CHAPTER 3

# Empires on Drugs

## Pharmaceutical Go-Betweens and the Anglo-Portuguese Alliance

BENJAMIN BREEN

In 1597, the same year Shakespeare was writing *The Merchant of Venice*, a farther-flung crew of merchants set out from the southwestern coast of India. The Portuguese carrack *São Alberto* brimmed with nutmeg and other medicines and spices purchased in Cochin that winter. It also carried the wife of the governor of Ceylon, several wealthy traders and sea captains, two Dominican friars, and a crew eager to carve personal fortunes out of Portugal's monopoly on Indian drugs and spices. South of Mozambique, however, the overloaded ship began to take on water. The crew was forced into a desperate action: "The danger increasing, they threw overboard everything that had been in the holds of the gun-deck and in their payloads of drugs (*payoes de drogas*), by which they covered the sea in infinite riches. Most [of the drugs and spices] were thrown overboard by those who owned them, to whom they were now as abhorred and despised as they had once been beloved and esteemed."[1] Although Portugal's dominance of the Indies trade in spices, dyes, and medicines was still secure in 1597, the hallucinatory scene onboard the *São Alberto* seemed to augur a change in fortune. Piloting the Indies route around the Cape of Good Hope, which the Portuguese called the *Carreira da Índia*, had been a dangerous business since the age of Vasco de Gama. But by the seventeenth century, Portugal's commerce in Indies *drogas* was under threat. In the period between 1629 and 1634, less than half of the 5,228 soldiers who left

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Lisbon for Goa actually reached their destination: the rest succumbed to disease, died in shipwrecks, or vanished from the record as deserters or stowaways.[2] Likewise, as documented by Paulo Guinote, out of the one hundred vessels that attempted the Carreira da Índia between 1626 and 1650, twenty-five were lost to shipwreck or capture, and only forty out of the original one hundred ever returned to Lisbon.[3]

Readers of the *naufragio* (shipwreck) narratives inspired by this grim death toll could hardly avoid drawing parallels with the ship of state.[4] The House of Braganza, regnant since the 1640 restoration of Portuguese independence under João IV, seemed to be sinking. In a series of naval actions during the middle decades of the seventeenth century, the Dutch had seized the most valuable components of Portugal's overseas empire: Pernambuco in Brazil (1630), São Jorge de Mina in Guinea (1637), Luanda and its hinterlands in Angola (1641), Malacca in the East Indies (1641), and Sri Lanka (1656). By 1660, even Portugal's imperial nerve center in Goa was under a Dutch naval blockade. These exceptionally aggressive campaigns led to a degree of overreach on the part of the Dutch. In Brazil, a mixed Luso-Brazilian military force led by figures like the indigenous commander Filipe Camarão and the *governador da gente preta* (governor of the black folk) Henrique Dias recaptured Pernambuco in 1649, and a Luso-Brazilian armada restored Luanda to Portuguese rule in 1648.[5] Yet despite signs of a resurgence in the Atlantic sphere, the Estado da Índia continued to shrink. To some at court and elsewhere, these disasters suggested that the Portuguese state had restored itself in 1640 only to suffer another imperial decline—what one chronicler called "Monstrosities of Time and Fortune"—just twenty years later.[6]

Starting in the 1650s and culminating with the 1662 marriage alliance between Catherine of Bragança and King Charles II of England, powerful members of the Portuguese court attempted to right the ship of state by forging an alliance with the British Empire.[7] This chapter argues that the trade in materia medica from the Indies—goods typically called *drogas* in early modern Portuguese and *drugs* in English—stood at the core of the imperial entanglement between the British and Portuguese. Indeed, among the dowry gifts that the Portuguese Infanta Catherine carried with her to England was a new medicinal drink from the Indies that she called *chá*. At that time, it was largely unknown to English consumers, but it soon found adherents at court. By the early eighteenth century, it had become one of the most important components of British trade. English speakers called it "tea."[8]

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Beyond these material and diplomatic exchanges, the drug trade comprised a vital epistemological link between the Portuguese and British dominions. As they exchanged pharmaceutical knowledge and materials, the merchants, healers, and cultivators in the Portuguese Empire established important contacts with networks of natural philosophers, including the Royal Society of London.

## From *Especiarias* to Drogas

The spice trade had been the jewel in the crown of the Portuguese monarchs since King Manuel I proclaimed himself the "Lord of the Conquest, Navigation, and Commerce of Ethiopia, Arabia, Persia, and India" in 1499.[9] But when we write today about the Portuguese "spice trade" in the sixteenth century, we elide the complexity of what this trade actually entailed. The Portuguese were in fact laying claim to two overlapping realms of commerce: the trade in *especiarias* and the trade in drogas. Throughout the early modern period, substances we now classify as drugs operated within the same umbrella category as substances we regard as benign spices or foods, like cloves, sugar, and rosewater. As late as 1794, a Spanish encyclopedia seeking to categorize "the types of merchants" listed the *especieros* (spicers) as a group that traded in everything from vinegar to coffee and *aguardiente* and who controlled "el comércio ó tráfico de drogas simples sin manipularlas."[10]

This trade in drogas helped shape and sustain the Anglo-Portuguese alliance.[11] To understand how it did so, we need to imagine a world that classifies rhubarb, wildebeest hooves, ground pearls, and powdered human skull within the same category as opium and cannabis; a time when the merchants of the East India Company regarded tea as an exotic curiosity but carried on a healthy trade in calcified goat hairballs mixed with gold; a world in which the British crown claimed no territories in India, and a Portuguese flag flew above a village that would become Bombay.

In his book *Renascent Empire?*, Glen Ames offered a revisionist interpretation of this period that portrayed the late seventeenth-century Portuguese Empire as newly revivified, finding unexpected success as it reestablished footholds in India, expelled the Dutch from Angola and Brazil, and regained partial control of the spice trade.[12] Yet for all its revisionist appeal, Ames's thesis remained modest: his point was simply that the Portuguese Empire in the seventeenth century was not in a state of steady and permanent decline.[13] Though Ames

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acknowledged that the empire suffered an almost fatal shock to its system in the 1640s, he mobilized evidence from colonial archives in Goa to show that the financial underpinnings of the Indies trade remained sound and pointed out that the Portuguese retained many lesser-known tropical outposts, such as Diu, even as they lost territories such as Sri Lanka and Malacca to Dutch naval power.

What happens if we expand our view into regions where the Portuguese did not possess sovereignty but still wielded forms of soft power? Viewing the Portuguese Empire as a territorial political entity fails to account for spaces, like Amazonia or the Congo River basin, that were contested by several polities but were strongly shaped by Portuguese commerce and evangelization. We must distinguish between the Portuguese Empire and the Portuguese *world*, a porous space of intercultural encounters and conflicts.[14] Even as Dutch, English, French, and African or Asian states encroached on formal Portuguese hegemony, these powers continued to be influenced, in subtle yet important ways, by Lusophone networks of materials and knowledge. It was in this larger Portuguese world that much of the commerce in Indies drugs played out—and it was into this world that British merchants, colonists, and natural philosophers expanded in the seventeenth century.

## The Braganza Dowry and Imperial Entanglement

On May 13, 1662, the Infanta Catherine of Braganza made landfall on the south coast of England. Edward Montague, who had been tasked with welcoming the royal bride to England, wrote nervously to Charles II's chief minister Edward Hyde that the Infanta had greeted Charles II with "due expressions of affection" but that she was "keepinge her bedd, by reason of a sore throate, and a little fev'rish distemper gotten by a cold here."[15] The stakes for Catherine's recovery were high, as Montague's next comment made clear. "The matter of consumation of the marriage is adjusted to satisfaction," Montague reassured. "Too morrow, if the Queene be well, it will be performed." But the queen's illness persisted for five days, during which time she requested chá, a restorative decoction that had grown fashionable in the court of her father, King João IV of Portugal.[16] According to one (perhaps apocryphal) version of events, an English servant provided her with the only substitute available: a glass of warm ale.[17]

Although she carried a chest of the new drug to England with her as a dowry gift, Catherine did not, as is frequently asserted, introduce tea to

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England. Four years earlier in 1658, a London tobacco and coffee merchant named Thomas Garway had published a broadside proclaiming the "Vertues of the Leaf *TEE*, alias *TAY*."[18] Garway claimed to have been the first to publicly sell "this precious Leaf" in England, beginning in 1657 at his shop near Charing Cross "at the Signe of the *China*-man." Garway's broadside cited Portuguese and Dutch travelers who had written "in Honour of this Noble Leaf and Drink," including Padre Alvarez Semedo and the Dutch physician Jacob Bontius. As early as 1651, tea was being drunk at the Portuguese court and appearing in Dutch East India Company auctions in Amsterdam.[19] One Amsterdam physician, Cornelis Bontekoe, was even rumored to have been bribed by the Dutch East India Company to promote the new import.[20] Bontekoe's remarkable enthusiasm (the doctor recommended that sick patients drink between fifty and two hundred cups a day) gave the beverage a boost in popularity among Amsterdam consumers, who regarded it as a kind of energizing health tonic to be drunk on doctor's orders.[21]

Garway's text, however, assumes that his London audience has no prior knowledge of tea, explaining that it is a leaf that "groweth [in China] upon little shrubs" and that the Japanese and Chinese have a long history with this "cha." Garway highlighted the exotic origins of his import, quoting extensively from an unnamed "padre of Macao," who believed that "the best tea ought to be gathered but by virgins," and boasting that the Chinese and Japanese "frequently sell it among themselves for twice its weight in silver." He surveyed the drink's humoral characteristics ("moderately hot") and credited it with curing headaches, giddiness, "obstructions of the spleen," and "difficulty of breathing," as well as "cleaning the kidneys and ureters." In a move typical of many seventeenth-century drug sellers, these more prosaic benefits accompanied claims about tea's psychoactive effects, such as "vanquish[ing] heavy dreams," improving memory, and, of course, warding off sleep.[22]

Catherine and her Portuguese courtiers are important to this story not because they introduced tea but because they helped legitimate it, elevating an obscure medicament to the heights of courtly fashion. Tea drinking in the 1650s was a fringe act, something that had to be strenuously justified. By the 1670s, it had become a status symbol. The influence of Catherine and her ladies-in-waiting may also have given the new drink a gendered dimension, making it one of the few exotic drugs that was associated with women.[23] Coffee and tobacco, those other fashionable stimulants of the seventeenth century, remained strongly associated with masculinity and public life.[24] By contrast, in his 1700 ode to tea *Panacea*, Nahum Tate called the plant a

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"Nepenthe" that, like Homer's *nepenthe*—the mysterious "anti-sorrow" that Helen spikes her wine with in the *Odyssey*—functioned as "an Entertainment for Ladies."[25]

Catherine's chest of tea assumed a special resonance in the context of the dowry gifts it accompanied: two million silver cruzados and the port cities of Tangier and Bombay.[26] Tangier held symbolic importance for the Portuguese. It was their foothold in the lands of the "Moors," a remnant of campaigns of the young King Sebastian, who perished in a disastrous battle south of the city in 1578. The gift of the tiny fishing village of Bombay, though of little value, was a loaded symbolic act in the context of the considerable loss of life that the Portuguese had recently suffered in defending the Estado da Índia from the Dutch in the previous decade. Antonio de Mello de Castro, the final Portuguese governor of Bombay, even predicted that the handover would spell the end of Portuguese India ("we are finished in India on the very day that the English Nation takes hold of Bombay," he wrote in an angry letter to the crown).[27]

Thus, although in one respect the alliance was aggressively modern, with its gift of an exotic drug and its handover of commercial entrepôts thousands of miles away, it was also freighted with deep historical meaning.[28] In a 1662 ode to the royal wedding, Samuel Hinde offered a Spanish-language dedication to Caterina that celebrated the "bitter herbs [*amargas yervas*] which your Majesty consumed in your Passover across the Atlantic."[29] The phrase evoked both the tribulations of the Israelites and the medicinal "bitters" (*amargas*) that the Portuguese carried from what Hinde called "their infinite cities, fortresses and rivers, some of which issue forth from Paradise."[30] By following the dedication with a truculent "Alarum to the Spaniard," Hinde also placed the marriage within the narrative of the Black Legend, with Hinde lamenting the Castilians' "bloody Scenes . . . [of] woe" in the "Indies, and at Mexico" and mocking their indolence.[31] Significantly, Hinde portrayed the news of Portugal's successful bid for independence in 1640 as a soporific drug that "benum'd the Sense / of Spain, with its Narcotick influence."[32]

Contemporary accounts of the marriage tended to fixate more on the imperial realpolitik underlying the alliance than on the experiences of the king and queen themselves.[33] Hinde, for instance, devoted a mere eighteen lines of verse to describing the actual wedding ("the Illustrious paire of Princes greet!") but followed this meager offering with fifty lines praising the diplomatic finesse of Edward Montagu, who helped arrange the wedding. The match marked the realization of a centuries-old ambition on the part of both Portuguese and English courtiers. John of Gaunt, Duke of Lancaster, had estab-

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lished an early iteration of the Anglo-Portuguese alliance as early as the 1370s.[34] The Anglo-Portuguese alliance established by the marriage of Gaunt's daughter Phillipa to King John I of Portugal in 1386 would continue, in various guises, up to the present day. It is, in fact, the longest-lasting national alliance in history.[35]

But if the relationship between Charles and Catarina was a masque played out on the creaky stage of dynastic diplomacy, it also had a more intimate dimension. Lorenzo Magalotti, a Florentine traveler who befriended Robert Boyle and Isaac Newton and observed the English court during the 1660s, noted rumors of "extraordinary and ill-timed purges" and a "superabundance of blood" that limited Caterina's sexual relations with the king and left her "despairing of having children." Although Magalotti did not mention Caterina's consumption of tea, he complained that she avoided wine and was "not careful about eating food full of very hot condiments," since her condition would supposedly be worsened by substances that (like tea) were deemed to be humorally hot.[36] Potentially, too, the severe disabilities of Caterina's brother King Alfonso IV (who suffered from hemiplegia, or half-body paralysis, owing to a childhood illness) would have colored perceptions of Caterina as a patient in need of care rather than as a queen.

In the Indies, the union produced considerable friction. This was especially true in the more far-flung British and Portuguese colonies, where news of the alliance took over a year to arrive. As a symbol of the new union, the Portuguese crown dispatched António de Melo e Castro as the first post-alliance viceroy to India aboard the frigate *Leopold*, a ship belonging to an English squadron led by James Ley, third Earl of Marlborough.[37] Yet when Melo e Castro reached India and found the Portuguese *feitorias* at Cochin and Cannanore under a Dutch blockade, his English colleagues refused to help. Ultimately, Melo e Castro sided with local Portuguese administrators in Goa and denied the British access to Bombay until 1665, some three years after they had nominally received possession.

British merchants and imperial agents became increasingly contemptuous of what they regarded as a typically Portuguese lack of organization. In April of 1656, the East India Company council in Surat reported that, due to the Dutch blockade along the western Indian coast, "the Portuguez are in a very bad condicion; and the worse by reason of discord among themselves. A new Vice Rey came out this yeare, who dyed in January last; and now they have a Governour again. With this new Governours rule wee heare that they are already discontent'd, and will select another."[38]

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The British had, in the early decades of the seventeenth century, sought to emulate Portuguese models. By the 1660s, the British were cannibalizing these models, seizing a moment of opportunity to enlist the Portuguese as junior partners in an (ultimately successful) attempt to wrest dominance of global seaways and trade networks from French, Dutch, and Spanish competitors. As the decades progressed, the early significance of the Portuguese empire—and specifically of Portuguese drogas—in the British state's rise to commercial preeminence faded from view, in no large part due to the efforts of British authors who attempted to banish all traces of Iberian influence from their Whiggish narratives of Britannia's rise to glory. This tale of entanglement and severing echoes those of other contributions to this volume, like Christopher Heaney's "Marrying Utopia." But it differs in important ways from the Spanish Black Legend. Rather than serving as exemplars of how not to run an empire, Portuguese models were in some ways folded into an increasingly cosmopolitan British imperial strategy. The drug trade exemplifies the complexity of this process: drogas associated with Catholic and indigenous epistemologies reemerged, in the decades bookending 1700, as drugs eagerly sought out by British consumers. Just as Infanta Catarina's cha became good Queen Catherine's tea, the suspicious and foreign drugs of the Portuguese trading worlds became some of the most valuable fruits in Britannia's cornucopia.

## The De Gaman Exchange

In the early days of the British Empire, under James I, the importance of Portuguese models had been obvious. Just as Tudor chroniclers like Richard Eden drew on Spanish accounts to encourage colonization in the New World (as Christopher Heaney demonstrates in Chapter 4), Jacobean writers about India and the East Indies followed Portugal's lead when it came to trade and colonization in the East Indies. It was not uncommon for early British expeditions to the Indian Ocean and Africa to carry documents in Portuguese, on the assumption that this was the European tongue that native rulers would be most likely to understand. Alexander Sharpeigh, a leader of an East India Company voyage to India in 1608, carried letters from King James to unspecified "princes" written in Portuguese.[39] Twenty years later on the Gambia River, an English slaver utilized Portuguese to communicate with "a Blacke man called Sandie" who described how to neutralize the toxins of a poisonous fish.[40]

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Portuguese became the language of exchange in the seventeenth century because it was the language of extraction in the sixteenth. As A. J. R. Russell-Wood has noted, early modern Portuguese mariners were pioneers of ecological pillaging and cross-pollination, carrying chili peppers to Asia, maize to Africa, and tobacco to China.[41] A 1588 treatise on the "special medicines" that apothecaries could produce from "the three kindes of peppers in common use" featured extensive citations of the Portuguese Jewish apothecary Garcia da Orta. Da Orta's name appears in the very first paragraph of the text, and excerpts of his influential 1563 treatise *Colóquios dos simples e drogas he cousas medicinais da Índia* (*Dialogues of the Simples, Drugs, and Materia Medica of India*) reoccur seven more times throughout this short pamphlet.[42] Significantly, however, although the author acknowledged that da Orta's findings invalidate the claims of Greco-Roman authors ("we learne by the histories penned by the latter writers, that all of this is untrue"), the section of the pamphlet devoted to actual preparations of the various types of peppers reverted to tradition, abandoning Portuguese informants in favor of remedies supplied by the second-century C.E. Roman physician Galen.[43]

This was a common pattern in English pharmacopeias of the sixteenth and early seventeenth centuries. In these texts, Portuguese empirical knowledge figured in the descriptions of drugs and spices, but this information coexisted uneasily with continued adherence to the authority of "the Ancients."[44] The practical knowledge that made the global drug trade possible—what a valuable drug looked and smelled like, where it might be found within a landscape, what it was called—was readily adapted from Portuguese into English vernacular writing about the drug trade. Yet English-language authorities were much slower to abandon two millennia of Greek, Roman, and Arabic learning as to medical treatments in favor of the Portuguese—a nation that one naval officer called "a people of less Renown and Fame, and less Ability and Valour than any other Christian Monarchy."[45] Portuguese knowledge of drugs circulated among merchants and apothecaries working in commercial contexts, but it was slower to filter into the learned networks of physicians and natural philosophers.

During the 1620s and 1630s, the Portuguese continued to dominate the global trade in goods like brazilwood, cinnamon, nutmeg, musk, mace, camphor, opium, tobacco, black pepper, and chili peppers. It was becoming evident to observers in Holland, England, France, and Spain, however, that their era of monopoly was ending. In 1621, Robert Burton extolled "our laborious discoveries" and the "true Merchants" of Britain, who "carry the bell away

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from all other nation[s], even the *Portingales*."[46] Fifteen years later, in his *Briefe Description of the Whole World* (1636), the Anglican bishop George Abbott reflected on the changing nature of the drug trade. "In time past," he wrote, the Venetians had dominated the trade in Indies drugs via the Red Sea and Alexandria, but by Abbott's time, "Spice, and Apothecaries drugs are found to be far worse than before time they were, by reason of the great moysture which they take on the water, by reason of the long Navigation of the *Portugales* by the back part of *Africa*."[47] A failed Northwest Passage discoverer named Thomas James (1633) was disparaging, acknowledging the importance of Portuguese informants about "the golden Indies" and "the mysteries of their trades, and traffique," but also attacking Portuguese navigators—"the meere shaddowes of whose mistaken Relations have comme to us"—for intentionally distorting information about Indies commerce and navigation. "The vicious, and abusive wits of later *Portingals*," he concluded, were founded on "falsities" and empty boasts about maritime prowess.[48] English agents of empire of the 1630s and 1640s saw themselves as following a path blazed by the Portuguese—but they were increasingly starting to think that they could pass them on the road.

Yet if British sea power began to come out from the shadow of the Portuguese in this period, knowledge of Indies drugs was still an Iberian prerogative. Lusophone informants occupy the background of many early British accounts of Indies drugs, serving as guides, translators, and informants. When an English merchant named Thomas Bowrey sought out new goods in the port of Machilipatnam, for instance, he established local contacts like "Petro Loveyro, an antient Portuguees," who Bowrey came to "[know] very well."[49] Bowrey's contacts introduced him to an unfamiliar intoxicating drug called *bangha*, which the townsfolk used "to besott themselves."[50] By 1689, the drug had made its way from Indian bazaars to London coffeehouses, where Robert Hooke purchased a sample for testing, concluding that the substance could "prove as considerable a Medicine in Drugs, as any that is brought from the Indies."[51]

Both Bowrey's and Hooke's understanding of this besotting herb (which we know today as *Cannabis indica*) was founded on the textual tradition of Portuguese medical writing about Indies drugs.[52] The Portuguese Jewish physician Garcia da Orta had offered up the earliest account of bangha's psychoactive properties in any European language a century earlier, writing that a large dose of the drug made what he called a "Portuguese jester of my acquaintance" laugh merrily but then fall into a deep depression. "In his case," wrote

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da Orta (who was not a fan of the drug), "the effect was sadness and nausea."[53] The Portuguese word for the drug, *banga* or *bangue*, would predominate in English accounts throughout the eighteenth century and beyond, as would the basic outlines of da Orta's descriptions of its effects.[54]

## Testing Drogas

One of the most significant shifts in late seventeenth-century medicine involved the integration of chemical techniques with the tropically inflected Galenism promulgated by Iberians like da Orta and Monardes.[55] Apothecaries began to create compound medicines using alchemical processes and proprietary mixtures of tropical drugs. One of the most popular of these was the *Lapis de Goa* (Goa stone), an "artificial" version of a bezoar stone invented by the Portuguese Jesuit apothecary Gaspar Antonio in Goa in the middle decades of the seventeenth century. These stones, like bezoars, were regarded as antidotes for a wide range of poisons, venoms, and plagues.

In March of 1691, the Jesuit brothers who ran the Royal Hospital in Goa (which employed Gaspar Antonio) attempted to restrict sale of these bezoar-like "cordial stones" and license them using certificates of authenticity.[56] Yet despite (or, perhaps, because of) these restrictions, the stones exploded in popularity during the 1680s and 1690s.[57] In his *Treasury of Drugs Unlock'd* (1690), John Jacob Berlu wrote of "*Goa Stones* (by some not rightly called *Lapis Jasper Antonicus*)" composed of "seed-pearl, *Bezoar*, Gold, and other Ingredients."[58] Likewise, the merchant John Ovington's report of his 1689 voyage to Surat included a description of two different cordial stones produced by the Portuguese in India: the "Snake-stone," made of "Ashes of burnt Roots, mix't with a kind of Earth, which is found at Diu, belonging to the Portuguese," and the "deservedly fam'd Gasper Antoni, or Goa Stone." Ovington added that Europeans he met in India "carry always about them one of these Stones inclosed in a Heart of Gold . . . which hangs about their Necks."[59] Although they remain almost unstudied by contemporary scholars, clearly these "artificial" bezoars were popular drugs in the late seventeenth-century world. "Three small bags or more of Jasper Antonio or stone of Goa" even make a surprise appearance as the most valuable buried treasure itemized in a deposition by the notorious pirate Captain Kidd in the aftermath of his 1698 raid on a Mughal merchant vessel.[60] However, the relatively precise descriptions of the stones offered up by experienced drug merchants such as Berlu and Ovington can

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be misleading. Among medical consumers, it would seem that the origins of the Goa stones were becoming increasingly obscured—and exoticized—by the time of Kidd's deposition. For instance, Nahum Tate's 1700 poem in praise of tea portrayed the Chinese drink as joining "Nature and Art's choice gift, the *Goa-stone*" in the pantheon of the most beneficent drugs found among the "Refin'd and Civiliz'd Chinese," apparently unaware that this was, in fact, a product of Portuguese Jesuits.[61]

Identifying and investigating the purity of drugs from the Portuguese world became a special interest of Robert Boyle and his circle in the Royal Society in the years following the 1662 marriage alliance. In his *Observations made upon the Brasillian root, called ipepocoanha, imported from the Indies* (1682), the London physician Richard Griffith noted that his research arose out of his "being frequently importuned by Esq *Boyl* to make Experiments upon *Indian Simples* [medicinal drugs], and to give an Account of my Observation and Success to some London Physitians."[62] Likewise, Robert Hooke wrote up his "Directions for Knowledge of Bezoar Stones," describing tests of their purity and provenance: rubbing the bezoar on a piece of chalk, touching it with a red-hot iron, dropping it in water, and observing whether it produced bubbles.[63] Hans Sloane also took a strong interest in ipecacuanha, whose introduction into European medicine he credited to "an anonymous Portuguese, who lived in Brasil, (supposed to be one Manoel Tristaeon) whose book falling into the hands of the English, is translated and published by Purchas, in the year 1625."[64]

In his work on hydrostatics, Boyle described a series of experiments on bezoar stones and "calculi humani" (concretions found inside human bodies) inspired by the "famous physician" Garcia da Orta. Boyle described being approached by a London drug merchant to test the legitimacy of an "adulterate" bezoar, which was likely a Goa stone: "I have seen a fair adulterate bezoar-stone so resembling the genuine, that a great price was set upon it," Boyle wrote. "But by being brought to me for my opinion, I made no doubt of it being counterfeit, from its appearing as heavy, as a mineral stone of the same bulk."[65]

Boyle was even tasked with testing the legitimacy of an Indies "snakestone" by Queen Catherine herself. In his notebooks, Boyle recorded that "the Queen also was pleas'd to honor me with a command to try ye goodness of a snakestone," which she had been given by the emissaries of the king of Siam during their 1684 visit to London. Boyle made a "trial" of the "virtues" of the stone by administering it to a dog that had been bitten by a viper but found

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it "void of virtues." Boyle continued, however, that "[Queen Catarina] being not discourag'd at this disappointment was pleas'd to send me another of these Antidotes yt came from ye same parte of ye East Indys." This time, the antidote worked, and Boyle recorded his "great satisfaction" at being able to report to the queen that her drug was the genuine article.[66] New knowledge about Indies drugs that flowed from the tropical world, from tea to bangue to bezoars, helped set in motion a culture of pharmaceutical experimentalism in Restoration London. Boyle's private list of "desiderata" that he hoped natural philosophers might discover in the future is telling in this regard. The list included both "Potent Druggs to alter or Exalt Imagination, Waking, Memory, and other functions" and drugs that would allow "Freedom from Necessity of much Sleeping [as] exemplify'd by the Operations of Tea."[67]

## Anglo-Portuguese Knowledge Networks

Knowledge exchanges between the Portuguese and British were shaped by the unbalanced power relations between the Portuguese and British states. By the early eighteenth century, Portuguese authorities on pharmaceuticals had begun to adopt the methods and nomenclature of British and Dutch natural philosophers. In the revised second edition of his *Pharmacopea* Lusitana (1711), the Lisbon apothecary Caetano de San António implicitly acknowledged the work of Boyle and his colleagues, writing that "since the Northern nations have introduced chemistry it is evident that this important art [of pharmacy] is now very different than it was in earlier times. . . . [Thus] I have resolved to revise my *Pharmacopea Lusitana*, increasing the number of *receitas*, and modern theories, that may not have reached your notice owing to an incomplete knowledge of the different languages that the foreigners write in."[68] In 1733, the Portuguese physician José Rodrigues Abreu argued that coffee was a "stupefacient" drug, citing no less an authority than Francis Bacon, while in 1728 the Lisbon physician Luis Caetano de Lima demonstrated his bona fides as a proponent of the new "chemical" learning by compiling an exhaustive, three-volume manuscript "epitome" of the works of the controversial English physician and Royal Society founding member Thomas Willis, complete with hand-labeled index stubs for easy reference.[69] One of the most interesting cases of British natural knowledge being used to serve Portuguese imperial ends appears in a group of letters penned by the diplomat Duarte Ribeiro Macedo in 1670s Paris. In one, Macedo wrote to

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the king's council with a detailed plan to restore Portuguese power that, he boasted, had been inspired by a "proposition" of King Charles II of England himself.[70] "I have had correspondence in Paris with Lord Montagu, ambassador of the King of Great Britain in this court," he wrote to his superiors in Lisbon: "In our conversations in which we spoke generally about the English colonies in Virginia and the Portuguese in Brazil, he remarked to me that the first time that the King, his Lord, saw the powder that we call 'Cravo,' the King remarked in the presence of various subjects of his court that only his brother the King of Portugal had the means to destroy the Hollanders."[71] In the detailed "Discourse on Transplantation" (*Discurso sobre a transplantação*) that followed, Macedo drew on this royal authority but also a Royal Society treatise on transplanting drug and spice crops that Montagu had passed along to him and which Macedo translated into Portuguese.

Even as English chemistry was influencing medical writers in Lisbon, knowledge and materials from the Portuguese tropical colonies were themselves helping shape the development of iatrochemistry within England. In August 1671, Henry Oldenburg, the secretary of the Royal Society of London, dispatched a set of "Inquiries for Brazil" to an unnamed informant in Bahia, most likely the Jesuit astronomer Valentin Stansel.[72] This long list of natural philosophical questions—which was probably composed collectively at a meeting of the Society—offer an interesting glimpse into the members' eclectic curiosity about the tropical New World. Questions inquired about poisonous jellyfish, epidemic plagues, glowworms, "fiery flying dragons" (*dracones ignis volantes*), and native Brazilians who, "moved by affection," were reputed to "seize the bodies of parents not killed by poison and, having dismembered them, bury them inside themselves." But the document centered around the entwined themes of exotic natural remedies and indigenous knowledge thereof: "Are the older Brazilians excellent botanists, able with ease to prepare every kind of medicine from materials gathered in all places" and to "seek after knowledge of diseases . . . according to some common intellectual principle?"

One of the Royal Society's most unexpected sources for these attempts at verification was the octogenarian Portuguese Jesuit missionary Jeronimo Lobo, who appears to have struck up a friendship with the English diplomat Sir Robert Southwell during the former's retirement in Lisbon. In 1668, Henry Oldenburg presented the Society with a set of natural philosophical treatises written by Lobo and partially translated and annotated by another English diplomat in Lisbon, Sir Peter Wych, including[73]

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1. A Relation of the River Nile, its source, current and inundation
2. An account of the real existence and the place of abode of the Unicorne
3. Of the Abyssin Emperor, vulgarly called Prester John
4. Of the Red Sea and the cause of its inundation
5. A discourse of Palme trees, their variety, fruit, usefulness, proper soil, etc.[74]

Sir Robert Southwell became an important conduit for both knowledge and materials relating to Portuguese drugs. In his *Musaeum Regalis Societatis* (1681), Nathaniel Grew added an appendix to the main body of his text solely to describe a group of materia medica that had been donated by Southwell and were used by what Grew called "the Portugal Negros." These included "Sagu"; "the Mallaca gum"; Poco Sempie, "a Golden Moss . . . accounted a great Cordial"; Rizagon, a "root brought from Bengala, of good use"; and others.[75]

In the late 1680s, William Dampier found himself relying on the knowledge of Portuguese-speaking locals whom he encountered on his circumnavigation of the earth. In one of the most telling moments in Dampier's travels, a Portuguese man on the Ilha do Sal (an island in the Cape Verde archipelago that Dampier describes as inhabited by "Portuguese *banditti*") approached one of Dampier's crewmates with what he claimed was a lump of ambergris. This substance was (and is) extraordinarily valuable, and early modern doctors attributed a number of compelling properties to it, from an "alexipharmic" (anti-poison) power to the ability to intoxicate and cure melancholy. Dampier's crewmate was intrigued and purchased the lump for "more than it was worth." "We had not a Man in the Ship that knew Ambergriese," Dampier confessed, "but I have since seen it in other places, and therefore am certain it was not right." True ambergris, as Dampier later learned, is "very hard," odorless, and "of a lighter color." Dampier realized that his friend had been tricked. The Portuguese man had not been selling ambergris at all. "Possibly 'twas some of their Goats Dung," the sea captain speculated.[76]

## Decontextualizations of the Drug Trade

The Anglo-Portuguese exchanges explored here were obscured by both confessional antagonisms between Protestants and Catholics and emerging notions of racial difference. For instance, Geronimo Lobo was called "a learned

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Jesuit" in the Royal Society's internal correspondence, but his treatise reached print as an anonymous work, stripped of its Portuguese and Catholic origins. A similar pattern played out with Fernão Mendes, Queen Catherine's crypto-Jewish personal physician, who was involved in the creation of a famous anti-fever medicine based on cinchona bark. In his *Conclave of Physicians* (1686), Gideon Harvey annotated Latin drug prescriptions with sarcastic commentary that compared the influx of Iberian-traded cinchona bark to a shipwreck. "Despair, despair, all is like to be lost. The Vessel is overloaden with Bark," Harvey wrote of one receipt, comparing the patient's body to an East India vessel freighted with cinchona, or Jesuit's bark. "The mischief is, there is no opening the hatches by a Purge, to let out the *Jesuit*."[77]

Some Portuguese purveyors of natural knowledge came to be regarded as potentially suspect owing to their mixed-race origins. Though Dampier relied on informants from the Portuguese world, he also cast doubt on their "purity" as Europeans. Off the coast of Vietnam, for instance, he met a local informant, "entertained for the sake of his knowledge in the several Languages of these Countries," whom Dampier called a "a kind of bastard Portuguese."[78] Captain Cowley, an associate of Dampier, wrote similarly in his *Voyage Round the Globe* that he encountered (at the same Ilha do Sal at which Dampier's crewmate bought ambergris from "Portuguese *banditti*") "five Men upon the Island, *viz.* 4 Officers and one Boy to wait on them: One being a Governor, who is a *Mullatoe*; two Captains and one Lietenant." To Cowley's eyes, "They were all black," but he noted that they "scorn to be counted any other than *Portuguese*; for if any Man call them *Negro's*, they will be very angry, saying, That they are white *Portuguese*."[79]

Whereas in the 1630s British imperial theorists could see themselves as walking the same path to empire as the Portuguese, and in the 1660s British consumers adopted Portuguese tastes for tea and other Indies drugs, by the beginning of the eighteenth century British authors were elaborating racialized distinctions between northern and southern European constitutions and casting aspersions on the increasingly mixed demographics of the Portuguese tropical colonies. One treatise on "Northern People" in "Southern Climates" equated the dangers of tropical nature and the dangers of southern European Jesuits. "The *Fibres* of Northern People become very lax on going into Southern Climates," wrote the author, John Tennent, "and will be in that State in a greater or lesser degree, as the Atmosphere they go thro', or stay in, abounds more or less with moist or aqueous Particles." This produced "a fizzy heavy Blood" that could lead to "Stagnation" and death. Moreover, besides the heat

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and moisture in the southern atmospheres, they also "abound with *Effluvia* of a poisonous coagulating Nature." Tennent attacked Iberian-traded drugs, like cinchona and dragonsblood, because these "astringents . . . would produce death [in northern constitutions], as appears by the Experiment [of injecting them into dogs]."[80] Tennent also took the opportunity to plant seeds of anti-Jesuit paranoia about the proprietary drug recipes supposedly obtained by a rival in Rome: "There are many Conjectures about his getting them, amongst which the most probable one is, that a *Jesuit* there communicated them to him."[81] For Tennent, this southern and Catholic origin made the drugs unhealthy for northern bodies.

In early eighteenth-century England, gathering medical knowledge from the Portuguese world meant associating oneself with Catholics, mestizos, and indigenous groups: associations that threatened both the credibility of the Protestant natural philosopher and the popular reputation of the merchant and apothecary. The solution to this problem was to tacitly maintain connections to members of the Iberian world (via merchant or missionary intermediaries) who could communicate firsthand knowledge and materials but to allow the genealogies of this knowledge to drop out of the picture when it was presented to scientific and medical publics and to consumers. The stones made by Gaspar Antonio, for instance, became stripped of their specific pharmaceutical context in the Jesuit apothecary shop in Goa but retained a fashionable Indies origin.[82] The Infanta Catarina's cha became Queen Catherine's tea. The Portuguese world was key to British natural knowledge, but it also became critical to obscure the origins of that knowledge.

* * *

The entanglement between the Portuguese and British played out among bioprospectors in Amazonia, governors in Goa, and courtiers at Whitehall, and each case was different. But drogas ran through the warp and weft of alliance that bound the two empires together. The relationship at the heart of this alliance—the actual personal bond between Catherine and Charles—remains, in many ways, a cipher. And in this it stands as a proxy for the other relationships studied here: Bowrey's friendship with the "ancient Portuguees" Petro Loveyo; Jeronimo Lobo's odd retirement as a Jesuit missionary turned informant to the Royal Society; Dampier's mishap with the goat's dung ambergris among the mestiço *banditti* of the Isle of Salt. Ruminating on the ambiguities of the relationship between a Florida plantation owner and an African slave

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in Chapter 7, Cameron Strang writes about how intimate and in many ways ultimately unknowable "racial and romantic relationships" could help decide the fate of empires. The colonial relationship studied by Strang differed in fundamental ways from an elite match like that of Catarina and Charles or the alliance between Phillip II and Mary studied by Christopher Heaney in Chapter 4. But in all three cases, a bond between two people became mingled with the larger imperatives of family, social class, global commerce, and imperial subjecthood.

In a *William and Mary Quarterly* roundtable, James Sweet has observed that recent scholarship on "entanglements" and "hybridity" can flatten out the unequal power relations that defined the early modern world.[83] Abstract terms like "exchanges" and "interaction" subtly reinforce a rosy view of individual encounters that, as Sweet notes, were often predicated on the threat of sexual and physical violence. Even for Catarina, who could scarcely have been born into a more elite station in life, the biological and commercial demands of an early modern coupling overwhelmed individual autonomy. As Belinda Peters has argued, seventeenth-century English thinkers began to reframe marriages as political contracts between male heads of household, a framing that largely excluded female agency.[84] During the same period, the age-old practice of elite gift giving began to take on new importance in the context of English relations with the Mughal court and other non-European powers, with diplomatic gifts and dowries functioning as a kind of shadow trade that greased the wheels of commerce.[85] It can be tempting to view the early modern spice and drug trade from the perspective of the relatively frictionless networks of contemporary globalization, yet in practice (as the crew of the *São Alberto* knew well) it was an ad hoc and dangerous affair. Gifts like Catarina's chest of tea—to say nothing of Catarina's body, or the dynastic promise of her future progeny—were part of a larger calculus of empire that blended the intimacy of reproduction and consumption with the cold-eyed realpolitik of Baroque statecraft and the everyday violence of early modern colonial regimes.

The Anglo-Portuguese alliance, long studied in an anecdotal and Eurocentric fashion, takes on important new dimensions when considered in this larger context of imperial entanglement. Catarina's individual agency may have been limited, but the larger apparatus of a dynastic marriage—the exchanges of enormous dowries, the flows of information and personnel, and even the biological and ecological exchanges of valuable plants or deadly diseases—profoundly influenced the larger interactions between societies and empires in the early modern world. So, too, did the unions between Portuguese and

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non-Europeans throughout the tropical belt that gave rise to the so-called "bastard Portuguese" disdained by Dampier and Cowley.

The connections studied here also complicate certain commonly held assumptions regarding the Northern European origin of Enlightenment-era Portuguese medical and scientific knowledge. Portuguese historiography has tended toward a unidirectional model in which "enlightened" learning flowed from *estrangeirados* (foreign-educated intellectuals) in France, Britain, and the Netherlands to a Portuguese periphery.[86] The Royal Society, as the preeminent scientific institution of the era, emerges in existing scholarship as one of the most important conduits of empiricism for such Portuguese intellectuals.[87] It is true that by the mid-eighteenth century the Portuguese state (by then under the control of the Anglophilic Marques de Pombal) made concerted attempts to reform Portuguese medicine along empiricist lines originally articulated by British, French, and Dutch scientists and physicians. Yet a close attention to the medical and botanical aspect of this very empiricism reveals a surprising twist: some of this "Northern" medical innovation was, in fact, a result of exposure to medical and botanical knowledge from a cosmopolitan and dynamic Portuguese tropical world.

Anglo-Portuguese pharmaceutical exchanges—unstable, vernacular, based on shifting personal, matrimonial, and commercial connections rather than a traditional republic of letters model—exerted a complex and oftentimes hidden influence on global trade and experimental science and medicine. But this legacy would prove to be a vitally important one in the nineteenth and twentieth centuries, when both the illegal and pharmaceutical drug trades emerged as among the largest industries in a world economy built in large part on the exploitation of colonial labor, knowledge, and nature. The path from Caterina's dowry gift of tea and Bombay led directly to the Opium Wars—and, arguably, to the contemporary war on drugs, in which fears of immigrants and foreign imports are again playing out in a postcolonial guise.

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