria Lancisi, anno 1654–1954* (Rome: Coluzza).
- Arnauld, A. (1669) *La morale pratique des Jésuites présentée en plusieurs histoires arrivées dans toutes les parties du Monde* (Cologne: Gervinus Quentel).
- Asúa, M. de (2014) *Science in the Vanished Arcadia: Knowledge of Nature in the Jesuit Missions of Paraguay and Río de La Plata* (Leiden: Brill).
- Bado, S. (1663) *Anastasis corticis Peruviae, seu chinae chinae defensio* (Genova: Pietro Giovanni Calenzani).
- Biedermann, Z, A. Gerritsen and G. Riello (eds.) (2018) *Global Gifts: The Material Culture of Diplomacy in Early Modern Eurasia* (Cambridge: Cambridge University Press).
- Boumediene, S. (2016) *La colonisation du savoir. Une histoire des plantes médicinales du 'Nouveau Monde' (1492–1750)* (Vaulx-en-Velin: Les éditions des mondes à faire).
- Cardim, F. (1925) *Tratados da terra e gente do Brasil* (Rio de Janeiro: Leite).
- Crawford, M. (2016) *The Andean Wonder Drug: Cinchona Bark and Imperial Science in the Spanish Atlantic, 1630–1800* (Pittsburgh, PA: University of Pittsburgh Press).
- Esteyneffer, J. de (1729) *Florilegio medicinal de todas las enfermedades* (Madrid: Alonso Balvas).
- Feingold, M. (ed.) (2003) *Jesuit Science and the Republic of Letters* (Cambridge, MA: Harvard University Press).
- (2003) *The New Science and Jesuit Science: Seventeenth Century Perspectives* (Dordrecht: Kluwer).
- Findlen, P. (1994) *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley, CA: University of California Press).
- (ed.) (2004) *Athanasius Kircher: The Last Man Who Knew Everything* (New York and Abingdon: Routledge).
- Galán García, A. (1995) *El 'oficio de Indias' de Sevilla y la organización económica y misional de la compañía de Jesús: 1566–1767* (Seville: Fundación Fondo de cultura de Sevilla)
- Gorman, M.J. (2006) 'From "The Eyes of All" to "Useful Quarries in Philosophy and Good Literature": consuming Jesuit science, 1600–1665', in J.W. O'Malley, S.J., G.A. Bailey, S.J. Harris and T.F. Kennedy (eds.), *The Jesuits II: Cultures, Sciences and the Arts, 1540–1773* (Toronto: University of Toronto Press), pp. 170–89.

- Guerra, F. (1977) 'El descubrimiento de la quina', *Medicina e historia*, 69: 7–25.
- Harris, S. (1998) 'Long-distance corporations, big sciences, and the geography of knowledge', *Configurations*, 6: 269–304.
- (2005) 'Jesuit scientific activity in the overseas missions, 1540–1773', *Isis*, 96: 71–9
- (2006) 'Mapping Jesuit science: the role of travel in the geography of knowledge', in J.W. O'Malley, S.J., G.A. Bailey, S.J. Harris and T.F. Kennedy (eds.), *The Jesuits II: Cultures, Sciences and the Arts, 1540–1773* (Toronto: University of Toronto Press), pp. 212–40.
- Hsia, F.C. (2011) *Sojourners in a Strange Land: Jesuits and Their Scientific Missions in Late Imperial China* (Chicago, IL: University of Chicago Press).
- Jarcho, S. (1993) *Quinine's Predecessor: Francesco Torti and the Early History of Cinchona* (Baltimore, MD: Johns Hopkins University Press).
- La Condamine, C. M. de (1738) 'Sur l'arbre du quinquina', *Histoire de l'academie royale des sciences*: 226–43.
- López Piñero, J.M. and F. Calero (eds.) (1992) *De pulvere febrifugo Occidentalis Indiae (1663) de Gaspar Caldera de Heredia y la introducción de la quina en Europa* (Valencia: CSIC).
- Loyola, I. de, Letter to Gaspard Barzée, 12 February 1554, in *Écrits*, trans. and ed. by M. Giuliani (Paris: Desclée de Brouwer, 1991), p. 873.
- Maldavsky, A. (2009) 'Société urbaine et désir de mission: les ressorts de la mobilité missionnaire jésuite à Milan au début du XVIIe siècle', *Revue d'histoire moderne et contemporaine*, 56 (3): 7–32.
- Martín, L. (1968) *The Intellectual Conquest of Peru: The Jesuit College of San Pablo, 1568–1767* (New York: Fordham University Press).
- (1971) 'La biblioteca del Colegio de San Pablo (1568–1767), antecedente de la Biblioteca Nacional', *Fenix*, 21: 25–36.
- Martínez-Serna, J.G. (2009) 'Procurators and the making of Jesuits' Atlantic network', in B. Baylin and P. Denault (eds.), *Soundings in Atlantic History: Latent Structures and Intellectual Currents, 1500–1830* (Cambridge, MA: Harvard University Press), pp. 181–209.
- Millones-Figueroa, L. and D. Ledezma (eds.) (2005) *El saber de los Jesuitas. Historias naturales y el Nuevo Mundo* (Frankfurt and Madrid: Vervuert-Iberoamericana).
- Moya, A. (1990) *El árbol de la vida, esplendor y muerte en los Andes ecuatorianos. El auge de la cascarilla en el siglo XVIII* (Quito: FLACSO).

- Newson, L.A. (2017) *Making Medicines in Early Colonial Lima, Peru: Apothecaries, Science and Society* (Leiden: Brill).
- Norton, M. (2008) *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World* (Ithaca, NY: Cornell University Press).
- O'Malley J.W., S.J., G.A. Bailey, S.J. Harris and T.F. Kennedy (eds.) (2006) *The Jesuits II: Cultures, Sciences and the Arts, 1540–1773* (Toronto: University of Toronto Press).
- Piras, G. (1998) *Martin de Funes S.I. (1560–1611) e gli inizi delle riduzioni dei gesuiti nel Paraguay* (Rome: Edizioni di Storia e letteratura).
- Prieto, A. (2011) *Missionary Scientists: Jesuit Science in Spanish South America, 1570–1810* (Nashville, TN: Vanderbilt University Press).
- Río Huas, M.E. del and M. Revuelta González (1995) 'Enfermerías y boticas en las casas de la Compañía en Madrid siglos XVI–XIX', *Archivum Historicum Societatis Iesu*, 64: 39–81.
- Sánchez, A. (1991) *Amancebados, hechiceros y rebeldes (Chanca, siglo XVII)* (Cuzco: Centro de Estudios Regionales Andinos Bartolomé de Las Casas).
- Schaffer, S., L. Roberts, K. Raj and J. Delbourgo (eds.) (2009) *The Brokered World: Go-Betweens and Global Intelligence, 1770–1820* (Sagamore Beach, MA: Science History Publications).
- Steele, A. (1982) *Flores para el rey. La expedición de Ruiz y Pavón y la Flora del Perú, 1777–1788* (Barcelona: Serbal).
- Torres Saldamando, E. (1882) *Los antiguos Jesuitas del Perú. Biografías y apuntes para su historia* (Lima: Liberal).
- Valverde, J.L. (1978) *Presencia de la Compañía de Jesús en el desarrollo de la farmacia* (Granada: Universidad de Granada).
- Waddell, M.A. (2016) *Jesuit Science and the End of Nature's Secrets* (Farnham: Ashgate).
- Zubillaga, F. (1953) 'El procurador de las Indias Occidentales', *Archivum Historicum Societatis Iesu*, 22: 367–417.
- Županov, I.G. (2008) 'Conversion, illness and possession. Catholic missionary healing in early modern south Asia', in C. Guenzi and I.G. Županov (eds.), *Divins remèdes. Médecine et religion en Asie du Sud* (Paris: EHESS), pp. 263–300.