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Exoticism and the Culture of Exploration

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Jean-Jacques Rousseau and Exotic Botany

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Foods out of Season and Nature Disturbed

In *Emile, ou l'Education*, Rousseau prescribes an ideal diet, contrasting it with the contemporary predilection for exotic foods cultivated in Europe. This diet appreciates each food's unique character:

> If I wanted to taste a dish from the end of the earth, I would, like Apicius,[1] rather seek it out there than have it brought to me. For the most exquisite dishes always lack a seasoning that cannot be brought with them and that no cook can give them: the air of the climate that produced them. . . . Nothing is more insipid than early fruits or vegetables; it is only at great expense that some rich man of Paris with his stoves and hothouses succeeds in having bad vegetables and bad fruits on his table the whole year round.[2]

Exotic or unnaturally grown foods constitute a particular case of a broader phenomenon—namely, the deformation of the natural order that renders that order monstrous: "Everything is good, coming from the hands of the author of things: everything degenerates in the hands of man . . . , [who] disfigures everything: he loves deformity, monsters. He wants nothing as it was made by nature" (*OC*, 4:245).[3] To be disfigured nature must have an order, or at least an identifiable character; but this is not the place to explore Rousseau's notions of natural order and their role in his philosophy. Rather, I examine the philosophical import of Rousseau's criticism of

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a specific type of disfigurement of nature, namely naturalization or what I shall call "exotic botany"—the transplanting of a species from its indigenous clime to another, especially into Europe but also from Europe to the colonies and between the colonies, sometimes via Europe, as in the case of coffee. This undertaking had many purposes including, first and foremost, profit; but, as Rousseau stresses, naturalization not only satisfied the desire for display in the gardens of the rich and powerful, but also satisfied the curiosity of virtuosi and natural philosophers.[4] Unlike many of his contemporaries, Rousseau questions the value of naturalization, noting that it yields "often very false observations."[5]

Rousseau's critique of exotic botany operates at two levels. On one it engages with other botanists such as Carolus Linnaeus, Nicolaus Joseph von Jacquin, and André Thouin about the proper constitution and horticultural practice of botanical gardens, in which naturalization experiments admittedly produced degenerated imported species. On a more philosophical level, Rousseau understands exotic botany as one of many manipulations of nature that produce such monstrosities as the multiplication of petals to produce a showy, but sterile, flower (*CW*, 8:133, 156). Whereas Sir Francis Bacon had argued in his *New Atlantis* (1627) that it is man's duty to transform nature for the "benefit and use of life" as an act of charity,[6] Rousseau holds that human manipulations of nature create monstrosities, an idea that supplies a powerful metaphor for his view that man enslaves both men and nature from motives of greed and vanity; and his critique of transplantation also fits within a long-term perspective that allows us to see the prescience of his concerns about exotic botany.

Naturalization undertaken for economic and imperial purposes often had devastating effects on humans and their environments. As one historian observes, "colonial ecological interventions . . . exercised a far more profound influence over more people than the more conspicuous and dramatic aspects of colonial rule that have traditionally preoccupied historians."[7] The ecological history of the Antipodes, for example, offers numerous negative effects of apparently benign plants such as gorse (used in England for hedgerows) that "smother and kill native vegetation" in the new climate.[8] Furthermore, because Europeans naturalized sugar, cotton, and indigo on a vast scale under the slave-based plantation system, naturalization had social and political effects. Slavery and other forms of organized servitude have left a legacy of violence, inequality, and racism: the reorganization of species that began in the eighteenth century can, therefore, be said to have profoundly changed both the natural and social worlds.

Exotic Botany: Some Antecedents

The term *exotic* has referred since antiquity to any plant or animal species that is foreign or imported; and naturalization—which was usually motivated by such practical needs as food, medicine, textiles, or dyes—dates from before the beginning of recorded human history (Brockway, 36).[9] As a result of the exchange between the Old and the New Worlds that began in 1492, foods such as the potato and corn were naturalized in Europe and played a dramatic role in improving the food supply and increasing the population of the Old World, and the writings of early travelers to the New World such as the sixteenth-century Spanish physician Francisco Hernández suggested the medical promise of American plants, whose impact on "European pharmacopoeia was immense."[10] Europeans quickly procured translations of indigenous sources on New World medicinal plants, and by 1552 an Aztec manuscript on Mexican plants had been translated into Latin.[11]

The early modern search for new species had other motivations too—satisfying curiosity about the rare and strange, cultivating noble virtuosity, and providing princes and nobles with a way to use exotic plants to display their power. Even before it had a name, exotic botany supplied rarities for Renaissance collectors: "In its design and arrangement, the Renaissance botanical garden was a microcosm reflecting a measured and orderly universe at the prince's command and disposal."[12] Such a political use of gardens corresponds with the early-modern view of nature as the domain given by God to Adam to command for human ends. This dominion was to be responsible, with kings seen as modern Solomons, charged with using wisely the divine knowledge to which they were heirs.[13] Botanical gardens, therefore, united a theological with a political purpose in gathering together the plant species that had supposedly been scattered at the Fall.

The discovery of the Americas, with their previously unknown flora and fauna, might have undermined the doctrine of a single creation narrated in Genesis; however, seeking to avoid any implications of the new discoveries that might threaten orthodox doctrine, most commentators

agreed that Nature had been fragmented by the Fall.[14] Such theological views could structure the contents and arrangement of botanic gardens only, however, until the volume of plant imports made the Renaissance concept of the inclusive garden containing all the species an impossible dream. Whereas late medieval herbals cited between 500 and 1,000 species, John Ray's *Methodus plantarum nova* (1682) cites 18,000. Carolus Linnaeus comments in his *Critica Botanica* (1737) that "citizens of the commonwealth [of botany] never ceased to bring in every day . . . [new plants] from foreign lands,"[15] and Cook's *Endeavour* fleet returned to England in 1771 from its circumnavigation of the earth with information about 1,300 new species and 110 new genera. In seventeenth-century France magnates such as Mazarin, Richelieu, Fouquet, and Colbert cultivated exotic plants; at Versailles, Louis XIV's gardener, Jean de La Quintinie, refined the use of hothouses to grow exotic foods for the table of *le roi gourmand*.[16] During the eighteenth century, collection and naturalization was a fashionable pursuit, serving a variety of scientific, political, economic, and social purposes.

A major driving force behind Dutch exotic botany was the Dutch East India Company (VOC), which had an interest both in direct profits from trade in exotic plant products and in testing exotic plants as sources for medicines with which to treat overseas personnel who were often struck down by tropical disease. The VOC pioneered a policy of naturalizing species where they were to be used; this practice provided ease of access to much-needed medicines and crucial foodstuffs. Following suit, the French Compagnie des Indes dispatched Jean Baptiste Fusée Aublet in 1751 to Réduit in the Ile de France to establish "a Laboratory which could furnish its posts with medications," and to "gather plants which could be advantageous to the Colony."[17] The frontispiece (figure 1) to Jan and Caspar Commelin's *Horti Medici Amstelodamensis Rariorum Plantarum Historia* (Amsterdam, 1697) celebrates what was, given the scale of VOC global trading, the greatest collection of botanical exotics of its day; however, its allegorical representation of the City of Amsterdam receiving botanical specimens as gifts from the other continents exemplifies an attitude of exploitation. In the eighteenth century, France, Great Britain, Spain, and the Netherlands began to rearrange the plant world on a global scale, transferring species from the tropics to Europe, from Europe to the tropics, and between tropic climes such as Tahiti, Java, and the West Indies.[18]

By the third quarter of the century exotic botany had become a state enterprise devoted to economically profitable procurement.[19] Brockway

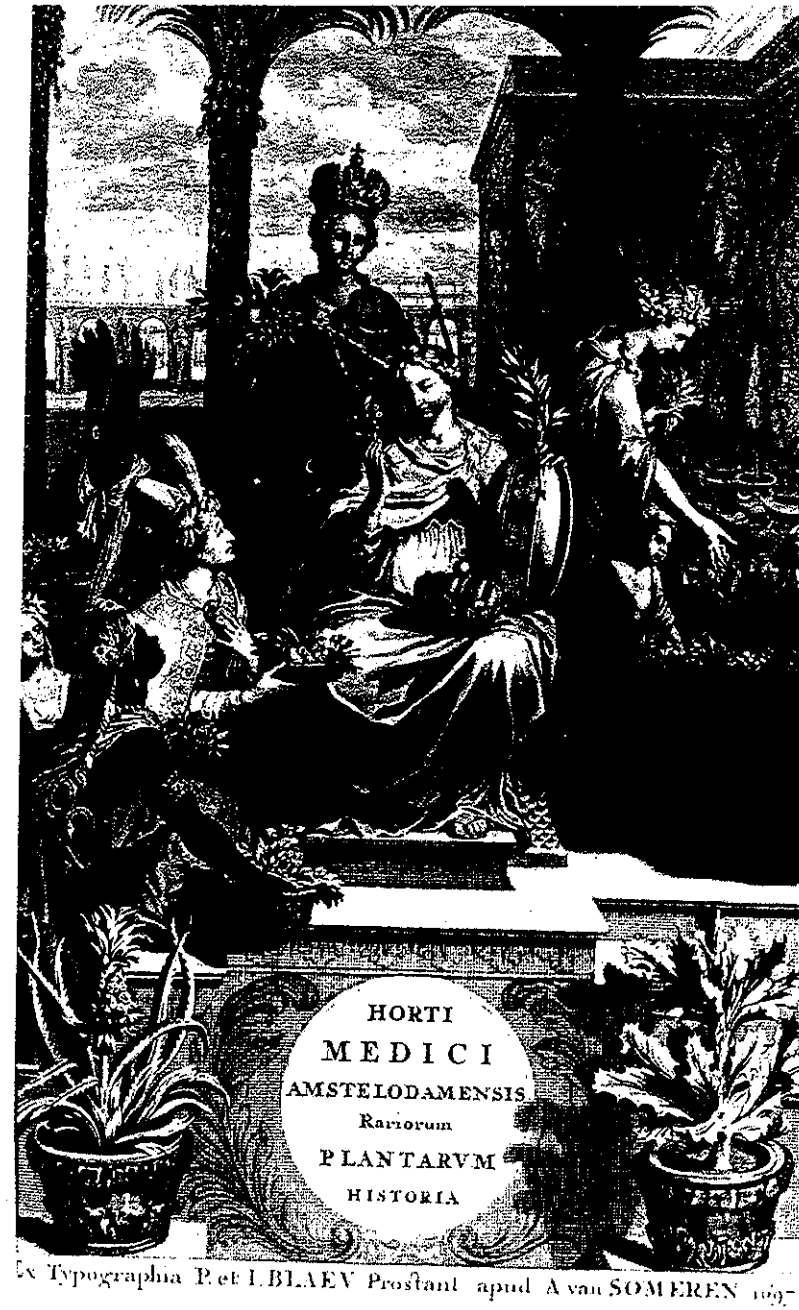

Figure 1. Frontispiece in Jan and Caspar Commelin's *Horti Medici Amstelodamensis Rariorum Plantarum Historia*, vol. 1 (Amsterdam, 1697). Courtesy Rare Books and Special Collections, Library of Congress.

observes that European governments "chartered trading companies, and private industry made a conspicuous effort to collect useful plants. Scientific botanical gardens were established or enlarged to receive, nurture, classify, and transship exotic plants" (36–37). Under state sponsorship, naturalists at the Jardin du Roi in Paris and the Royal Gardens at Kew cultivated "the habit of plant transfer" (Frost, 74) and expanded networks for correspondence and swapping of seeds for what Emma Spary calls "the more efficient exploitation of colonial natural resources."[20] By 1786 André Thouin's global network, directed from the Jardin du Roi, numbered 403 correspondents (Spary, 58); and that of Joseph Banks, botanist on Cook's first *Endeavour* voyage (1768–71), numbered 126. Banks, who served as long-time president of the Royal Society, dispatched agents all over the globe to identify, collect, or—if necessary—steal useful botanical specimens and information, all with a view to enhancing Britain's wealth.[21]

Whereas Joseph Banks funded his research from his own wealth, French naturalists enjoyed considerable organizational and financial support from the crown. In 1706, for example, the Nantes apothecary garden became an official naturalization garden, with ships' captains required to deposit overseas seeds and plants there; according to McClellan, "the network of French gardens proved the most extensive and dynamic in the eighteenth century" (149). Furthermore, through botanical espionage the French procured species monopolized by the Dutch and Spanish, such as coffee and spices, and in 1715 carried out a "botanical coup"—the transfer of a coffee plant via the Jardin du Roi to the West Indies, "the model for many later dreams of making territory rich through introducing plants" (Drayton, 72; Aublet, xvi)—so that by the 1780s Saint-Domingue (now Haiti) was the world's leading producer of both sugar and coffee.

The development of exotic botany is, therefore, deeply intertwined with colonialism, but "colonial science" is a relatively new topic of historical inquiry.[22] As Regourd observes, whereas "the extraordinary prosperity of the French colonies of the Caribbean . . . rested fundamentally on agriculture . . . French historiography remains strangely in retreat concerning the chapter on the intellectual and scientific conditions of this 'agricultural progress'" (40). Even though Rousseau practiced exotic botany, he holds it up for critical examination, thereby questioning what Regourd calls the "expansionist, dominating, acquisitive, and commercial philosophy" of eighteenth-century colonial states (41). His criticisms, pertinent to all forms of bio-piracy then and now, have been neglected, consigned to the dustbin of history.

An Experiment in Naturalization

In February 1770, Rousseau, living in Monquin, reported to his botanizing companion, Marc-Antoine-Louis Claret de Flerieu de Latourrette, that he planted okra seeds from the West Indies (figure 2): "I found that it is Hibiscus esculentus, it has grown well-flowered, and I have taken some very ripe seeds out of a capsule, which I will bring you" (*CW*, 8:218).[23] This is not Rousseau's only venture into the transplantation of South American flora. In a letter of 19 December 1768 to Pierre-Alexandre du Peyrou of Neuchâtel, a botanizing companion during Rousseau's Swiss exile, Rousseau notes that because his friend had "celebrated my *Apocyn* a little bit"[24] he would send him "some seeds of the silk tree and the sugar apple [*Annona squamosa*] that were recently brought to me from the Islands" (*CW*, 8:198; see figure 3). Rousseau's experimentation with colonial species has never been examined; but it would seem, inconsistently, that he was following Bacon's agenda in adapting nature to man's benefit. Why did

Figure 2. Alcea Americana Annua (*Hibiscus esculentus*) in Jan and Caspar Commelin's *Horti Medici*, vol. 1. Courtesy Rare Books and Special Collections, Library of Congress.

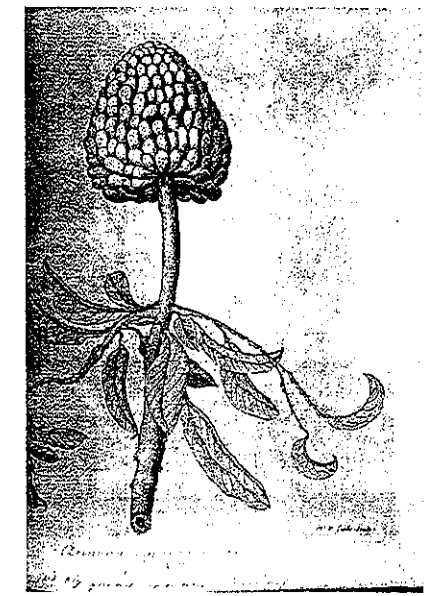

Figure 3. Sugar Apple or Sweet Sop (*Annona squamosa*), copy of a crayon sketch by the Rev. Garrett Moore, in Hans Sloane's *A Voyage to the Islands Madera, Barbados, Nieves, S. Christophers, and Jamaica* (London, 1725), vol. 2. Courtesy Natural History Museum, London.

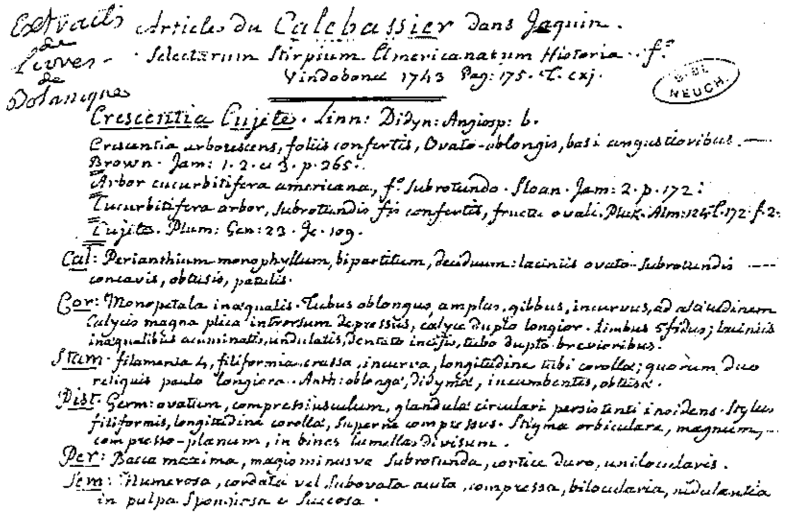
Extraits de Livres de Botanique
Articles du Calebassier dans Jaquin.
Selectarum Stirpium Americanarum Historia. f°. Vindobonae 1763 Pag: 175. T. cxj.
Crescentia Cujete. Linn: Didyn: Angiosp: b.
Crescentia arborescens, foliis confertis, ovato-oblongis, basi angustioribus. — Brown. Jam: 1. 2. et 3. p. 265.
Arbor cucurbitifera americana, f° subrotundo. Sloan. Jam: 2. p. 172.
Cucurbitifera arbor, subrotundo fo confertis, fructu ovali. Pluk. Alm: 124. t. 172. f. 2.
Cujete. Plum: Gen: 23. Je. 109.
Cal: Perianthium monophyllum, bipartitum, deciduum: laciniis ovato-subrotundis concavis, obtusis, patulis.
Cor: Monopetala inaequalis. Tubus oblongus, amplus, gibbus, incurvus, ad altitudinem calycis magna plica introrsum depressus, calyce duplo longior. Limbus 5fidus; laciniis inaequalibus acuminatis, undulatis, dentato incisis, tubo duplo brevioribus.
Stam: filamenta 4, filiformia, crassa, incurva, longitudine tubi corollae; quorum duo reliquis paulo longiora. Anth: oblongae, didymae, incumbentes, obtusae.
Pist: Germ: ovatum, compressiusculum, glandulae circulari persistenti insidens. Stylus filiformis, longitudine corollae, superne compressus. Stigma orbiculare, magnum, compresso-planum, in binas lamellas divisum.
Per: Bacca maxima, magis minusve subrotunda, cortice duro, unilocularis.
Sem: Numerosa, cordata vel subovata acuta, compressa, bilocularia, nidulantia in pulpa spongiosa et succosa.

Figure 4. Rousseau, notes from Jacquin on the Calabash tree in "Extraits de livres de Botanique," Ms R80. Courtesy Bibliothèque publique et universitaire de Neuchâtel.

Rousseau undertake these two transactions? This question arises not only because he criticized exotic botany, but also because we know that he did not plant all the seeds in his substantial collection, possibly keeping them as currency for some future botanical exchange: "I have packets of seeds which were sent to me from England and elsewhere fairly long ago, without my having yet been tempted to open them."[25]

What motivated Rousseau's interest in the botany of the West Indies is unknown, but his interest was substantial and prolonged. Friendship certainly entered into some of his dealings on the subject, as when he sent seeds to du Peyrou. As the son of a colonial official in Dutch Guiana, du Peyrou may have taken a particular interest in the flora of Guiana when forming his garden in Neuchâtel. It seems likely that it was to return the favor that du Peyrou sent Rousseau a copy of Albrecht von Haller's *Historia stirpium* (Bern, 1768) seven months later. Likewise, personal connections may have put Rousseau in contact with a possible source of the okra and sugar apple seeds. Whoever that source was, he must have visited Guiana, because Rousseau uses the term *pomme de canelle* for sugar apple, a variant of a term used only in French Guiana, as distinct from *Attier*, used in the Ile de France (Aublet, 1:617).[26] Aublet was the first European to explore and document the flora of French Guiana and author of the four-volume *Histoire des plantes de la Guiane Françoise* (1775) (Aublet, xii–xxix; McClellan, 151). Despite the absence of any extant correspondence between them, Rousseau and Aublet (1720–78) may have been in contact earlier than has been thought. Rousseau acquired portions of Aublet's herbarium after Aublet's death in May 1778, two months prior to that of Rousseau in July 1778; yet Aublet, who served as "Apothicaire-Botaniste" and director of the botanical garden of Cayenne in French Guiana from 1762 to 1764 (Aublet, xii), could have passed these seeds to Rousseau either directly or via an intermediary any time after his return to France via the island colony of Saint-Domingue in early 1765 and after Rousseau returned to France from exile in England on 22 May 1767.


NICOLAI JOSEPHI JACQUIN
SELECTARUM STIRPIUM AMERICANARUM HISTORIA,
IN QUA
AD LINNÆANUM SYSTEMA DETERMINATÆ
DESCRIPTÆQUE SISTUNTUR PLANTÆ ILLÆ, QUAS IN INSULIS MARTINICA, JAMAICA, DOMINGO, ALIISQUE, ET IN VICINÆ CONTINENTIS PARTE, OBSERVAVIT RARIORES; ADJECTIS ICONIBUS IN SOLO NATALI DELINEATIS.
VINDOBONÆ,
EX OFFICINA KRAUSIANA.
MDCCLXIII.

Figure 5. Title-page vignette in Jacquin's *Selectarum Stirpium Americanarum Historia* (Vienna, 1763). Courtesy Rare Books and Special Collections, Library of Congress

If Rousseau was in contact with Aublet or someone else versed in South American flora by the late 1760s, that might help explain why he copied out verbatim the extracts on South American trees such as calabash (figure 4) and mangrove from Nicolaus Joseph von Jacquin's *Selectarum stirpium Americanarum Historia* (Vienna, 1763) (figure 5); he also repro-

duced the passage on *campêche* wood from Jacquin's *Observationes botanicarum* (Vienna, 1764–71). But why? Jacquin's comments on naturalization in the preface to the *Selectarum* support Rousseau's views on the "false observations" provided by exotic botany (discussed below), which suggests a philosophical kinship; but that still does not reveal any program or analytic behind Rousseau's interests. What can be inferred from his extracts from Jacquin, an important Linnaean author, which include synonymies to other authorities on Caribbean flora such as Sir Hans Sloane (1660–1753), and Charles Plumier (1646–1704),[27] or from his undated list of *Mémoires* from the Paris Académie Royale des Sciences recording several reports on the medicinal (usually purgative) properties of South American plants such as Jalap (*Exogonium Purga*) and Ipecacuanha (*Caphaëlis Ipecacuanha*)?[28]

There is, fortunately, more: Rousseau's extracts from Jacquin refer to the work of Patrick Browne, an Irish physician whose *Civil and Natural History of Jamaica* (1756) details the dietary uses of Jamaican plants. Browne writes that the fruit of the sugar apple tree is "much esteemed by the fair sex, tho' seldom served up at table" and that "Okro" is a nutritious food used widely by slaves and "private families."[29] The nutritious character of these plants may give a clue to their appeal for Rousseau, who, together with the Physiocrats and in line with the improving aims of the period, "displayed—but for drastically different purposes—a similar prejudice toward agricultural production."[30] In Rousseau's *Julie, ou La nouvelle Héloïse*, the Wolmars' model economy replaces "attractive things with useful things," and increases agricultural yields "to feed more men" (*OC*, 2:442); and in the *Reveries*, Rousseau observes that nature provides "a storehouse of foods for man and the animals," a provision that he distinguishes from plants used as medicines, for display, or as objects of taxonomic dispute (*OC*, 1:1064, 1063, 1069–70). These distinctions might explain Rousseau's focus on okra and the sugar apple. Browne, perhaps unwittingly, supports this distinction by excluding these plants from the forty-nine engravings he commissioned from the famous botanical artist Georg Dionysius Ehret, because they did not figure among "the most curious productions" of Jamaican flora (Browne, part II, title page).

Although Rousseau's interest in okra and sugar apple might have some affinity with physiocracy, or with the notion of public utility that is invoked in *Du contrat social* (*OC*, 3:373), he was hardly an improving naturalist on the model of his acquaintance, André Thouin, who served as head gardener at the Jardin du Roi and was promoted to professor of cultivation

at the Jardin des Plantes (successor to the Jardin du Roi under the revolutionary reorganization of royal institutions).[31] A prime mover in French naturalization efforts, Thouin was inspired by Linnaeus's "faulty hypothesis" that exotic plants such as tea, cotton, and silk could grow in Sweden (Koerner, 144). Finding French produce "tasteless and insipid," Thouin believed "all that we possess [which is] good and agreeable has been sent to us from foreign Countries" (qtd. in Spary, 128), whereas Rousseau believed humans should nourish themselves with seasonal foods from their own locality.

Exotic Collections and Degenerate Gardens

In addition to receiving, planting, and circulating seeds of exotic plants, Rousseau regularly visited some of the foremost exotic gardens in France—the Trianon at Versailles, the Jardin du Roi, the Parisian garden of Claude-Denis Cochin, and that at the Royal Veterinary School at Lyon—and when in exile in England (1766–67) he made numerous visits to Bulstrode, in Derbyshire, an estate belonging to the Duchess of Portland, a collector unparalleled in her day.[32]

Since the seventeenth century Versailles had been an important site of exotic horticulture, serving Louis XIV's "political culture of territoriality" (Mukerji, 3). The exotics adorned the gardens with visual wonders and filled the Sun King's table with delicacies. Later the Trianon garden became a special project of Louis XV, who promoted agricultural innovations and in the spirit of physiocracy employed his own lands for experimental arboriculture; and in 1759 the garden was rearranged according to Bernard de Jussieu's natural family system, an innovation in botanical classification.

The Jardin Royal des Plantes Médicinales (the Jardin du Roi), founded by Louis XIII in 1626, was a leading botanical research institution of the eighteenth century. Its prominence in naturalizing was facilitated by the extensive network of exchange and correspondence built up by Antoine-Laurent de Jussieu, Buffon, and Thouin (Spary, chap. 2). During the last four years of his life, Rousseau, together with Thouin, Lamarck, and Bernardin de St. Pierre, attended the weekly outdoor botanical lessons conducted by Jussieu (*CW*, 8:328 n. 344). In a letter of 4 July 1770 to Latourrette, Rousseau records one of his visits to the Jardin: "I encountered . . . M. Richard, gardener of the Trianon. . . . He promised to show

me his garden, which is much richer than that of the king at Paris; hence I am on the verge of making some acquaintance with exotic plants, about which, as you have been able to see, I am perfectly ignorant. . . . I will try to furnish myself double with everything that they will permit me to take" (*CW*, 8:221).

On 26 November 1770 Rousseau wrote again to Latourrette about his visits to the Jardin du Roi: "Even though they [the Jardin's botanists] have gladly given me samples of plants . . . I have not been able to embolden myself to ask for seeds" (*CW*, 8:223). In a letter of 23 January 1772 he asks the duchess of Portland for reject or duplicate "austral" fruits or seeds from those she has obtained from Daniel Solander, botanist on Cook's recent *Endeavour* voyage, and curator of her natural history collections (*CW*, 8:190; 315–16 n. 184). Earlier he had written to his Amsterdam publisher, Marc-Michel Rey: "There are many foreign plants in the country where you are; do you not know somebody who might have the charity to send me some dried ones well-packaged with the names of Linnaeus to augment my small herbarium?" In the same letter of 28 December 1767, Rousseau had indicated his desire to purchase accounts of exotic flora, such as Carolus Clusius's *Rariorum plantarum historia* (Antwerp, 1601), while in a letter of 6 October 1769 to Antoine Gouan he had lamented being too poor to purchase Linnaeus's *Hortus Cliffortianus* (*CW*, 8:246, 209).

Bacon had argued that "the task of human *Power* is to generate and superinduce on a given body a new nature or new natures."[33] Despite his visits to botanical gardens, collecting, and naturalizing, however, Rousseau sees exotic botany as serving vanity, greed, a compulsion to collect, and the negative traits traditionally associated with curiosity (*OC*, 2:480–81);[34] he sees it as a part of a broader category of a degenerative horticulture that, driven by the social passions, disfigures nature (Spary, chap. 3). In *Julie*, Rousseau contrasts a utopian Elysium—a perfect garden revealing no sign of human artifice, containing only the most common and most beautiful indigenous plants—with "curious" horticultural gardens full of hothouses, exotic plants, and waterworks (*OC*, 2:482): horticulture and degeneration seem to be inseparable.

In the *Reveries* Rousseau suggests that the botany studied in cities and gardens is driven by the passions and takes only degenerate plants as its objects: this botany "degenerates no less than [do] the exotic plants in the gardens of the curious" (*OC*, 1:1070). Rousseau notes in the entry on perennials ("Vivace") in his botanical *Dictionary* that exotic plants degenerate when introduced into a different climate, "Some plants that are perennials in hot countries become annuals among us, and this is not the sole alteration that they undergo in our gardens. . . . Hence the exotic Botany studied in Europe provides often very false observations" (*CW*, 8:129).

Rousseau follows the observations in Nicolaus Joseph von Jacquin's *Selectarum Stirpium Americanarum Historia*: "I must warn botanists that plants in hothouses will often have a habit of growth that differs greatly from that in the wild. Some are beautiful in nature and unseemly in cultivation, with others it is the other way around. . . . Perennial plants . . . [may] have permanent foliage in their native habitat; in a European hothouse, however, they may not always follow that pattern."[35] Linnaeus, aware of this problem, advocated "gardens of paradise" in which the gardener's skill would create conditions for plants to flourish according to their natures, but only in order to serve scientific, rather than commercial, aesthetic, or social purposes.[36]

Rousseau, too, "loves to study nature," but in the "woods and mountains" where the Creator's work is found: "I do not find the same charm herborizing in a garden. . . . it is not the same there: it has more brilliance, but is not as touching" (*CW*, 8:177). The gardens of virtuosi, the curious, and the wealthy do not reunite the species scattered at the Fall, as early modern garden theory had it; rather, they present a disturbing plurality, as Rousseau writes to the Duchess of Portland in reference to the Royal Veterinary School garden: "The exotic riches of this garden overwhelm me, trouble me by their multitude" (*CW*, 8:183). In these two comments the evaluative words are "touching" and "troubling," both of which, though opposite in effect, convey a sensitivity that is a compound of the psychological and the moral. On the moral level, Rousseau perceives the "multitude" of plants as exhibiting *amour-propre*—the root of social, political, and moral decay in his philosophy. This connection between horticulture and *amour-propre* is represented in his letters on botany when he describes monstrous double flowers as "adorned according to our fashion" (*CW*, 8:133); and in *Julie*, when he contrasts the motivations behind Elysium with the "vanity of the proprietor" displayed in the garden of "a rich man of Paris or London" (*OC*, 2:480). Rousseau would have agreed with Mukerji that "great gardens were like fine clothing for the countryside" (171).

Rousseau also regards the reassembling of a "multitude" of species in

new locales as unnatural and destructive of the "ordered relations of all kinds," "the chain of relations and combinations that overwhelms with its marvels the mind of the observer" (*OC*, 4:578; 1:641). He therefore regards exotics as monsters; in his lexicon monsters are occurrences produced by human intervention: "Man has denatured many things in order to convert them better to his use, in that he is not at all to be blamed; but it is not less true that he has often disfigured them. . . . These double flowers that people admire in flower beds are monsters deprived of the faculty of producing their like with which nature has endowed all organized beings. Fruit trees are more or less in the same state through the graft" (*CW*, 8:156).

Nature "refuses to reproduce by monsters thus mutilated, because if the most brilliant part, that is, the corolla, multiplies itself, it is at the expense of the most essential parts, which disappeared under this brilliance" (*CW*, 8:133–34; Cook, 311). Rousseau's assessment of double flowers echoes that of leading eighteenth-century botanists. In a lecture of 1717 Sébastien Vaillant diagnosed the compromised reproductive capacities of "these agreeable monsters"; Linnaeus, following Vaillant, writes that "luxuriant flowers are not Natural, but are always Monsters"; and Lamarck notes that cultivation produces "monstrous multiplications that take place in the flowers, at the expense of their most essential organs. . . . the Botanist . . . can no longer find in these plants the true traits which characterize them. . . . Thus the parts of plants that have undergone these changes which denature them are no longer susceptible of being studied."[37]

For Rousseau the manner in which even Linnaeus described plants denatured them: "When I saw in my Linnaeus the class and order of a plant that I did not know, I wanted to envision this plant . . . to know whether it is large or small, if the flower is blue or red. . . . I read a characteristic description, according to which I could not imagine anything" (*CW*, 8:177). Similarly, illustrations influenced by Linnaeus—compared to the pre-Linnaean illustrations of such artists as Maria Sybilla Merian—did not represent the whole plant, explain how its vital functions operate, or place it in its environment.[38] Tobin's argument that this kind of botanical description and illustration was a "colonial discourse" whose goal was to "erase the power of the local to determine meaning and to insist that there was only one legitimate order, and that this order was best understood by Europeans who were adept in managing this world system" (278) is not supported by the evidence from such important students of colonial

flora such as Aublet and Browne, who used Linnaean nomenclature, classification, and diagrammatic depiction, but nevertheless preserved vernacular names and local cultural practices "in Mechanics, Diet and Physic" (Browne, part II, title page). Realizing that localized knowledge provides practical information, such users of the Linnaean system never eliminated the local from their accounts, and it might be accurate, therefore, to see their mode of depiction and understanding of plant life as paralleling Rousseau's insistence on the preservation of local particularity. It might be objected, however, that Rousseau's views on denaturing imply a definitive notion of what is natural. A popular view of the construction of knowledge holds that any notion of the natural claims transparent knowledge where there can be only interpretations (e.g., Spary, 6). As Jacquin shows, however, acclimatization does cause unpredictable changes in the growth habits of plants. Rousseau's emphasis on discovering what is habitual for a particular species should, therefore, not be dismissed as a naive attempt to diagnose and preserve some illusory essence of nature.

Although Rousseau's flirtation with transplanting and collecting exotic curiosities seems to contradict his critique of exotic botany, it could be argued that (1) in order to critique the myriad practices of denaturing, Rousseau needed to experience them, and (2) the exotic as monstrosity simply fascinated him—evoking both pleasure and horror, as it did for many early modern Europeans. This being said, Rousseau's philosophical principles, from his first *Discours* onward, oppose the improving naturalists' Baconian transformation of nature as a solution for humanity's problems; the solution to these problems lies ultimately in the cultivation of virtue, not in scientific discovery. "Virtue," says Rousseau in the *Discours sur les Sciences et les Arts*, is the "sublime science of simple souls" (*OC*, 3:30): the role of science is to provide knowledge and inspiration to those who pursue virtue. Not through scientific revolutions, therefore, but through the pursuit of moral and social change, can humanity address oppression and inequality. While wise princes such as Louis XIV may found academies to "draw from the bosom" of the sciences the cure for the disease the sciences have exacerbated (*OC*, 3:26), scientifically mediated contemplation of the Creation can edify or nourish only the soul that wills virtue.[39]

Rousseau's opposition to exotic botany is also consistent with Montesquieu's teaching, expounded in *Du Contrat social,* that different laws suit different peoples, that peoples differ as a result of the soil on which they live, the climates they inhabit, and the physical conditions they experience

(book II, chap. viii, in *OC*, 3:384). What applies to peoples must apply in equal, if not greater measure, to flora. This is not the doctrine of Linnaeus and his followers, for whom plants do have habitats, but who believe they can be tricked, tamed, taught, or cajoled into living in different climes; even the tea plant can be persuaded to grow in Sweden, as Linnaeus claims in "On the Use of Natural History in the Life of the Community" (1769): "It has been an object of wonder that the tea plant has not been introduced into Europe . . . and we must look for the cause of our want of success in the plant itself. This has been overcome by the most consummate Botanist of his age [himself!], and we may now promise ourselves, that the Tea plant will be in a little time as common in Europe as the Syringa, and native of the same country [China]."[40]

Exotic Botany and Colonialism

Allusions to the Islands and Indies—that is, the French colonies—occur in Rousseau's *Discours sur l'origine de l'inégalité* and *Julie*; and they reappear, if obliquely, in his botanical writings. Rousseau's allusions attest to the importance of the colonies and their vegetal resources for the prosperity and self-understanding of eighteenth-century Frenchmen, one in eight of whom derived a living from colonial trade, which in turn depended upon slavery, an institution that Rousseau condemns without qualification. This series of connections deepens and broadens Rousseau's criticism of the European appropriation of the vegetal exotic.

Rousseau's comments on exotic botany summarize his attitude toward a colonialism that exploited both nature and non-European peoples, and by inference they indict colonial practices such as slavery that, like the naturalization garden, force life to exist under alien conditions. Consider the words he attributes to St. Preux in *Julie*: "First I saw southern America, that vast continent which lack of iron subjected to the Europeans, and which they turned into a wasteland to secure their dominion over it. . . . I saw on the shores of Mexico and Peru the same spectacle as in Brazil: I saw their scarce and unfortunate inhabitants, the sorry remnants of two powerful peoples, burdened with fetters, ignominy, and miseries in the midst of their precious metals,"[41] or his own words in his *Discours sur l'inégalité*: "It is an extremely remarkable thing that, for the many years that the Europeans torment themselves in order to bring the Savages from various countries to their manner of living, they still have not been able to win over a single one of them. . . . Nothing can overcome the invincible repugnance they have against . . . living in our way" (*OC*, 3:220). What has motivated Europeans is primarily greed, which seems to preclude interest in learning about exotic peoples, or about humanity in general: "We know nothing about the peoples of the East Indies, who have been visited by Europeans interested more in filling their purses than their heads. . . . The entire earth is covered with nations of which we know only the names, and we dabble in judging the human race!" (*OC*, 3:213 n. 10). From the same motives Europeans fill their gardens with exotic plants and breed sterile hybrids; thus, "when in the works of his hands [man] believes he truly studies nature, he deceives himself. This error occurs especially in civil society; it likewise occurs in gardens" (*CW*, 8:156). Europeans' ignorance of nature thus matches their ignorance of the world's peoples. In fact, Rousseau goes further even than Jacques Derrida, who calls for respect of the "infinite alterity of the Other":[42] Rousseau argues that Europeans did not even recognize there was an other to respect.

Notes

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1. Apicius, first century C.E. See *The Roman Cookery Book: A Critical Translation of the The Art of Cooking by Apicius*, trans. B. Flower and E. Rosenbaum (London: G. G. Harrap, 1958).

2. Jean-Jacques Rousseau, *Emile*, in *Oeuvres complètes*, ed. Bernard Gagnebin and Marcel Raymond. 5 vols. (Paris: Bibliothèque de la Pléiade, 1969), 4:679–80. Hereafter *OC*. All translations are mine unless otherwise noted.

3. Rousseau's characterization of the monstrous resonates with early modern European discourse as detailed in Lorraine Daston and Katharine Park, *Wonders and the Order of Nature: 1150–1750* (New York: Zone, 1998); but Rousseau differs from those who saw monsters as products of supernatural forces, rather than of human agency. See Alexandra Cook, "Jean-Jacques Rousseau, 'Terminator,' and Telos in Nature," *Pensée Libre* 8 (2001): 310–12.

4. On naturalization, see François Regourd, "Maîtriser la nature: Un enjeu colonial Botanique et agronomie en Guyane et aux Antilles (XVIIe–XVIIIe siècles)," *Revue Française d'Histoire d'Outre-Mer* 86 (1999): 49; on the naturalization of coffee in South America, see Lucile H. Brockway, *Science and Colonial Expansion: The Role of the British Royal Botanic Gardens* (New York: Academic, 1979), 51. For perspectives on early modern curiosity and collecting, see Barbara M. Benedict, "The 'Curious Attitude' in Eighteenth-Century Britain: Observing and Owning," *Eighteenth-Century Life* 14 (Nov. 1990): 59–98; Lorraine Daston, "Neugierde als Empfindung und Epistemologie in der frühmodernen Wissenschaft," in *Macrocosmos in Microcosmo: Die Welt in der Stube*, ed. A. Grote (Opladen: Leske & Budrich, 1994), 35–59; and "Curiosité," in *Encyclopédie*, ed. Denis Diderot and Jean le Rond d'Alembert (1751–52). The term *exotic botany* appeared in the title of a work by Sir James Edward Smith, who purchased Linnaeus's herbaria and library in 1784 and founded the Linnean Society of London: *Exotic Botany*, 2 vols. (London: R. Taylor, 1804–5).

5. Jean-Jacques Rousseau, "Vivace," in "Botanical Writings," trans. and ed. A. Cook, in *Collected Writings of Rousseau*. 9 vols. (Hanover, N.H.: Univ. Press of New England, 2000), 8:129. Hereafter *CW*.

6. Francis Bacon, *New Atlantis and The Great Instauration*, rev. ed., ed. J. Weinberger (Arlington Heights, Va.: Harlan Davidson, 1989), 16.

7. Richard H. Grove, "Colonial Conservation, Ecological Hegemony, and Popular Resistance: Towards a Global Synthesis," in *Imperialism and the Natural World*, ed. John M. MacKenzie (Manchester: Manchester Univ., 1990), 17.

8. Richard Tong and Geoffrey Cox, *Clean and Green? The New Zealand Environment* (Auckland: David Bateman, 2000), 84.

9. "Exoticus," in *Oxford Latin Dictionary*, ed. P. G. W. Glare (Oxford: Clarendon, 1982). European experience of exotic plants before the Renaissance was facilitated by the Arabs, who "brought many plants of Asiatic origin to medieval Europe," including rice, citrus fruits, melons, the mulberry, cotton, and sugar (Brockway, 47). Exotic plants were important to the European pharmacopoeia, as indicated by the continuing popularity of the *Materia Medica* (originally in Greek) of Dioscorides (fl. 50–70 C.E.), which describes several hundred medically useful eastern Mediterranean plants. Dioscorides' text, transmitted throughout the Middle Ages in corrupt versions, remained authoritative until well into the sixteenth century. See John M. Riddle, "Dioscorides," in *Catalogus Translationum et Commentariorum: Mediaeval and Renaissance Latin Translations and Commentaries: Annotated Lists and Guides*, ed F. E. Cranz and P. O. Kristeller (Washington, D.C.: Catholic Univ. of America, 1980), 4:9.

10. Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Wesport, Conn.: Greenwood, 1972). On Hernández, see Simon Varey and Rafael Chabrán, "Mexican Medicine Comes to England," *Viator* 26 (1995): 348.

11. The *Badianus Manuscript* (Vatican Codex Barberini, Latin 241) written by the Aztec medical teacher Martinus de la Cruz was translated by the Aztec Latin teacher Johannes Badianus. See E. W. Emmart, trans. and ed., *An Aztec Herbal of 1552* (Baltimore: Johns Hopkins Univ., 1940).

12. William Eamon, *Science and the Secrets of Nature: Books of Secrets of Medieval and Early Modern Culture* (Princeton: Princeton Univ., 1994). See also Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: Univ. of California, 1993).

13. Keith Thomas, *Man and the Natural World* (New York: Pantheon, 1981), chap. 1. In 1551 William Turner wrote, "If the knowledge of Herbes, shrubbes, and trees . . . were not greatly commendable, it shuld never have bene set among Salomons commendcyons, and amongcst the singular giftes of God" (*A New Herball*, part I, ed. G. T. L. Chapman and M. N. Tweddle [Cambridge: Cambridge Univ., 1989], 25). On the relevance of Turner to the imperial agenda of plant classification and acclimatization, see Richard Drayton, *Nature's Government: Science, Imperial Britain, and the "Improvement" of the World* (Cambridge: Cambridge Univ., 2000), 27.

14. John Prest, *The Garden of Eden: The Botanic Garden and Re-Creation of Paradise* (New Haven: Yale Univ., 1981), 27–39.

15. Carolus Linnaeus, *Critica Botanica*, trans. A. Hort (London: Ray Society, 1938), xxii.

16. La Quintinie used "serres," hotbeds of glass heated by stoves, which are criticized in the passage from *Emile* quoted above. See Chandra Mukerji, *Territorial Ambitions and the Gardens of Versailles* (Cambridge: Cambridge Univ., 1997), 168.

17. Jean Baptiste Fusée Aublet, "Préface," *Histoire des plantes de la Guiane françoise*. 4 vols. (Paris: Didot, 1775), 1:iv.

18. James E. McClellan III, *Colonialism and Science: Saint Domingue in the Old Regime* (Baltimore: Johns Hopkins Univ., 1992), 148.

19. John Gascoigne, *Joseph Banks and the English Enlightenment: Useful Knowledge and Polite Culture* (Cambridge: Cambridge Univ., 1994), and "The Royal Society and the Emergence of Science as an Instrument of State Policy," *British Journal for the History of Science* 32 (June 1999): 171–84; A. Cook, "Politics of Nature and Voyages of Exploration," in *Voyages and Exploration in the North Atlantic from the Middle Ages to the Seventeenth Century*, ed. A. Agnarsdottir, 2d ed. (Reykjavik: Institute of History, 2001), 125–38; and Alan Frost, "The Antipodean Exchange: European Horticulture and Imperial Designs," in *Visions of Empire: Voyages, Botany, and Representations of Nature*, ed. P. Reill and D. P. Miller (Cambridge: Cambridge University Press, 1996), 74.

20. *Utopia's Garden: French Natural History from Old Regime to Revolution* (Chicago: Univ. of Chicago, 2000), 96.

21. David MacKay, "Agents of Empire," in Reill and Miller, *Visions of Empire*, 47.

22. In addition to McClellan, see *Nature and Empire: Science and the Colonial Enterprise*, ed. Roy MacLeod, *Osiris* 15 (2000).

23. *Gumbo* is a Bantu word. According to Regourd (43, 44 n. 7), words of African origin comprise 12 percent of edible species in the vernacular nomenclature of South American flora. Okra is of African origin, although I have found no evidence that eighteenth-century botanists knew that. Linnaeus, following authorities such as Commelin (who calls it "Okkoro") and Sloane, states that okra is native to the West Indies (*Species Plantarum*, facs. ed. (London: Ray Society, 1959), 2:696. Latourrette's

garden contained "numerous foreign species" according to A. Magnin, "L'Ecole vétérinaire de Lyon," *Annales de la Société Botanique de Lyon* 31 (1906): 37–38, 46. Latourrette established the botanical garden at the Royal Veterinary School of Lyon in 1763, avidly collected for his own garden (*CW*, 8:225), and wrote *Démonstrations élémentaires de botanique*, 2 vols. (Lyon, 1766).

24. The genus *Apocynum* contains too many species for us to determine Rousseau's species with certainty. Linnaeus lists five species of this genus: vol. 1 (1753), 213–14.

25. Letter to Latourrette, 7 Jan. 1773 (*CW*, 8:226–27).

26. Aublet writes *pomme cannelle* for *A. squamosa*. On Rousseau's connection with Aublet, see J. Lanjouw and H. Uittien, "Un Nouvel Herbier de Fusée Aublet découvert en France," *Mededeelingen van het Botanisch Museum en Herbarium van de Rijksuniversiteit te Utrecht* 75 (1940): 141.

27. See Hans Sloane, *A Voyage to the Islands Madeira, Barbados, Nieves, S. Christophers and Jamaica*, 2 vols. (London, 1707–25) and *Catalogus plantarum quae in insula Jamaica sponte proveniunt* (London, 1696); Charles Plumier, *Nova plantarum americanarum genera* (Paris, 1705) and *Plantarum americanarum fasciculus primus-decimus* (Leiden, 1755–60).

28. Jean-Jacques Rousseau, ms. R 81, "Catalogue de tous les Memoires de chymie," Bibliothèque publique et universitaire de Neuchâtel.

29. Patrick Browne, *Civil and Natural History of Jamaica*, 2d edn. (London: B. White & Son, 1789), part II, 256.

30. Nicole Fermon, *Domesticating Passions: Rousseau, Woman, and Nation* (Hanover, N.H.: Univ. Press of New England, 1997), 136.

31. For Rousseau's relations with Thouin, see *CW*, 8:225–26, 245; regarding the Jardin du Roi's transition see Spary, chap. 4.

32. "So far as the natural history of these islands was concerned, Bulstrode was probably even more important than the British Museum" (David Allen, *The Naturalist in Britain* [London: Allen Lane, 1976], 29).

33. Francis Bacon, *New Organon*, ed. L. Jardine and M. Silverthorne (Cambridge: Cambridge Univ., 2000), 102.

34. While curiosity, condemned by St. Augustine, was rehabilitated in the early-modern era as the beginning of the laudable desire for knowledge (Eamon, 314), Rousseau uses "curious" pejoratively in discussing gardening fashions, as in *Julie* (*OC*, 2:481–82).

35. Nicolaus Joseph von Jacquin, *Selectarum Stirpium Americanarum Historia* (Vienna, 1763), facs. ed., intro. F. A. Stafleu (New York: Hafner: 1971), 20 (an "abbreviated and free version" of Jacquin's preface, v).

36. See Staffan Müller-Wille, *Botanik und weltweiter Handel. Zur Begründung eines Natürlichen Systems der Pflanzen durch Carl von Linné (1707–1778)* (Berlin: Verlag für Wissenschaft und Bildung, 1999), 289–90.

37. Vaillant, *Discours sur la structure des fleurs* (Leiden, 1718), qtd. in Jacques Rousseau, "Sébastien Vaillant: An Outstanding Eighteenth-Century Botanist," in *Essays in Biohistory*, ed. P. Smit and R. J. C. V. ter Laage (Utrecht: International Association for Plant Taxonomy, 1970), 204; Linnaeus, *Philosophia Botanica* (Stockholm, 1751), 95; Jean-Baptiste-Pierre-Antoine de Monet, chevalier de Lamarck,

"Jardin de Botanique," in *Dictionnaire de Botanique*, 3 vols. (Paris: Panckoucke, 1783–92), part of *L'Encyclopédie méthodique*, 190 vols. (Paris, 1782–1830), qtd. in Spary, 118.

38. Beth Fowkes Tobin, "Imperial Designs: Botanical Illustration and the British Botanic Empire," *Studies in Eighteenth-Century Culture* 25 (1996): 268. See also M. Jacobs, "Revolutions in Plant Description," in *Liber Gratulatorius in Honorem H. C. D. De Wit*, ed. J. C. Arends et al (Wageningen: H. Veenman & Zonen, 1980), 157–59, 166–70. Jacobs remarks that in the Linnaean description, "there was no way of guessing what the plant looks like" (167), and that variable characteristics such as time of flowering (closely linked to place) disappear (168, citing Linnaeus, *Philosophia Botanica*, par. 265).

39. Concerning botany as nourishment for the soul, see *CW*, 8:130.

40. Dissertation defended in 1769, published in 1781 in *Select Dissertations from the Amœnitates Academicæ*, trans. F. J. Brand, facs. edn. (New York: Arno, 1977), 31; see also Koerner, 15.

41. *Julie, or the New Heloise*, trans. Jean Vaché and Philip Stewart, in *Collected Writings of Rousseau*, 9 vols. (Hanover, N.H.: Univ. Press of New England, 1997), 6:339–40.

42. "Ethics and Political Concern," lecture at the Chinese University of Hong Kong, 18 Sept. 2001.