Sir Hans Sloane's Milk Chocolate and the Whole History of the Cacao

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> For the first time I saw cacao, freshly harvested. I peeled the kernel, which looks like a large, misshapen bean, and was disappointed by the bitter taste, for what is inside looks like chocolate.
> —Werner Herzog, *Conquest of the Useless: Reflections from the Making of* Fitzcarraldo

(I Don't Want to Go to) Chelsea

Commemorations of Sir Hans Sloane (1660–1753), one of the pivotal figures in early modern British science and medicine, turn on the ambiguous relation between the production of natural knowledge and its commercial exploitation. This relation is neatly expressed by the caption that accompanies Godfrey Kneller's portrait of Sloane (1716), which hangs in the Royal Society. The caption informs visitors that Sloane formed the foundation collection of the British Museum—and invented milk chocolate. It is to this inviting juxtaposition between collection and confection that this essay attends. Traces of Sloane's sweet legacy are concentrated in West London. The Natural History Museum houses his original cacao specimen as part of the herbarium he assembled from the hundreds of plant species he brought back from the island colony of Jamaica to the imperial capital in 1689. Grand botanical and culinary narratives converge to make it the herbarium's most prestigious species. Linnaeus used the engraving Sloane made of this sample for his authoritative designation of *Theobroma cacao* in 1753, making it type-specimen material.[1] But

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it is also a relic of the fateful moment when Sloane allegedly originated the sweetening of bitter American chocolate for mild British palates, transmuting an elite stimulant into mass pleasure. Not far from Sloane Square—where a restaurant named The Botanist uncannily reproduces numerous engravings from Sloane's *Natural History of Jamaica* (1707–25) in illuminated colored panels on its rear wall,[2] in a building that is itself a short walk from Chelsea Physic Garden, which Sloane helped stock with colonial species in the eighteenth century—chocolatiers continue to invoke Sloane's name as purveyors of "London's finest hand-made chocolates." The Web site of the Sir Hans Sloane chocolatier explains that "while exploring the Caribbean, Sir Hans discovered that milk and cocoa beans make perfect partners." Their milk chocolate packages are emblazoned with reproductions of Sloane's cacao engraving, while couples are invited to savor the "Sir Hans Sloane Bespoke Experience" at an establishment offering immersion in the "rich, indulgent world of chocolate" and the production of individualized chocolate recipes.[3] The figure of the gentleman entrepreneur is doing brisk business in the land of the Sloane Rangers.

On the western edge of the Atlantic Ocean, meanwhile, a different set of contemporary rituals construes the history of chocolate rather more communally. In 2009, the Jamaica National Heritage Trust (JNHT) encouraged the island's citizens to participate in a festival at Seville Heritage Park in St. Ann, formerly Sevilla Nueva, the Taino site near which Christopher Columbus made landfall in 1494 and where Spanish colonizers first settled Jamaica's northern coast. Contesting the narrative of ingenious gentlemanly discovery promoted by both learned and commercial marketers of the Sloane brand in Britain, the JNHT Web site invited attendees to bring their own mugs to partake of "limitless cups of Chawklit Tea": a hot beverage brewed from shavings of freshly harvested cacao, boiled with milk and cinnamon. This was billed as part of the "emancipation jubilee," which would bring together dance, music, and theatrical performance to consecrate the graves of "our African ancestors" and "transport the audience to days gone by."[4]

As these competing rites suggest, the relation between cacao as species and chocolate as commodity must be sought in the connections that botanical science, colonial trade, and Atlantic slavery forged between West London and the West Indies in the early modern period. Important accounts of colonial botany have shown in impressive detail the intersection of empirical knowledge and commercial profit in the circulation of plants in this era.[5] Such accounts have not always captured, however, the full range of preoccupations of naturalists who sought to classify the new objects of global trade. The "second loss of Eden," as Richard H. Drayton described the eclipse of existing taxonomies during the age of Atlantic and Asian

colonization, obliged Europeans to rewrite their catalogs of human as well as plant, mineral, and animal variety.[6] Conversely, due to the retrospective projection of modern disciplinary boundaries, "ethnographic" reportage has often been segregated from the specimens naturalists simultaneously sought to comprehend in their studies.[7] Instead of seemingly discrete practices of botany or ethnography, it is early modern *natural history* to which we should direct our attention, and in particular its gathering of human and nonhuman entities alike as complementary objects of curiosity.[8]

In what follows, Sloane's engagement with both cacao and chocolate is situated in the context of his Jamaica voyage, undertaken at a time when British colonization and capital investment were intensifying dramatically in the Caribbean islands through promotion of the Atlantic slave trade and a plantation-based sugar economy built on West African labor. Naturalists like Sloane were active in exploiting the triangular trade for knowledge and gain. Upon what techniques, it is asked, did Sloane's botany depend for its authority? Of special interest is the relationship between prose descriptions and illustrative engravings in Sloane's published natural history of Jamaica, which featured detailed depictions of species like cacao.[9] The execution of these engravings is linked to specific philosophies of nature and knowledge, and emphasis is placed on the importance of providentialist commitments to the infinite variety of natural kinds. Baconian dogmas about "empiricism" notwithstanding, botanical authority was to be constituted as much through the naturalist's words as through his specimens or engravings, as well as by relating collection and reportage to humanist reference that was commercial and ethnographic in character. Sloane was not merely a botanist, nor did he envision a categorical distinction between what we would term botany and ethnography. Rather, natural history provided a single framework that comprehended the description of both things and people. Artifacts followed plants through colonial networks, since the accumulation of intelligence about foreign peoples had always been construed as part of the pious yet strategic project of natural history.

The essay concludes by showing how Sloane's accounts of species contributed to an imperial chorography that included substantial descriptions of Jamaica's enslaved African population. These descriptions were linked to late-seventeenth-century discussions of the possibility that "negroes" constituted a physically distinct human group.

Collecting Things, Collecting People

Well before more celebrated episodes in enlightenment histories of taxonomy, encounter, and racial reckoning—in the form of Linnaean systematics, the Pacific voyages of Cook and Banks, and the comparative anatomy projects of the later eighteenth century—travel, trade, and colonization

confronted British naturalists and philosophers with pressing questions about the very possibility of contriving reasoned mechanisms of global classification.[10] Controversies over right method in classifying botanical species, for example, became pointed in the late seventeenth century. The philosopher (and sometime botanist) John Locke influentially expressed skepticism about the feasibility of designating true natural kinds, doubting human capacity to discern the essences of things through sensory evidence. Such species skepticism inflected debates among naturalists over the proper designation of species. Against rivals Augustus Rivinus and Joseph Pitton de Tournefort, John Ray, England's preeminent taxonomist and an associate of Locke, contended that species designation required a pragmatic consideration of multiple plant characteristics, and that philosophical claims that attention to a single given characteristic could underwrite a truly natural classification system lacked foundation.[11] Such debates occurred during a period of political and economic transformation directly concerned in the commercial widening of England's world. Locke's multiple profile is here ideally illustrative. The species skeptic also argued against the existence of an essential human nature, suggesting the need to collect evidence of global moral diversity for a "natural history of man," upon whose review he had provocatively embarked in his *Essay Concerning Human Understanding* (1690). Fellows of the Royal Society, including Robert Boyle, William Petty, and John Woodward, designed questionnaires for merchants, ship captains, and traveling naturalists to procure intelligence about remote peoples as well as phenomena. Locke also sought to consolidate the political settlement of the Glorious Revolution, secure the value of English specie in light of the Recoinage Act, and develop England's colonial system through active involvement in the Royal Africa Company, the Council of Trade and Plantations, and the drafting of the Constitutions of Carolina.[12] As Simon Schaffer has shown, philosophers like Locke, Boyle, and Isaac Newton acted as high officers of state, deploying their expertise in a range of projects to uphold the creditworthiness of instruments of governance, commerce, and knowledge during an era of acute political and economic instability. The major financial system-building of the 1690s, including the founding of the Bank of England, promised rational management of debt and credit to facilitate capital investment in colonial enterprises. The instruments intended for this purpose, however, often brought speculative frenzy rather than stability, as shown by the disastrous collapse of the Darien colonization scheme in the late 1690s and the bursting of the South Sea bubble in 1720. In James Thompson's phrase, "disturbing new forms of paper money provoked a semiological crisis over the concept of value."[13]

The profitability of African slavery in underwriting sugar production lay at the heart of these developments, through the South Sea Company's

efficient annual supply of some 4,800 African slaves to the Spanish-American colonies under the Asiento and via intense private investment in Barbados and, especially in this period, Jamaica. Sloane's Atlantic voyage during 1687–89 as physician to Jamaica's new governor, the dissolute treasure-hunter Christopher Monck, second Duke of Albemarle, took place as Jamaica was being transformed from a privateering station into a slave-based plantation society, accompanied by parliamentary efforts to subject the planters' increasing profits to taxation.[14] The slave trade not only enabled the voyage that brought hundreds of rare specimens into Sloane's private collection; it underwrote his economic position, correspondence networks, and centrality as an information broker in the imperial capital.[15] Having trained in London, Paris, and Montpellier as an apothecary and physician, Sloane became expert at accumulating both things and people—Locke and Ray prominent among them; and his success in assembling the networks that would advance his careers in medicine, natural history, and collecting resulted ultimately in his patronage by the royal family, his elevation to the presidencies of the Royal College of Physicians and the Royal Society, and his creation as a baronet.

Sloane's engagement with slavery was decisive for his early fortunes. Once in Jamaica, where his patron Albemarle bought a consignment of slaves soon after disembarking, Sloane set to work as physician to the Duke and Duchess and numerous colonizers and slaves, whose case histories he included in the *NHJ*. He made the acquaintance of Elizabeth Langley Rose, then married to Fulke Rose of St. Thomas in the Vale, one of only six colonists who regularly imported significant numbers of Africans from the Royal Africa Company during the 1670s, in the era of its monopoly. After Rose died, Sloane married Elizabeth back in London in 1695 and gained access to her one-third share of the income from her husband's estates at Sixteen Mile Walk ("some of the best and securest plantations of the island"), a financial arrangement that lasted until her death in 1724.[16] Sloane's account books from the period document regular deliveries of sugar from the plantations. In September 1721, for example, he recorded receipt of ten hogsheads worth roughly £38 brought by the *Loyal Charles* from "MP" (Middleton Plantation); and in December of that year a South Sea Company ship named *Neptune* left London en route to Jamaica with a cargo of 395 slaves from Cabinda (near the mouth of the Congo River), to return in April 1723 carrying eight hogsheads of sugar for Sloane worth £32 from "KP" (Knowles Plantation). Combined with his income as a leading society physician and extensive property investments in Chelsea, this source of fortune formed the basis for half a century of collecting specimens, books, manuscripts, curiosities, and works of art, inspired by seventeenth-century models of the virtuosic connoisseur as embodied by friends like William Courten.[17]

In addition to the specimens he transported to London and the income his family enjoyed, the Jamaica voyage built Sloane a lifelong professional connection to the West Indies in the form of intelligence-rich correspondence networks. Letters from the Jamaica-based physician Henry Barham in the early eighteenth century nicely capture the multiplicity of such information flows. Barham dutifully sent commentaries on the natural resources and medical techniques Sloane described in the *NHJ*, drawing extensively on encounters with slaves; sent numerous specimens and curious artifacts as gifts; and acted as trusted local informant. After a violent storm in 1722, he warned Sloane, "I do not know who looks after your Interests in Sixteen Mile Walk for Major Rose is gone a cruising in a Man of Warr for his Health & Pleaser," and reported severe damage to Knowles and Middleton.[18] This ultimately prompted the family to dispatch Sloane's grandson Rose Fuller in 1732 to restore order on the plantations.[19] Itinerant clients like Robert Millar and the South Sea Company surgeon John Burnet sent intelligence and specimens of all kinds from Antigua to the Isthmus of Darien and Cartagena. From his London base, Sloane translated such reports into counsel for new overseas ventures, as when he advised James Blackley and the Duke of Chandos on the Royal Africa Company's botanical prospecting in Guinea.[20] The link between the resources that converged on Sloane's Bloomsbury house and the trade in Africans is strikingly evident in Sloane's acceptance of a "Black Boy" into his household as a "present" from Dr. Alexander Stuart in 1710, only for the youth to prove recalcitrant once in service. "I beg of you that you'd be pleasd to dispose of him as you shall think best, in sending him to the West Indies or elsewhere," Stuart embarrassedly urged, "and pray pardon my haveing given you the trouble of such a Rogue, who I thought might perhaps be of use to you."[21]

Making use of Africans was indeed Sloane's strategy for accumulating knowledge of Jamaica. The landscape through which he traveled and the conditions under which he accessed the island's natural productions were fundamentally shaped by the presence of Africans — from plantation slaves to the Maroons who successfully resisted enslavement. Since the Restoration, planters had increasingly relied on slaves from the Gold Coast, West Central Africa, and the Bights of Benin and Biafra to produce sugar, rum, cotton, and cacao. By the time of Sloane's voyage, despite constant slave revolts, Africans outnumbered colonists by a factor of three: approximately thirty thousand to ten thousand, with the latter number in decline. Once in Jamaica, Sloane embarked on a horseback journey from the notorious pirate haven of Port Royal in the south to St. Ann on the northern coast, gathering specimens and engaging local artist Garrett Moore to draw living plants. Sloane's itinerary was closely defined by geographies of enslave-

ment and resistance as he moved from one plantation to the next, enjoying the hospitality and conversation of planters and scrupulously avoiding the Maroon-controlled Blue Mountains and Cockpit Country, whose rebels engaged in their own medicinal, agricultural, and religious practices according to the tenets of West-African Obeah and "Maroon Science."[22] As Judith A. Carney and Richard N. Rosomoff have emphasized, Africans displaced by the slave trade were signal agents of botanical circulation and innovation in the Atlantic world.[23] The landscape beyond the plantation was of special relevance to Sloane's attempt to acquire previously unknown specimens. Africans provisioned themselves by cultivating their own land, harvesting foodstuffs such as plantains, yams, maize, okra, and beans, and raising livestock. In Jamaica's internal economy, they sold their produce at weekly markets, could acquire personal property, and although deprived of legal rights, successfully willed their grounds to heirs, a transmission planters blocked at risk of retaliation.[24]

Sloane noted the role of local African knowledge explicitly in touting the authority and appeal of the *NHJ*, which he described as composed from "the best informations I could get from Books, and the Inhabitants, either Europeans, Indians or Blacks."[25] He "look'd into as much as I could" the matter of slaves' medicinal plants, such as the antimalarial Jesuit's Bark, and visited slaves in their provision grounds. Since, in his view, "the skill of using [the Spanish plantations] remain'd with the Blacks and Indians," slave gardens were crucial sites of mixed botanical and agricultural technique, where the curious might hope to harness an entire historical complex of transplanted indigenous, Spanish, and African expertise. The work of collecting samples was nested in the labor hierarchies that the British extended across the Atlantic: the naturalist gathered in his own "leisure-hours" while also engaging the enslaved to gather for him.[26] As Susan Scott Parrish has shown, Sloane's associate, the London apothecary and avid global networker James Petiver, routinely directed his American correspondents to train their slaves as auxiliary collectors, many of whose specimens Sloane ultimately absorbed into his herbarium. "Procure Correspondents for me wherever you come," Petiver instructed his America-bound apprentice George Harris in 1698, "and take directions how to write them, and procure something from them [with whom] you stay, showing their Slaves how to collect things by taking them along with you when you are abroad." Collecting things necessitated collecting people. Gathering natural specimens was a direct function of the labor systems, capital investment, and plantation order driving the expansion of the imperial British economy.[27]

The Whole History of the Cacao

Although British commemorations celebrate Sloane as the inventor of milk chocolate, his engagement with cacao was in fact a late intervention in a long history of cultivation and circulation shaped by Amerindians, Spanish colonizers, and enslaved Africans. Cacao was not an indigenous Caribbean crop but a transplanted one, brought to Jamaica from the American mainland by the Spanish and harvested by African slaves. As the natural historian D. Quélus explained, only "the most handy negroes" were skilled enough to do this: "they go from tree to tree and from row to row, and with forked sticks or poles, they cause the ripe nuts to fall down, taking great care not to touch those that are not so, as well as the blossoms."[28] Marcy Norton has discussed the symbolism of *cacahuatl* as expressed in indigenous pre-Columbian artifacts, which depict it as a sacred tree of the south, enjoying associations with blood, sap, and vital force. A bitter and spicy drink commonly used as a febrifuge, taken hot by the Maya and cold by the Mexica, *chocolatl*—the Nahuatl word meaning "bitter water" on which the Spanish based their word *chocolate*, just as the term *cacao* was based on *cacahuatl*—overcame early associations with diabolism to be embraced by Iberian colonizers and peninsular consumers alike. Prepared according to various recipes but often sweetened with sugar, chocolate became a luxury good throughout much of Europe by the seventeenth century, taken either as a stimulant and alleged aphrodisiac or with alcohol, in coffeehouses and elite chocolate-houses (Sloane's collection included exquisite gilded and hand-painted earthenware chocolate cups).[29] Numerous recipes circulated among profiteers whose itineraries connected Royal Society curiosity with Caribbean resource hunting. Denis Papin, experimental technician at the Society, boiled chocolate with milk *in vacuo* the better to preserve its goodness, while the physician Henry Stubbe published *The Indian Nectar* (1662), which detailed recipes involving eggs, sugar, and milk to prepare chocolate as a stomachic elixir.[30] This was several decades before the period of Sloane's alleged invention of milk chocolate. "In England we are not content with the plain Spanish way of mixing *Chocolata* with water," Stubbe explained; "[we] either use milk alone; or half milk, and half conduit-water."[31] The increasing popularity of chocolate was part of the "Caribbeanization" of British tastes, at once eager and ambivalent. Stubbe assuaged worries about chocolate ruining the complexion by insisting that the chocolate-drinking American relatives of Boyle, his patron, had seen their beauty suffer "no diminution" and urged it as an anti-Puritan elixir befitting Restoration taste.[32] Hogarth later dramatized similar concerns in his depiction of an African servant dishing out chocolate to foppish Londoners in *Marriage à-la-Mode* part four (1745), a tableau that linked European corruption with luxury consumption, the hoarding of baubles, and the slave trade.[33]

Sloane's chocolate adventure was thus more emulative than innovative. His many references in the *NHJ* to previous Spanish writings about cacao signaled his aim to collect and strategically rearrange preexisting foreign reconnaissance of American species for British purposes.[34] His presentation took a singular form, however: the publication of large and highly detailed engravings. "I am sensible that the charge of figures may deter you," Ray had earlier counseled; "draw them *in piccolo*, using a small scale, and thrust many species into a plate."[35] This was precisely what Sloane did *not* do. Outshining rival publications by naturalists such as Leonard Plukenet and Charles Plumier in quality, quantity, and magnitude, this lavish outlay was intended as useful to botanists, but it was also a symbolic expression of rising British power to display West Indian nature as well as of Sloane's personal capacity to do so as a wealthy naturalist-author.[36] Its composition relied on forms of paperwork as techniques for producing knowledge across distance. Based on sketches done in situ with terra-cotta crayon by Moore and on inked drawings made a decade later in London (as dated on the drawings) by Dutch draftsman Everhardus Kickius after the dry specimens Sloane had preserved, these engravings were the products of lengthy processes of collaboration and mediation involving the circulation of paper technologies across the Atlantic Ocean. Paper provided a precious resource for organizing early modern collections, from packing specimens for presentation and transportation to arranging them as a herbarium. Petiver's correspondence was littered with requests from colonists for expensive quires as well as mercury fixative. As Miles Ogborn has argued, for the history of the East India Company, paper rituals mediated the exercise of power in long-distance colonial relationships. Petiver, as noted, was particularly zealous in his distribution of paper to collect both specimens and people. Whenever he sent printed directions for preserving plants, he encouraged correspondents to circulate extra copies as a means to enroll new agents in his network. Sloane's herbarium, meanwhile, was literally a set of books of nature, embodying the notion that nature was designed by God to be read by man. Less loftily considered, it was also a form of "scrapbook science": a documentation center to record species identities by cutting, pasting, and labeling paper. Sloane's cacao was handled precisely in this way: an assistant glued the specimen to the page and affixed paper labels that referred it to preexisting descriptions in Sloane's *Catalogus Plantarum* (1696), Ray's *Historia Plantarum* (1686–1704), and its subsequent engraving in the *NHJ* (see figs. 1–2).[37] As Anke te Heesen has written, pasting, as much as writing, was an "operative process for generating meaning."[38]

Moving paper across an ocean allowed for the execution of images that expressed highly specific philosophies of nature and strategies of visualization: plants were infinitely varied works of divine art, requiring

Figure 1. Sloane's cacao specimen and drawing by Everhardus Kickius, in Sloane Herbarium, 5: 59. Botany Department, Natural History Museum, London. Photograph by the author

pious attention to detail to depict the characteristics of individual specimens and thus to enable exact species designation. Sloane's cacao specimen is preserved on the fifty-ninth page of his fifth herbarium volume in the form of a branch with several leaves, the fragments of a nut-bearing pod, three flowers, and a single nut. Bound opposite is a drawing signed by Kickius that does not match this sample. Kickius appears to have inked an original Jamaican sketch of the living plant complete with pods, which formed the basis of the *NHJ* engraving ultimately executed by another Dutch artist, Michael van der Gucht, for publication in the second *NHJ* volume in 1725 (fig. 2).

What scheme of visualization was Sloane pursuing here through the skills of his various artists? Van der Gucht's engraving did not single out cacao's sexual characteristics, as Linnaean naturalists would do in subsequent years, but aimed to capture instead its general anatomy and fruits. Sloane followed Ray's pragmatic classification principles in particular, which treated species as accidental collections of multiple characteristics rather than focusing on a single putatively essential natural characteristic.[39] But Sloane's ontological and epistemological commitments ran deeper. As an avowed Baconian, he repeated on the *NHJ*'s title page Bacon's *Great Instauration* motto of increasing knowledge, to signal his anti-Aristotelian

Figure 2. Cacao engraving by Michael van der Gucht, in Sloane, *Natural History of Jamaica*, vol. 2 (1725), table 160. Botany Library, Natural History Museum, London. Photograph by the author

commitment to gathering particulars. What existed in nature, and what required visualization, were infinitely varied individuals rather than idealized types to be artfully composed from series of specimens.[40] This commitment to infinite variety was underwritten by a providentialist cosmology that construed nature as a benevolent "contrivance" expressing "the wisdom and power of the first contriver and preserver" and designed for pious human advantage. Not one species had been lost "from the creation to this day," Sloane noted: each patiently awaited "artificial imitation" for the improvement of man's estate. Collecting and depicting were thus works that emulated the divine by "keeping the species from being lost."[41]

This seemingly naturalistic depiction of individuals was simultaneously a work of colonial artifice, too. It juxtaposed a living branch complete with pods sketched in Jamaica with a dried pod, nut, and flowers rendered in London a decade later. This was distributed eye-witnessing from both sides of the Atlantic, drawn together into a unified depiction through the collector's masterful assembly of skills, pictures, and objects in the imperial capital. As Jill Casid has emphasized, the quintessential act of colonial botanical artifice was transplantation, and this was precisely the claim to attention that Sloane made. Lest readers hesitate to familiarize themselves with such remote species, he pointed out that many such plants

were already being successfully cultivated in domestic British gardens. To "witness" Jamaican flora in the form of published engravings was no idle science or diversion—it meant to grasp the present reality of valuable imperial resources.[42]

The authority of such engravings was far from invulnerable, as Sloane acknowledged, yet their circulation proved highly instrumental for both botanists and colonizers. In his second volume, published in 1725, he responded to charges alleging errors in the engravings and to claims that he had relied too heavily on dried specimens, whose appearance had been altered by time and preservation, rather than living plants. He noted defensively that the fruit trees engraved for volume two—cacao among them—had, by contrast with many of his plant species, been "drawn from the life," presumably by Moore, but perhaps also from transplanted specimens growing in the British isles.[43] Human observation was a modest imitation at best of divine vision, Sloane conceded, granting that in some cases minute anatomical parts had "escap'd my observation." But he defended himself as a genteel author by blaming errors on his "workmen," indicating that mistakes had been made by the engraver, the draftsman, and even "the person who fastened [the plants] into the books," while he also reasserted the value of the collective expertise he had mobilized, primarily on grounds of local utility: "I do not find any body, who minds those things in Jamaica, ever miss'd by my descriptions and figures, to find the plants I meant."[44]

Sloane's client Barham claimed to work diligently from his figures while in Jamaica, verifying, correcting, and supplementing his patron's findings, while Sloane's contacts in Parisian botanical circles balked at his textual descriptions in English, but eagerly sought out his engravings in order to "see" what grew in Jamaica. Antoine de Jussieu, for one, asked "if a sample of the engravings could be excerpted from the book" for study.[45] Sloane doubtless obliged. And while the young Linnaeus notably visited him in Bloomsbury in 1736, he did not make a substantial study of the herbarium, but later based his designations of species, *Theobroma cacao* included, on the *NHJ*'s engravings. Nineteenth-century botanical typification systems would later reestablish the scientific relevance of consulting the original specimen on which engravings like Sloane's were based. For Sloane and his immediate audience, however, what counted for identifying and designating species was the mobility not ultimately of the specimens themselves but of the engravings as authoritative views vouchsafed by a gentleman-author.[46]

"I send you on this Ship a box, that hath in it a Cacao-tree painted to the life," an earlier Caribbean traveler had written to the Royal Society. "'Tis certain, nothing was ever more like; and this Picture contains the whole History of the Cacao."[47] Visual images did not contain the whole

history of Sloane's cacao, by contrast. For all the expense and care he lavished on his engravings, Sloane sought authority for his natural history as much through words as images. With great deliberateness, he embedded each of his engravings in a dense web of references to render them meaningful. The "Nullius in Verba" legend that adorns his chair as Royal Society president in Stephen Slaughter's portrait (1736)—where Sloane unfolds a drawing of exquisite Jamaican *lagetto*—is thus misleading.[48] His Baconian commitments notwithstanding, what distinguished Sloane's natural history was its aspiration, carrying forward Renaissance traditions of *historia*, to refine empirical reportage through learned reference. Sloane never intended his specimens or engravings to stand alone or as a form of natural language in the place of textual description. Unlike those Linnaean handbooks of the later eighteenth century that prioritized the visual over the textual, Sloane's was a chorographic natural history that contextualized its objects through detailed humanist reference.[49] The *NHJ* constituted "the Cacao Tree" by converting it first into words: naming, cross-referring, and verbally describing it. The name *cacao* was referred back to Ray's *Historia Plantarum* (1686–1704), which followed Clusius's 1605 usage.[50] This art of referral was allied with the goal of "reducing" to "their proper kinds" the number of catalogued species, rather than designating new varieties for every trivial anatomical difference. "Endeavouring to express new things by old classic words" had hindered natural history, Sloane wrote, but unwarranted renaming was also a "great obstruction to the knowledge of natural things."[51] "Seeing" cacao meant viewing its engraving in relation to a prose description. Having referred the reader to the entry "Cacao" in the *Catalogus*, which listed previous writers' accounts, Sloane then directed attention to its engraving. While the engraving might appear to have been the primary object of attention, it was nonetheless framed by Sloane's description. Readers were intended to move back and forth between engraving *and* description, located in different sections of the volume: to look, but then to be told what they had seen. The authority claim was double: eye-witnessing refined by learned reference. Only a botanist who had traveled to see "the nondescript Americans . . . growing in their natural places," Ray argued, *and* who had "read, considered, and compared" texts could reckon an individual specimen as the exemplar of a species.[52] Species designation involved creating a textual thread that reorganized previous accounts to point to the particular specimen on display.[53] This was Sloane's achievement.

Written in English for his fellow countrymen rather than in Latin for the learned, Sloane's anatomical description of his specimen featured common terms of reference and approximate measurements, to enable the *NHJ*'s use by botanists at home and in the colonies. Cacao's trunk was thus "as thick as one's thigh," its fruit "as big as one's fist," its "shell . . .

about half a crown's thickness." Color, texture, and taste (the nuts' "pulp is oyly and bitterish to the Taste") all constituted relevant objects of sensory attention. As noted, Sloane later deflected criticism in part by blaming the workmanship of his artists. This also produced the highly striking rhetorical effect of insisting that his prose descriptions were in fact *more* reliable than his engravings, because less mediated by "workmen."[54] Despite the great lengths and expenses to which they might go to render nature visible, naturalist-authors, on this view, could maintain the authority of their own words better than the images crafted by their artists. Crucially, however, Sloane's history of cacao was largely given over to describing its commercial and cultural functions, not its anatomy. Contrary to Michel Foucault's contention that "classical era" natural history marked a decisive shift from the magical Renaissance emblem to the naturalistic anatomical diagram, Sloane's *ars excerpendi* mobilized a substantial quantity of commercially inflected ethnographic reportage that tellingly multiplied its very object of inquiry: cacao as species, cacao as crop, and chocolate as recipe, medicine, and commodity.[55] Chocolate was "us'd by all people" in Jamaica, Sloane observed. He described its proper method of torrefaction; its various modes of preparation by Amerindians and Spanish colonists; its medicinal capacity to counter bloody fluxes and serve as a stomachic; and its propensity to "promote venery." Cacao nuts, he also noted, were a contraband commodity directly implicated in the slave trade. Perhaps because Jamaican cacao crops had been blighted in the early 1670s—Sloane witnessed several "ruined" Spanish cacao plantations—British merchants illegally sold African slaves to the Spanish to procure nuts from them for sale back home, at a hefty mark-up of 55 percent.[56]

Within this commercial framework, Sloane then drew on the resources of his vast personal library to excerpt reports by naturalists and travelers of different nationalities that provided evidence of cacao's usage among native American peoples: Jean-Baptiste Du Tertre, William Dampier, Richard Hakluyt, Peter Martyr, Joannes de Laet, Francisco Hernández, Francisco Ximénes, Girolamo Benzoni, José de Acosta, Charles de Rochefort, and others. As Sloane's first biographer Thomas Birch observed, the *NHJ* was an achievement "which perhaps no library in the world but his own could have enabled him to make."[57] This extensive bibliography allowed for the artificial amplification of the voice that reported on cacao/chocolate, and the transcendence of in situ reportage by moving that voice beyond Jamaica to report from around the entire Caribbean basin: Campeche, Costa Rica, Guiaquil, Caraccas, Guatemala, Nicaragua, Mexico, Honduras, Bengala, and the banks of the Amazon River.[58] One striking theme emerged in particular: as both Acosta and Dampier put it, among Amerindians cacao nuts "pass for money." The natives of Nova Hispania "pay the King their tribute in *Cacao*, giving him four hundred Carga's, and every Carga is twenty

four thousand almonds, which is worth in Mexico thirty pieces of Rials of plate," Sloane quoted John Chilton. In parts of Mexico, cacao nuts were a medium of exchange, with power over many other kinds of things. Again, Sloane quoted: "It goeth currently for money in any market, or fair, and may buy any flesh, fish, bread or cheese or other things" (Hawks). The nuts are "money and ready payment, an hundred and fifty for a Rial" (Petty); and when the Spanish arrived in Mexico, "these nuts went for current money, whence Peter Martyr gave them the name *Amygdala Pecuniariae*" (Martyr).[59] Most of the text Sloane printed under "The Cacao Tree" did not involve the anatomical eye-witnessing of a botanical species but rather a mediated ethnography of cacao nuts as a medium of exchange and a measure of value. This was emphatically the natural history of a virtuosic collector: collating secondhand reports not merely of commercially useful intelligence but of beliefs and usages to display human customs in all their remarkable variety. Sloane's multiple authorial voice matched the multiplicity of the object of his inquiry—not a botanical species narrowly construed, but an entity whose natural history was exhibited predominantly for its ethnographic interest. In an era of currency recoinage, increased reliance on paper money, and disastrous financial speculation, cacao's status as a form of Amerindian money evidently seized Sloane's imagination as an embodiment of the arbitrariness of all human value systems. Cacao was not merely a species—it was a curiosity.[60]

Constituting species was not a wholly objectifying practice but a reflexive one: it involved both collective and individual self-definition on the part of natural historians. If naturalists made species, species also made naturalists. Regimes of scientific production manufacture their objects through assembling specific forms of social collectivity. In describing contemporary botanical field sciences, Bruno Latour has argued that what matters is the ability not simply to accumulate sample material but to circulate it back to the field, and that what circulates is the system of reference itself, with reference understood as "our way of keeping something *constant* through a series of transformations." Thus "a text speaks of plants. A text has plants for footnotes. A leaflet rests on a bed of leaves."[61] As noted, however, Sloane's *NHJ* did not have plants for footnotes. His herbarium specimens were not referenced in the text, and thus did not exist in print. Why not? The reasons for this are both epistemological and social. We have seen that Sloane and his contemporaries assumed that his engravings would circulate as authoritative working objects for readers as variously situated as Barham in Jamaica and Linnaeus in Uppsala, independent of the specimens from which they were derived. He did lend Jamaican specimens to trusted intimates like Ray, whose species descriptions anticipated some of those published in the *NHJ*. Later commentators, like the botanical historian Richard Pulteney, made much of such gestures,

praising Sloane for exemplary "liberality" and virtuous commitment to the exchange of materials within the naturalist community.[62] But presumptions of private ownership and privileged access also guarded Sloane's precious Caribbean treasures against the claims of rivals like the royal botanist Leonard Plukenet. "Your instructions in letting nobody have a sight of what you sent shall be observed," Ray excitedly confided to Sloane at one point.[63] Although his Jamaican herbarium depended for its existence on the maritime resources of the British state and the slave trade, once assembled it provided an essentially private resource for individual self-fashioning through the publication of a single-author natural history.

If designating species was an exercise in moral self-definition, however, it became a decidedly ambiguous one in Sloane's case, because of the competition that arose over using his name as a brand for selling milk chocolate commercially in eighteenth-century Britain. The survival of trade cards promoting "Sir Hans Sloane's Milk Chocolate" has long been taken as evidence that Sloane invented milk chocolate (for drinking), pioneered its commercial sale, and made a fortune in the process. No direct evidence, however, appears to verify this heroic narrative, which has nonetheless proven irresistible whether framed by celebration or condemnation. The brand in fact appears to have been invented beginning in the 1750s, and thus after Sloane's death, by a London grocer named Nicholas Sanders, who claimed access to an original Sloane recipe in the course of a public dispute in 1775 with rival grocers who were also using Sloane's name to sell milk chocolate. So appealing did the brand become that Cadbury also invoked Sloane in its own marketing in the nineteenth century, although evidently without the same controversy.[64] In reality, as a wealthy baronet Sloane would have had little need or desire to attach his name to a commodity in an era that prized the public fiction of gentlemanly disinterestedness. And it was precisely this image that paradoxically proved so attractive in the early production of the Sloane brand, as a mark of genteel trust. As the chocolate-makers Edward and John White insisted on their early-nineteenth-century trade cards, "Sir Hans Sloane's Milk Chocolate" was "greatly recommended by several eminent physicians, particularly those of Sir Hans Sloane's acquaintance," for its "light effects" on the stomach and "good effects in consumptive cases." The figure positioned to sell Sloane's Milk Chocolate was that of the gentleman-physician, not the commercial profiteer.[65] Sloane himself had worked hard to forge the image of his virtue, from which marketers continue to profit. Thus in the portrait by Slaughter, he had himself painted handling exquisite lagetto rather than a conspicuous commodity like cacao. This is the figure The Botanist restaurant invokes today: the refined celebrant of nature's elegance, rather than the agent of its commodification. Today's purveyors of Sir Hans Sloane's Milk Chocolate, with whom this essay began, also sell

their products as markers of refined and individualized taste, set against the mass marketing of industrially manufactured chocolate. The Sloane brand, invented in the eighteenth century and reinvented in our own, continues to thrive through its potent yet ambiguous moral authority: that of the global connoisseur as benevolent entrepreneur.

A Very Perverse Generation of People

Sloane's description of the cultural uses of cacao was part of a broader natural-historical enterprise that included intelligence gathering concerning foreign peoples. Observing, describing, collecting, and visualizing were practices that made human beings the objects of knowledge, like plants, animals, or minerals. Three key issues governed naturalists' curiosity concerning foreign peoples in the late seventeenth century: physical variation, moral diversity, and technical expertise. First, curiosity about physical variation was prominent in thinking about foreign peoples, particularly Africans. In 1696, Woodward published a series of questions concerning maritime conditions, diseases, and exotic phenomena, as well as practical directions for preserving and conveying plants and artifacts. He enjoined travelers to "make enquiry into all [the] Customs" of foreign peoples, and their cosmologies, while also targeting their physical features: their faces, eyes, noses, hair, and "the colour of their Skin whether white, brown, tawny, olive, or black: the colour of their Infants when first born: whether white people removing into hot Countries become by degrees browner, &c. and Blacks removing into cold Countries, paler: whether People that inhabit the Countries which are hottest, be in Complexion of all the blackest."[66] African men and women were of special interest to colonizers in relation to perceived extremities of color and bodily durability. The same bodies that provoked naturalistic curiosity to transcend the Curse of Ham as an explanation of "black" color would come increasingly to be modeled as possessing exemplary physical hardiness and thus natural fitness for slave labor.[67]

Moral diversity and practical craftsmanship were no less important as strategic concerns, however. Daniel Carey has persuasively articulated the philosophical program embarked upon by Locke as an imperially situated interpreter of global ethnographic intelligence in his *Essay Concerning Human Understanding*.[68] Locke controversially built his argument against the existence of a morally uniform human nature through careful engagement with travel reports of foreign customs such as ritual sacrifice. This was not a polygenetic account: a single act of creation remained at the origin of a divinely unified human species. That species was not characterized by uniformity, however, but moral diversity, of which cultural differences were the external expression. Human beings, therefore, both possessed and

required a natural history of variety (the "natural history of man"), to be assembled through observation, collection, and description.[69] Curiosity about foreign peoples also placed heavy emphasis on scrutiny of the manual dexterity and practical techniques of non-Europeans. As Joyce E. Chaplin has shown for English engagements with the peoples of the Powhatan Confederacy in the early modern Chesapeake, demographically inferior colonizers, dependent on local assistance for survival, initially admired the hunting techniques and instruments used by indigenous peoples as equal if not superior to their own.[70] Attention to foreign craftsmanship was no less prized back in London. As secretary of the Royal Society, Sloane explicitly appealed for information on "the instruments and materials made use of in the places [travelers] come . . . that we may content ourselves with our own inventions where we go beyond them and imitate theirs wherein they go beyond ours."[71]

Sloane's descriptions of Africans in the *NHJ* responded to all three concerns—the physical, moral, and technical—by attending to the curious in each. Curiosity carried at least two distinct emphases here, connoting on one hand the careful and minute observation of particulars as part of the quotidian collection project of reformist Baconian natural history, but retaining, on the other hand, an older connotation of the strange and marvelous.[72] Sloane's reportage bore the marks of both emphases. He framed his account not as a description of the institution of slavery, but rather as the study of a putatively natural group. He designated this group not as Africans, or even "slaves," but typically as "blacks" or "negroes" (the term *slave* does appear, but "black" and "negro" dominate the text as categories). Just as provenancing played an important role in accounting for individual botanical species, so too did it govern, in pragmatic manner, what counted as useful distinctions when writing about the "Negros, Mulatos, Alcatrazes, Mestises, Quarterons, &c. who are the slaves." Provenance of Africans counted as an index of slaves' productivity: island-born "Creolians" were properly "seasoned" and thus "reckoned more worth" than those newly transported from Guinea or those from the East Indies.[73] As a collector who was expert in discerning form and value through the visual inspection of objects, Sloane keenly noted, following Woodward's injunction, that the children of blacks were in fact "reddish brown when first born. From several countries they are of a deeper or paler colour, [and] when the same persons are paler than ordinary 'tis a sign of sickness." Curious attentiveness to anatomical particulars linked profitable colonial sites of naturalist study and the slave market: appraisals of slaves demanded skills not unlike those required for examining specimens or artifacts. As Sloane noted, after describing the use of palm oil to render Africans' bodies lustrous for sale, "the planters choose their negros by the country from whence they come, and their look."[74]

But skin color was also worthy of curious attention insofar as it

appeared to defy the regular course of nature. "At the plantation of Captain Hudson there was a young woman white all over, born of a black mother," Sloane reported. He described the girl in question as "white all over," but with hair that was "short, woolly, and curled like those of the blacks in Guinea." Such children were worshipped in parts of Ethiopia "as the offspring of the Gods," he noted, while others put them to "death for being the children of the devil. I was told that in Nieves two such were born. . . . the skins of such are whiter than ours."[75] Transgenerational color change was a curious fact bordering on the prodigious. As this quotation shows, however, rather than offer an interpretation of this phenomenon or draw out its implications for a philosophy of human variation, Sloane again indulged his collector's predilection for exhibiting the range of interpretation such phenomena could provoke—just as he displayed cacao as an ethnographic curiosity through its function as indigenous money. His statements about the customs of Africans depicted, likewise, a certain moral extremity in African behavior. His most striking such passage entailed a meticulous account of the punishment and execution of slaves who rebelled against their masters, detailing several of the gruesome methods employed by planters to deter further uprisings: burning at the stake, hobbling, chaining, whipping, and burning wounds with pepper and wax. Here, minute attention to the violent technologies of colonial discipline mixed with commentary that registered the extremity of the scene. These "very exquisite torments," Sloane noted, "and punishments are suffered by them with great constancy." Sloane concluded his account with a necessitarian reminder that such methods were less terrible than those used by other European powers, or indeed slaves in rebellion, and were "merited by the blacks, who are a very perverse generation of people." His language interestingly recalls an earlier passage in which Locke had cited the capacity of Canadian Hurons to with "constancy endure inexpressible torments," as evidence for the local effects of the "law of opinion" on human behavior, against universal norms. Whether Sloane had seen his friend's manuscript or not, his description of Africans enduring slavery evidently drew from an established lexicon for couching curiosity about foreign peoples' behavior as a question of moral diversity.[76]

In addition to making minute descriptions, the collection of objects—and in one notable case, engraving—suggests an important unity of method between the botanical and human assemblies of Sloane's natural history. Both ethnographic and anatomical curiosities followed plant and animal specimens through colonial networks. Sloane listed several such items in his catalog of "miscellaneous things": spoons made out of calabashes used by slaves; whips used to beat slaves; nooses for executing rebels; and clothing and weapons employed by Maroons.[77] This was probably a unique collection for the early eighteenth century, although it

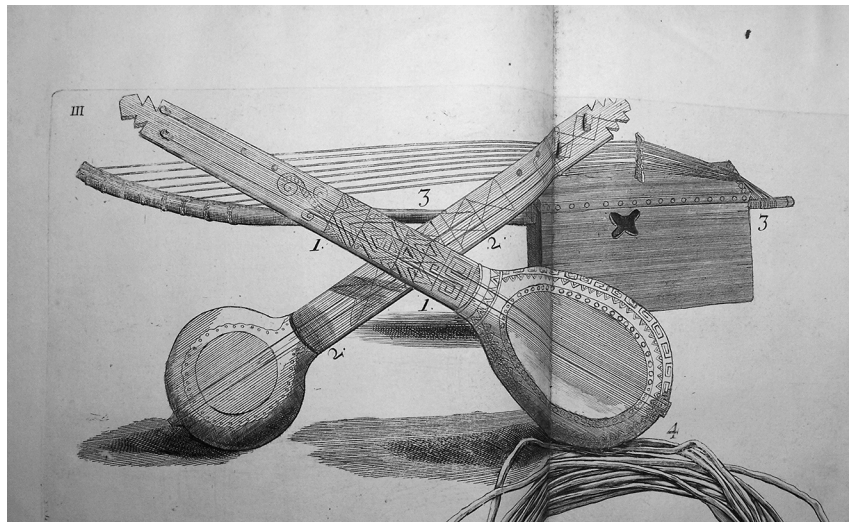

Figure 3. Jamaican "strum strump," in Sloane, *Natural History of Jamaica*, vol. 1, table 3 (1707), detail. Botany Library, Natural History Museum, London. Photograph by the author

appears to have been accumulated as a set of gifts over several years from correspondents like Barham rather than deliberately acquired by Sloane. In addition, Sloane possessed several African human remains, including skin samples, fetal material, and "stones extracted from the vagina of a negro African girle."[78] Again, these were gifts largely from colonial suppliers, such as Dr. John Symmer of Gloucester County, Virginia, who remarkably sent these extracted stones in his very first letter to Sloane, in the hopes of brokering relations with the great collector. If nothing else, such overtures intriguingly show how remote correspondents reckoned the curiosity of the natural historian of Jamaica not limited to botany but to include the things and bodies of slaves.[79]

What of Sloane's own collecting? One artifact Sloane himself apparently did transport from the Caribbean was a "Jamaica strum strum[p] or musicall instrumt. made of an oblong—hollowed piece of wood." The history of this object demonstrates a singular application of botanical visualization techniques to a human artifact (fig. 3). The artist was again Kickius, who juxtaposed the strum strump (in reality a central African lute) with an eight-stringed West African harp behind it, and an Indian tanpura in front of it (the engraving foregrounds wooden sticks that Africans used for cleaning their teeth). In the *NHJ*, the engraving is linked to a description of slave performances in Jamaica, a description that notably includes music recorded on staves, provenanced by Sloane the dutiful naturalist in terms of distinct ethnic variants he labeled "Angola," "Papaw,"

and "Koromanti."[80] As Kay Dian Kriz has observed, Sloane associated Africans' great agility in their music and dance with the expression of base passions.[81] But it was nevertheless a remarkable act to preserve, describe, and engrave an artifact of the enslaved at a time when West Africans' cultural possessions were being actively stripped and suppressed by the slave trade (musical instruments were often banned for fear of inciting resistance, something that may have increased their curiosity value for a connoisseur like Sloane). Where the earl of Shaftesbury rejected exotic craftsmanship (including music) as barbarous, corrupting, and beneath tasteful contemplation, Sloane evidently valued the strum strump's capacity to exhibit African dexterity as part of the comparative natural history of ingenuity that he was organizing his global collection of human artifacts to display.[82]

What, then, do Sloane's descriptions and collections reveal about the relatedness of the botanical and the human in early modern natural history as well as emergent concepts of racial hierarchy? Part of the answer concerns historical genesis: through the profit-driven networks opened by the slave trade, botanical circulation fostered the communication of ethnographic intelligence and lent it useful techniques of observation, description, visualization, and collection. Unquestionably, botany's regime was more specific in its anatomizing techniques and taxonomic demands—hence the disproportionate number of plant species assembled and engraved compared to just a single slave artifact, the strum strump. In offering minute observations of the putative natural group he labeled *blacks*, however, Sloane was responding to long-standing strategic desires for information concerning foreign peoples. As an arranger of things rather than a philosopher of natural order, he made no explicit theoretical claims for the relation between his accounts of plants and people. A benevolent god vouchsafed devout fact-gathering: "The knowledge of natural-history," he optimistically declared, "being observation of matters of fact, is more certain than most others, and in my slender opinion, less subject to mistakes than reasonings."[83] Sloane did not organize his objects into a museum of the mind, but of the hand: an arrangement of human artifacts by type, which mixed objects from different foreign peoples rather than assembling discrete cultural groups or a temporal sequence to exhibit difference as progress, such as would come to shape the British Museum in later decades.[84] His was instead a strategic providentialist survey of the creation, predicated on the assumption that its wondrous natural and artificial variety was unified by divine intelligence and designed for exploitation by the pious.

Although Sloane's curiosity about plants might seem rather more quotidian and pragmatic than his interest in the marvelous attributes of "negroes," both were concerned with particularity, variety, and utility. In

the case of blacks, variety signified in both moral *and* physical terms. Sloane did not seek to articulate a clear concept of "race." His numerous medical case histories asserted no essential bodily difference between colonizers and slaves in Jamaica.[85] As a Christian, he would have subscribed to the orthodoxy of a chain of being that monogenetically unified the human family as a unique species made in the image of God, notwithstanding his miscellaneous assertion that blacks had "no manner of religion."[86] He did nevertheless participate in a historical moment—triggered by the acceleration of the slave trade—in which naturalists intensified their speculations about the possibility that Africans constituted a physically distinct human group. This was well before the late eighteenth century, where scholars have most often located the entrenchment of more purely physical theories of human difference.[87] Sloane was eminently aware of such speculations. In 1696, for example, he took part in a discussion at the Royal Society concerning "the cause of blacknesse of the Negers," featuring Robert Hooke, Edward Tyson, and others, which he himself recorded as secretary. He noted, for instance, the report that he himself had made about the curious phenomenon of radical color change among Africans of which he had been a firsthand witness in Jamaica. Among the most far-reaching was one suggestion made by former president Sir John Hoskyns, who conceived that the color of Africans "was occasiond by glands immediately lying under the skin and that the blacknesse proceeded from some particular propriety of the countrys when that race of men have been produced."[88] In an Atlantic world fast being remade by the slave trade, the natural history that described plants like cacao was linked to reimagining the order of man. At the level of vernacular taxonomy, meanwhile, "chocolate" was becoming a startlingly direct racial shorthand. As surgeon Thomas Aubrey wrote in reference to the human cargoes of the middle passage in 1729, "the first sort are of a kind of chocolate colour. . . ."[89]

Postscript: The Herbarium in the Cocoon

In its treatment of Sloane's engagement with cacao and chocolate in the colonial Caribbean, this essay has stressed the interpenetration of the botanical and the human in early modern natural history. Interestingly, this relationship may be reemerging in the twenty-first century science museum. One of the most striking sights in the new cocoon-shaped Darwin Centre, which opened in 2009 at London's Natural History Museum (NHM)—where Sloane's Jamaican cacao is now housed—is surely Sloane's bound herbarium volumes, visible through windows designed to allow the general public to see the museum's botanists at work. This placement of something closed inside a building that mimics a natural form designed to open provides a suggestive glimpse into the kind of

space where past and present regimes of science now meet. Here the public gaze, in a new architectural space modeled on notions of transparency and accessibility, is met by a reminder of the closed origins of the museum's own collections in the form of a bound book of nature: a "closed object of modernity," to recall Latour and Weibel's discussion of the target of their *Making Things Public* installation in 2005.[90] Aware of this issue, the Darwin Centre curators attempt to open these volumes in new ways and to make public the imperial history of their global collections. This involves the installation of touch-sensitive computer screens to open the herbarium for visitors as a virtual book, revealing page after page of preserved early modern species.[91] It also means beginning to speak of "the contributions of indigenous people or enslaved Africans [that] go unrecorded and under valued" in such pages. "The Museum is indebted . . . also to the people, both known and unknown, who have contributed to the collections."[92] If the creation of the NHM in 1881 effected an institutional division between the natural and the human in Sloane's great collections (ethnographic artifacts remained in the British Museum), the NHM now hints at the reintegration of human presence in its galleries as well as programs that invite members of London's African and Caribbean communities to discuss the scientific legacy of the slave trade.[93] The Sloane herbarium provides a remarkable artifact through which to do so, since it contains nuts used for provisioning slave ships, beans grown in Jamaican slave gardens, and plants used in the pharmacosmic systems of West Indian Obeah and Maroon Science.[94] The issue is not just how to think about the sciences' history, but how to create venues for public discussion of the social and geopolitical entanglements of all scientific work, past and present. Two aims are important here: first, to understand the active role of West Africans and the slave trade in circulating plant-stuffs and knowledge in the Atlantic world as well as the meanings of such plants in Africans' own cultural systems, like Obeah, as they moved from West Africa to the Caribbean. As contemporary commemorations featuring "Chawklit Tea" remind us, Afro-Jamaicans and their descendants have always had their own uses for plants like cacao, which continue to inform their distinctive historical consciousness. The second aim is to build a postuniversalist museum that, instead of reinforcing categories of nation, empire, or cosmos, exhibits the histories of cross-cultural exchange that produce assemblies like the Sloane herbarium in the first place. In our own era, as in Sloane's, making species public not merely entails visions of botanical technique or scientific self-fashioning, but actively produces global relations. It is to this recognition that early modern histories can also contribute.

Notes

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1. Sloane's eight-volume Jamaica herbarium is housed in the Botany Department of the Natural History Museum, London; Carolus Linnaeus, *Species Plantarum*, 2 vols. (Stockholm, 1753), 2:782; Charlie Jarvis, *Order out of Chaos: Linnaean Plant Names and Their Types* (London: Linnaean Society of London, 2007), 157–58.

2. The illuminated reproduction panels at The Botanist may be seen at www.thebotanistonsloanesquare.com/index.php/photo-gallery/photo/102/ (accessed July 2009).

3. Sir Hans Sloane Chocolates, www.sirhanssloanelondon.co.uk/index.php?page=whyhans (accessed July 2009).

4. JNHT, "Emancipation Jubilee Celebrates: Echoes of the Past," 8 July 2009, www.jnht.com/news/2009/07/emancipation_jubilee_celebrate.php; B. W. Higman and B. J. Hudson, *Jamaican Place Names* (Kingston: University of the West Indies Press, 2009), 26, 28.

5. See, for example, Londa Schiebinger and Claudia Swan, eds., *Colonial Botany: Science, Commerce, and Politics in the Early Modern World* (Philadelphia: University of Pennsylvania Press, 2004); and Harold J. Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven, CT: Yale University Press, 2007).

6. Richard H. Drayton, *Nature's Government: Science, Imperial Britain, and the "Improvement" of the World* (New Haven, CT: Yale University Press, 2000), 19.

7. See, for example, Margaret Hodgen, *Early Anthropology in the Sixteenth and Seventeenth Centuries* (Philadelphia: University of Pennsylvania Press, 1964).

8. For more integrated approaches, see Philip R. Sloan, "The Gaze of Natural History," in *Inventing Human Science: Eighteenth-Century Domains*, ed. Christopher Fox, Roy Porter, and Robert Wokler (Berkeley: University of California Press, 1995), 112–51; Michael Bravo, "Ethnological Encounters," in *Cultures of Natural History*, ed. N. Jardine, J. A. Secord, and E. C. Spary (Cambridge: Cambridge University Press, 1996), 338–57; Lisbet Koerner, *Linnaeus: Nature and Nation* (Cambridge, MA: Harvard University Press, 1999), esp. chap. 3. On varieties of *historia*, see Gianna Pomata and Nancy Siraisi, eds., *Historia: Empiricism and Erudition in Early Modern Europe* (Cambridge, MA: MIT Press, 2005), 1–8.

9. Hans Sloane, *Voyage to the Islands of Madera, Barbados, Nieves, S. Christophers and Jamaica, with the Natural History . . . of the Last of Those Islands* (hereafter *NHJ*), 2 vols. (London, 1707–25).

10. Sloan, "Gaze of Natural History"; David Philip Miller and Peter Hanns Reill, eds., *Visions of Empire: Voyages, Botany, and Representations of Nature* (Cambridge: Cambridge University Press, 1996); David Bindman, *Ape to Apollo: Aesthetics and the Idea of Race in the Eighteenth Century* (Ithaca, NY: Cornell University Press, 2002).

11. Philip R. Sloan, "John Locke, John Ray, and the Problem of the Natural System," *Journal of the History of Biology* 5 (1972): 1–53; Peter Anstey and Stephen A.

Harris, "Locke and Botany," *Studies in the History and Philosophy of Biology and Biomedical Sciences* 37 (2006): 151–71.

12. Daniel Carey, "Compiling Nature's Histories: Travelers and Travel Narratives in the Early Royal Society," *Annals of Science* 54 (1997): 269–92; John Gascoigne, "The Royal Society, Natural History, and the Peoples of the 'New World(s),' 1660–1800," *British Journal for the History of Science* 42 (2009): 539–62; Daniel Carey, *Locke, Shaftesbury, and Hutcheson: Contesting Diversity in the Enlightenment and Beyond* (Cambridge: Cambridge University Press, 2006), chaps. 1–3; Robert Bernasconi and Anika Maaza Mann, "The Contradictions of Racism: Locke, Slavery, and the *Two Treatises*," in *Race and Racism in Modern Philosophy*, ed. Andrew Valls (Ithaca, NY: Cornell University Press, 2005), 89–107.

13. Simon Schaffer, "Golden Means: Assay Instruments and the Geography of Precision in the Guinea Trade," in *Instruments, Travel, and Science: Itineraries of Precision from the Seventeenth to the Twentieth Century*, ed. Christian Licoppe, Heinz Otto Sibum, and Marie-Noëlle Bourguet (New York: Routledge, 2002), 20–50; James Thompson, *Models of Value: Eighteenth-Century Political Economy and the Novel* (Durham, NC: Duke University Press, 1996), 17.

14. Robin Blackburn, *The Making of New World Slavery: From the Baroque to the Modern, 1492–1800* (New York: Verso, 1997); Richard Dunn, *Sugar and Slaves: The Rise of the Planter Class in the English West Indies, 1624–1713* (Chapel Hill: University of North Carolina Press, 1972), 149–87, esp. 160–62; Patricia Cline Cohen, *A Calculating People: The Spread of Numeracy in Early America* (Chicago: University of Chicago Press, 1982), 66–80; Nuala Zahedieh, "Trade, Plunder, and Economic Development in Early English Jamaica, 1655–89," *Economic History Review* 39 (1986): 205–22.

15. Simon Schaffer, "Newton on the Beach: The Information Order of *Principia Mathematica*," *History of Science* 47 (2009): 243–76, 246.

16. Trevor Burnard, "Who Bought Slaves in Early America? Purchasers of Slaves from the Royal African Company in Jamaica, 1674–1708," *Slavery and Abolition* 17 (1996): 68–92, 77, 74; Trevor Burnard and Kenneth Morgan, "The Dynamics of the Slave Market and Slave Purchasing Patterns in Jamaica, 1655–1788," *William and Mary Quarterly* 58 (2001): 205–28, 219; Sloane, *NHJ*, 1:xiv. Will of Fulke Rose (24 March 1694), Prob. 11/420, National Archives, London; marriage settlement between Sloane and Elizabeth Langley Rose (9 May 1695), British Library Manuscript (hereafter BL MS) Additional Ch. 46345 b.; items 1-ANC/9/D/5a & 1-ANC/9/D/5d, Sloane Account Books, Ancaster Deposit, Lincolnshire Archives.

17. On the *Neptune*, see David Eltis et al., eds., *The Trans-Atlantic Slave Trade: A Database on CD-Rom* (New York: Cambridge University Press, 1999). The standard biography remains Gavin De Beer, *Sir Hans Sloane and the British Museum* (London: Oxford University Press, 1953).

18. Henry Barham to Sloane, 13 September 1722, BL MS, Sloane 4046, fol. 289.

19. *The Fuller Letters, 1728–1755: Guns, Slaves, and Finance*, ed. David Crossley and Rich Saville (Lewes: Sussex Record Society, 1991), xxv.

20. James Blackley to Sloane, 2 February 1721, BL MS Sloane 4046, fol. 197; Duke of Chandos to Sloane, 4 and 7 December 1721, BL MS Sloane 4046, fols. 152, 156; Francis Lynn to Sloane, 29 December 1721, BL MS Sloane 4046, fol. 166.

21. Alexander Stuart to Sloane, 22 May 1710, BL MS Sloane 4042, fol. 137.

22. Burnard and Morgan, "Dynamics of the Slave Market"; Dunn, *Sugar and Slaves*, 164–65; Orlando Patterson, "Slavery and Slave Revolts: A Sociohistori-

cal Analysis of the First Maroon War, 1665–1740," in *Maroon Societies: Rebel Slave Communities in the Americas*, ed. Richard Price (Garden City, NY: Anchor Press, 1973), 246–92.

23. Judith A. Carney and Richard N. Rosomoff, *In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World* (Berkeley: University of California Press, 2010).

24. Vincent Brown, *The Reaper's Garden: Death and Power in the World of Atlantic Slavery* (Cambridge, MA: Harvard University Press, 2008), esp. chap. 4; Jill H. Casid, *Sowing Empire: Landscape and Colonization* (Minneapolis: University of Minnesota Press, 2005), 191–236; Beth Fowkes Tobin, *Colonizing Nature: The Tropics in British Arts and Letters, 1760–1820* (Philadelphia: University of Pennsylvania Press, 2005), 56–80.

25. Sloane, *NHJ*, 2:xviii.

26. Ibid., 1:n.p. (preface), cxli.

27. Susan Scott Parrish, *American Curiosity: Cultures of Natural History in the Colonial British Atlantic World* (Chapel Hill: University of North Carolina Press, 2006), 271; see also Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Cambridge, MA: Harvard University Press, 2004); and Kapil Raj, "Surgeons, Fakirs, Merchants, and Craftspeople: Making L'Empereur's Jardin in Early Modern South Asia," in Schiebinger and Swan, *Colonial Botany*, 252–69. Although there is no direct evidence that Sloane used slaves as auxiliary collectors in Jamaica, he may well have done so.

28. D. Quélus, *The Natural History of Chocolate*, 2nd ed., trans. R. Brookes (London, 1725), 25.

29. Marcy Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World* (Ithaca, NY: Cornell University Press, 2008), 34–35, 124–25; Terrence Kaufman and John Justeson, "The History of the Word for 'Cacao' and Related Terms in Ancient Meso-America," in *Chocolate in Mesoamerica: A Cultural History of Cacao*, ed. Cameron L. McNeil (Gainesville: University Press of Florida, 2006), 134; José Cuatrecasas, "Cacao and Its Allies: A Taxonomic Revision of the Genus Theobroma," *Contributions from the U.S. National Herbarium* 35 (1964): 379, 383; Sophie Coe and Michael Coe, *The True History of Chocolate* (London: Thames and Hudson, 1996), 165–75; Louis Grivetti and Howard Shapiro, eds., *Chocolate: History, Culture, and Heritage* (Hoboken, NJ: Wiley, 2009); Brian Cowan, *The Social Life of Coffee: The Emergence of the British Coffeehouse* (New Haven, CT: Yale University Press, 2005), 43, 47, 109; British Museum, "Three Tin-Glazed Earthenware Chocolate Cups," www.britishmuseum.org/explore/highlights/highlight_objects/pe_mla/t/three_tin-glazed_earthenware_c.aspx (accessed February 2010); Items 1693, 1697, Miscellanies Catalogue, Africa, Oceania, and the Americas Library, British Museum.

30. Denis Papin, "Experiments on Chocolate Boiled in Vacuo," Royal Society Archives, 14 April 1686, Classified Papers 18, I: 16, 23; Henry Stubbe, *The Indian Nectar* (London, 1662), 73.

31. Stubb, *Indian Nectar*, 109; on English engagements with chocolate before Sloane, see Edmund Campos, "Thomas Gage and the English Colonial Encounter with Chocolate," *Journal of Medieval and Early Modern Studies* 39 (2009): 183–200. Thanks to Julie Kim for this reference.

32. Stubbe, *Indian Nectar*, 33; Mark Govier, "The Royal Society, Slavery, and the Island of Jamaica: 1660–1700," *Notes and Records of the Royal Society* 53 (1999): 203–17; Susan D. Amussen, *Caribbean Exchanges: Slavery and the Transformation of*

English Society, 1640–1700 (Chapel Hill: University of North Carolina Press, 2007); James R. Jacob, *Henry Stubbe, Radical Protestantism, and the Early Enlightenment* (Cambridge: Cambridge University Press, 1983), 45–48.

33. Catherine Molineux, "Hogarth's Fashionable Slaves: Moral Corruption in Eighteenth-Century London," *English Literary History* 72 (2005): 495–520.

34. For an "Iberianizing" corrective to Anglocentrism, see Jorge Cañizares-Esguerra, *Puritan Conquistadors: Iberianizing the Atlantic* (Stanford, CA: Stanford University Press, 2006).

35. John Ray to Sloane, 8 June 1681, in *The Correspondence of John Ray*, ed. Edwin Lankester (London: The Ray Society, 1848), 130. Compare Sloane's detailed cacao engravings with the simpler *Arbor Cacavifera Americana* in Leonard Plukenet, *Phytographia* (London, 1691), table 268, fig. 3 (cited in Sloane, *NHJ*, 2:15). See also Charles Plumier, *Déscription des plantes de l'Amérique* (Paris, 1693).

36. Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007), 84–98; see also Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: University of Chicago Press, 1998); Mario Biagioli and Peter Galison, eds., *Scientific Authorship: Credit and Intellectual Property in Science* (New York: Routledge, 2003); Bruno Latour, "Visualisation and Cognition: Drawing Things Together" (1986), www.bruno-latour.fr/articles/article/21-DRAWING-THINGS-TOGETHER.pdf (accessed February 2010).

37. On Sloane's herbarium, see J. E. Dandy, *The Sloane Herbarium* (London: British Museum, 1958); Sloane Herbarium, www.nhm.ac.uk/research-curation/research/projects/sloane-herbarium/specialistsguidetothedatabase.htm (accessed March 2010). The more literal sense of "scrapbook science" invoked here diverges from James Secord, "Scrapbook Science: Composite Caricatures in Late Georgian England," in *Figuring It Out: Science, Gender, and Visual Culture*, ed. Anne Shteir and Bernard Lightman (Hanover, NH: Dartmouth College Press, 2006), 164–91. On herbaria as phytographic documentation centers, see Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago: University of Chicago Press, 2006), 165–74, 210–15; Miles Ogborn, *Indian Ink: Script and Print in the Making of the English East India Company* (Chicago: University of Chicago Press, 2007); Hans Sloane, *Catalogus Plantarum* (London, 1696), 134; John Ray, *Historia Plantarum*, 3 vols. (London, 1686–1704), 2:1670–73.

38. Anke te Heesen, "News, Paper, Scissors: Clippings in the Sciences and Arts around 1920," in *Things That Talk: Object Lessons from Art and Science*, ed. Lorraine Daston (New York: Zone Books, 2004), 297–328, 300.

39. Richard Pulteney, *Historical and Biographical Sketches of the Progress of Botany in England*, 2 vols. (London, 1790), 2:71–72; Sloan, "John Locke, John Ray."

40. Contrast this with the role of composite types in the subsequent eighteenth-century regime of depiction characterized by Daston and Galison as "truth-to-nature" (*Objectivity*, 55–113).

41. Hans Sloane, "Some Observations . . . Concerning Some Wonderful Contrivances of Nature in a Family of Plants in Jamaica, to Perfect the Individuum, and Propagate the Species," *Philosophical Transactions of the Royal Society* 21 (1699): 113–20; Sloane, *NHJ*, 1:xx.

42. *NHJ*, 1:n.p. (preface); Casid, *Sowing Empire*, esp. 51. Cacao trees were later grown in English hothouses, though they did not bear fruit. See Philip Miller, "Cacao," in *The Gardener's Dictionary*, 2nd ed. (Dublin, 1741).

43. Sloane, *NHJ*, 2:vi; on "drawing from life," and competing definitions of what this entailed, see Daston and Galison, *Objectivity*, 99.

44. Sloane, *NHJ*, 2:viii, 1:123.

45. Ibid., 2:ix; Antoine de Jussieu to Sloane, 7 December 1714: BL MS Sloane 4043, fol. 313 (my translation).

46. Lorraine Daston, "Type Specimens and Scientific Memory," *Critical Inquiry* 31 (2004): 153–82; Bruno Latour, "Circulating Reference: Sampling the Soil in the Amazon Forest," in *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge, MA: Harvard University Press, 1999), 24–79.

47. [Sir Thomas Lynch], "An Accurate Description of the Cacao-Tree," *Philosophical Transactions* 8 (1673): 6007–9. The description is attributed to Lynch, who acted as Jamaica's governor three times between the 1660s and 1680s. On *historia* as a medieval synonym for picture, see Pomata and Siraisi, *Historia*, 9.

48. Portrait 569, National Portrait Gallery, London; Peter Dear, "Totius in Verba: Rhetoric and Authority in the Early Royal Society," *Isis* 76 (1985): 145–61.

49. Pomata and Siraisi, *Historia*, 28; Sachiko Kusukawa, "The Historia Piscium (1686)," *Notes and Records of the Royal Society* 54 (2000): 179–97; Nick Grindle, "'No other sign or note than the very order': Francis Willughby, John Ray, and the Importance of Collecting Pictures," *Journal of the History of Collections* 17 (2005): 15–22; Mary Louise Pratt, *Imperial Eyes: Travel-Writing and Transculturation* (New York: Routledge, 1992); Brian W. Ogilvie, "Image and Text in Natural History, 1500–1700," in *The Power of Images in Early Modern Science*, ed. Wolfgang Lefèvre, Jürgen Renn, and Urs Schöpflin (Basel: Birkhäuser Verlag, 2003), 141–66; Alexander Wragge-Morley, "The Work of Verbal Picturing for John Ray and Some of His Contemporaries," *Intellectual History Review* 20 (2010): 165–79.

50. Sloane, *NHJ*, 2:15; Ray, *Historia Plantarum*, 2:1670–73; Cuatrecasas, "Cacao and Its Allies," 379, 383. Sloane cited Ray in *Catalogus Plantarum* (134), and in *NHJ* (vol. 2, table 160). In order to create a working index of his herbarium, Sloane and his assistants wrote specimen numbers next to their descriptions in Ray's *Historia Plantarum*.

51. Ray, unpublished preface for Sloane's *Catalogus Plantarum*, in *Correspondence of John Ray*. The preface was subsequently abridged as "Account of a Book," *Philosophical Transactions* 19 (1695–1697): 293–96; Sloane, *NHJ*, 2:xvi, xiii.

52. Ray, *Correspondence of John Ray*, 466–67.

53. The *Catalogus* entry for cacao, 134–35, details more references and synonyms than the *NHJ*.

54. Sloane, *NHJ*, 2:15, 8.

55. Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York, Vintage, 1994 [1966]), chap. 5; Ann Blair, "Reading Strategies for Coping with Information Overload, ca. 1550–1700," *Journal of the History of Ideas* 64 (2003): 11–28.

56. Sloane, *NHJ*, 1:xx, lv–lvi; also see 1:cix, cxxxiii, cxxxiv, cxlviii, 180, 242; Lynch, "An Accurate Description," 6007–9. Jamaican cacao only became significantly profitable in the late nineteenth century.

57. Thomas Birch, "Memoirs Relating to the Life of Sir Hans Sloane" (1753), BL MS Add. 4241, fol. 13.

58. Sloane typically provenanced species in the *NHJ*. Cacao was an exception, presumably because it was so common in Jamaica. He therefore marked cacao walks on the map included with the *NHJ*.

59. Sloane, *NHJ*, 2:16–17. Sloane quoted many of these writers (Chilton, Hawks, and Petty) from the work of Richard Hakluyt.

60. Schaffer, "Golden Means"; Thompson, *Models of Value*. For attacks on

the value of Sloane's curiosities, see James Delbourgo, " 'Exceeding the Age in Every Thing': Placing Sloane's Objects," *Spontaneous Generations* 3 (2009): 41–54, http://spontaneousgenerations.library.utoronto.ca/index.php/SpontaneousGenerations/article/view/6743/8225.

61. Latour, "Circulating Reference," 58, 34; see also Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005).

62. Richard Pulteney, *Historical and Biographical Sketches*, 2:73.

63. Ray to Sloane, 12 February 1695, in Ray, *Correspondence of John Ray*, 287; for Sloane's rebuttals of Plukenet's criticisms of his work, see *NHJ*, 1:88, 170, 213, 2:16.

64. Banks and Heal Collection, Prints and Drawings, British Museum, 38.7, 38.1; *Public Ledger*, 7 January 1775; *Lloyd's Evening Post*, 22 February 1775; *Gazetteer and New Daily Advertiser*, 19 August 1775; Cadbury's trade card, Botany Library, NHM. The earliest notice of the grocer Sanders appears in Thomas Mortimer, "Chocolate Maker," in *The Universal Director* (London, 1763).

65. Banks and Heal Collection, Prints and Drawings, British Museum, 38.9–10. For the cross-class appeal made by sellers of Sloane chocolate, see the *Morning Chronicle and London Advertiser*, 6 August 1779; on disinterestedness, see Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: University of Chicago Press, 1994).

66. John Woodward, *Brief Instructions for Making Observations in All Parts of the World* (London, 1696), 8–10.

67. Winthrop D. Jordan, *White over Black: American Attitudes towards the Negro, 1550–1812* (Chapel Hill: University of North Carolina Press, 1968), 216–65; Jennifer L. Morgan, *Laboring Women: Reproduction and Gender in New World Slavery* (Philadelphia: University of Pennsylvania Press, 2004); James Delbourgo, "The Newtonian Slave Body" (forthcoming).

68. Carey, *Locke, Shaftesbury, and Hutcheson*, chaps. 1–3. On global intelligence and natural knowledge, see Simon Schaffer et al., eds., *The Brokered World: Go-Betweens and Global Intelligence, 1770–1820* (Sagamore Beach, MA: Science History Publications, 2009).

69. Carey, *Locke, Shaftesbury, and Hutcheson*, chaps. 1–3.

70. Joyce E. Chaplin, *Subject Matter: Technology, Science, and the Body on the Anglo-American Frontier, 1500–1676* (Cambridge, MA: Harvard University Press, 2001).

71. Hans Sloane, "A Further Account of What Was Contain'd in the Chinese Cabinet," *Philosophical Transactions* 21 (1699): 72.

72. Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone Books, 1998). As Daston and Park argue, the marvelous could actively spur Baconian natural history through attention to extraordinary particulars.

73. Sloane, *NHJ*, 1:xlvi–xlvii, liii.

74. Ibid., 1:liii; David Dabydeen, *Hogarth's Blacks: Images of Blacks in Eighteenth-Century English Art* (Athens: University of Georgia Press, 1987), 87.

75. Sloane, *NHJ*, 1:liii.

76. Ibid., 1:lvii; Locke manuscript dated 12 December 1678, cited in Carey, *Locke, Shaftesbury, and Hutcheson*, 63; on abolitionist redeployment of Sloane's account of slave punishments, see James Delbourgo, "Slavery in the Cabinet of Curiosities: Hans Sloane's Atlantic World" (2007), 14–15, www.britishmuseum.org/pdf/delbourgo%20essay.pdf (accessed February 2010).

77. Delbourgo, "Slavery in the Cabinet of Curiosities."

78. Items 155, 284, 527, 528, 678, 692, 747, Humana Catalogue, Department of Palaeontology, Natural History Museum; John Symmer to Sloane, 2[0?] September 1736, BL MS Sloane 4054, fol. 306.

79. Identifying Sloane as a plantation owner, Nicholas Martini requested sugar samples from Sloane and an opening into the sugar trade. Martini to Sloane, 20 December 1717, BL MS Sloane 4045, fol. 83.

80. Item 56, Miscellanies Catalogue, Africa, Oceania, and the Americas Library, British Museum; BL MS Sloane 5234, fol. 75; strum strump engraving in Sloane, *NHJ*, 1, unpaginated table 3; ibid., 1:l–li. See also Richard Cullen Rath, "African Music in Seventeenth-Century Jamaica: Cultural Transit and Transition," *William and Mary Quarterly* 50 (1993): 700–26. The strum strump could have been transported from West Africa to Jamaica on a slave ship, because music was sometimes used to force slaves to exercise while on board; or this simple instrument could have been fashioned from country materials by Africans newly arrived in Jamaica.

81. Kay Dian Kriz, "Curiosities, Commodities, and Transplanted Bodies in Hans Sloane's 'Natural History of Jamaica,'" *William and Mary Quarterly* 57 (2000): 35–78.

82. Carey, *Locke, Shaftesbury, and Hutcheson*, 125–26; Sloane, *NHJ*, 1:xlviii; Luke Syson, "The Ordering of the Artificial World: Collecting, Classification, and Progress," in *Enlightenment: Discovering the World in the Eighteenth Century*, ed. Kim Sloan and Andrew Burnett (London: British Museum, 2003), 108–21.

83. Sloane, *NHJ*, 1:n.p. (preface).

84. Arthur MacGregor, "The Life, Character, and Career of Sir Hans Sloane," in *Sir Hans Sloane: Collector, Scientist, Antiquary, Founding Father of the British Museum* (London: British Museum, 1994), 30–35.

85. Wendy D. Churchill, "Bodily Differences? Gender, Race, and Class in Hans Sloane's Jamaican Medical Practice, 1687–1688," *Journal of the History of Medicine and Allied Sciences* 60 (2005): 391–444.

86. Sloane, *NHJ*, 1:lvi.

87. See, for example, Roxann F. Wheeler, *The Complexion of Race: Categories of Difference in Eighteenth-Century British Culture* (Philadelphia: University of Pennsylvania Press, 2000).

88. Minutes of the Royal Society, 29 December 1696, BL MS Sloane 3341, fol. 28.

89. Thomas Aubrey, *The Sea Surgeon: Or the Guinea Man's Vade Mecum* (London, 1729), 102.

90. Bruno Latour and Peter Weibel, "Experimenting with Representation: Iconoclash! and Making Things Public," in *Exhibition Experiments*, ed. Sharon MacDonald and Paul Basu (Oxford: Wiley-Blackwell, 2007), 94–108; Latour and Weibel, *Making Things Public: Atmospheres of Democracy* (Cambridge, MA: MIT Press, 2005); Latour and Weibel's installation, *Making Things Public*, appeared at Zentrum für Kunst und Medientechnologie (Centre for Art and Media), Karlsruhe, 2005.

91. Visitors may view the originals on request (Mark Spencer, curator of the British and Sloane Herbariums, Natural History Museum, London: private communication).

92. Quotation from caption text written to accompany the Sloane herbarium upon rehousing in the Darwin Centre 2 (Tracy-Ann Smith, codirector and coauthor of the program and publication series at the Natural History Museum, London, entitled "Slavery and the Natural World": private communication).

93. Tracy-Ann Smith et al., "Slavery and the Natural World" (London: Natural History Museum), www.nhm.ac.uk/nature-online/collections-at-the-museum/slavery/index.html (accessed February 2010).

94. James Delbourgo, "Gardens of Life and Death," *British Journal for the History of Science* 43 (March 2010): 113–18; Kenneth M. Bilby, *True-Born Maroons* (Gainesville: University of Florida Press, 2005), chap. 9, 480.