ELSEVIER

History of European Ideas 33 (2007) 142–156

History of European Ideas

www.elsevier.com/locate/histeuroideas

Botanical exchanges: Jean-Jacques Rousseau and the Duchess of Portland

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Available online 11 January 2007

Abstract

In 1766 Jean-Jacques Rousseau, in exile from France and Switzerland, came to England, where he made the acquaintance of Margaret Cavendish Harley Bentinck, Duchess of Portland. The two began to botanise together and to exchange letters about botany. These letters contain salient statements about Rousseau's views on natural theology, gardens, botanical texts and exotic botany. This exchange entailed not only discussions about plant identifications and other botanical matters, but most important, reciprocal gifts of books and specimens in the manner of gentlemanly scientific correspondence of the period. Rousseau volunteered his services as the Duchess's 'herborist' or plant collector, and collected specimens and seeds in her behalf; these were destined for her own extensive herbaria and other natural history collections. Rousseau, who elsewhere denied female talent for science, admired the Duchess's knowledge of natural history, acknowledging his own as inferior. Their correspondence ended when the Duchess sent him the *Herbarium amboinense* of Georg Rumpf (Rumphius), an important work of exotic botany. Rousseau considered exotic botany to be the antithesis of the domination-free nature from which he derived solace and inspiration.

Keywords: Jean-Jacques Rousseau; Duchess of Portland; Herbaria; Gardens; Exotic botany; Rumphius; *Herbarium amboinense*

The philosopher Jean-Jacques Rousseau (1712–1778) was an important populariser of botany in the late eighteenth-century Europe and America, and especially in Great Britain, as a result of Thomas Martyn's posthumous 1785 translation of Rousseau's famous eight letters on botany.[1] English writers on education such as Priscilla Wakefield and Maria

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[1]These letters were written between 1771 and 1773 to Madeleine-Catherine Delessert (1747–1816) and her young daughter, Madelon, and published posthumously. See Jean-Jacques Rousseau, *Botanical Writings*. Ed. and

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doi:10.1016/j.histeuroideas.2006.08.010

Jacson imitated Rousseau's approach to botanical instruction and pedagogy.[2] Yet this was not Rousseau's first appearance as a botanist on English soil.

Exiled from France in 1762 after the condemnation of *Emile* and *Du Contrat Social*, Rousseau took refuge first in Switzerland, where he began to study botany with a physician of the Linnaean persuasion. Having become unwelcome to the authorities of Berne (among them the botanist Albrecht von Haller), Rousseau moved to England in January 1766, under the sponsorship of David Hume. Installed at Wootton Hall in Staffordshire, he continued to botanise, collecting mosses and making an inventory of the local vegetation.[3] Through his neighbour at Calwich Abbey, Bernard Granville, Rousseau became acquainted in July 1766 with Margaret Cavendish Harley Bentinck (1715–1785), Dowager Duchess of Portland (Fig. 1).[4] At her instigation they began a 10-year correspondence on botany comprising 16 letters from him to her (we do not have the letters he received from her). Of all Rousseau's botanical correspondents, the Duchess received the most letters. I have argued elsewhere that this correspondence constituted a *gentlemanly* scientific exchange typical of the period, entailing not only discussions about botanical texts, plant identifications and other botanical matters, but most important, reciprocal gifts of books and specimens (books from her; specimens from him).[5] Despite his well-known views on female intellect, Rousseau recognised the Duchess as his superior in matters that were botanical. The eventual end of their correspondence was linked to his abhorrence of European appropriation of so-called exotic nature.

Apart from the bare facts regarding her biography and collections, detailed scholarly information about the Duchess is not readily available; a 1930 PhD thesis from Cornell

(*footnote continued*)
Trans. Alexandra Cook. *The Collected Writings of Rousseau*. Vol. 8. Ed. Christopher Kelly. (Hanover, NH: University Press of New England, 2000), 130–163 (hereafter, cited as CW followed by page number); Jean-Jacques Rousseau, *Oeuvres Complètes*. Eds. Bernard Gagnebin and Marcel Raymond. 5 Vols. (Paris: Gallimard, 1969) iv.1151–1195 (hereafter, cited as OC, followed by volume and page number). Mme Delessert's son, Benjamin, also influenced by Rousseau, created a renowned 'Musée botanique' and was allied with the botanist Augustin-Pyramus de Candolle in various philanthropies. Madeleine-Catherine Delessert was the daughter of a long-standing friend, Mme Boy de la Tour-Roguin (1715–1780), a banker's widow, who provided Rousseau with accommodation in Môtiers, Switzerland (then part of the Prussian principality of Neuchâtel) after his flight from France in 1762. Rousseau made a herbarium for Madelon which is at the Musée Jean-Jacques Rousseau, Montmorency, France.

[2]Priscilla Wakefield. *An Introduction to Botany, in a series of familiar letters, with illustrative engravings*. 2nd ed. (London: E. Newbery, 1798); [Maria Elizabeth Jacson]. *Botanical Dialogues between Hortensia and her Four Children, Charles, Harriet, Juliette and Henry*. (London: J. Johnson, 1797) and *Botanical Lectures. By a Lady. Altered from 'Botanical Dialogues for the Use of Schools', and Adapted to the Use of Persons of all Ages. By the same Author*. (London: J. Johnson, 1804) 4, 52, 55. Concerning Rousseau's role in disseminating botanical knowledge, see Alexandra Cook. ''Propagating botany: The case of Jean-Jacques Rousseau''. *The Transmission of Culture in Western Europe, 1750–1850: Papers celebrating the bi-centenary of the foundation in Geneva of the Bibliothèque britannique*. Eds. David Bickerton and Judith Proud (Berne: Peter Lang, 1999) 69–94. Jacson placed a quotation from Rousseau's letters on botany to Mme Delessert on the title page of her *Botanical Dialogues* of 1797; the quote is taken, without attribution, from Jean-Jacques Rousseau, *Letters on the Elements of Botany*. 4th ed. Trans. Thomas Martyn. (London: B. White and Son, 1794) 49.

[3]Louis-J. Courtois. 'Séjour de Rousseau en Angleterre'. *Annales de la Société Jean-Jacques Rousseau* 16 (1910) 5–102 [46].

[4]Courtois, 66–67.

[5]Alexandra Cook. 'Jean-Jacques Rousseau et les réseaux d'échange botanique'. *Rousseau et les sciences*. Eds. Bernadette Bensaude-Vincent and Bruno Bernardi. (Paris: L'Harmattan, 2003) 93–114 [93–95].

Fig. 1. Margaret Cavendish Harley Bentinck, Duchess of Portland, from the collections of the Buckinghamshire County Museum.

University[6] and a recent thesis on the Duchess's close friend, Mary Delaney, née Granville, provide nearly the sum total of the available documents, and only the latter is easily accessible.[7] Another useful source of information on the Duchess is the Harley Foundation, founded in 1977 by a late Duchess of Portland on the Ducal Estate of Welbeck, home to the Cavendish Bentinck family since the seventeenth century. The Foundation has recently mounted 'The Duchess of Curiosities', 'the first exhibition to explore the forgotten life of Margaret Cavendish, Duchess of Portland, one of the eighteenth century's greatest collectors'.[8] The Duchess's obscurity resulted from the sale of her collections after her death; had these collections remained intact, her fame as a great collector on a par with Sir Hans Sloane, would have been secure.

Margaret, Duchess of Portland, wrote no autobiography, although she did leave notebooks documenting her knowledge of natural history; her great works were her garden and natural history collections, and her patronage of naturalists such as Mary Delaney and

[6]Katherine H. Porter. *Margaret, Duchess of Portland.* (Ithaca: Cornell University PhD Diss., 1930).

[7]Verna L. Linney. *The Flora Delanica: Mary Delaney and women's art, science and friendship in eighteenth-century England.* (Toronto: York University PhD Diss., 1999). The University of Nottingham Hallward Library, Manuscripts and Special Collections, which holds the Duchess's papers, is closed at this writing.

[8]'The Duchess of Curiosities—the noble naturalist, forgotten by history'. 19 March 2006–01 March 2008. The Harley Gallery, Nottinghamshire⟨http://www.visitnottingham.com/exec/102918/9068/⟩.

her chaplain, John Lightfoot (1735–1788), who became a Fellow of the Royal Society in 1781, and was a founding member of the Linnean Society of London.

Margaret Cavendish Harley was born in London on 11 March 1715, the only surviving child of Edward Harley, who later became the second Earl of Oxford, and Lady Henrietta Cavendish Holles, the wealthiest woman in England. The sources of the Duchess's interest in natural history collecting can be traced back to her childhood: 'As a child, Margaret collected pets and natural history objects and was encouraged by her father and grandfather Robert Harley to do so'. 'Her childhood curiosity for natural history specimens, in particular shells, grew into a serious and philosophical desire to understand the natural world'.[9] She was also linked through her mother to the Cavendish family, which included the chemist and physicist, Henry Cavendish (1731–1810). Margaret Harley's father-in-law, Hans Willem Bentinck, the first Duke of Portland (1649–1709), a Dutch nobleman who accompanied William of Orange to England, was the superintendent of the King's gardens from 1689 to 1700.[10]

Margaret Harley grew up in an era in which a moderate scientific education for girls was entirely acceptable, since the classics were closed to them as a male preserve while sciences such as chemistry were understood to have affinities with such female concerns as cooking. The physical world in general was taken to be a female domain. Bernard de Fontenelle's *Entretiens sur la pluralité des mondes* spearheaded this movement for women's scientific education in the late seventeenth century.[11] Moreover, the study of nature was viewed as being conducive to religious feeling.[12] Rousseau expressed this notion in his first letter to the Duchess of 3 September 1766: 'The study of nature detaches us from ourselves, and elevates us to its Author... .it is in this way that natural history and botany have a use for Wisdom and for virtue'.[13]

In 1734 Margaret Harley married William Bentinck (1709–1762), second Duke of Portland. She bore six children, four of whom survived into adulthood, and one of whom, William Henry Cavendish, the third Duke of Portland, played a prominent role in political life. Widowed for over 20 years (she never remarried), and extremely wealthy, the Duchess devoted a large portion of her adult life to the study of natural history and the creation of vast collections that she housed in the Portland Museum; her zoo, aviary and gardens were bursting with species both foreign and domestic.

The Duchess's scientific network was impressive. She invited an important botanist, Daniel Solander, F.R.S. (1733–1782), to curate her collections. Solander was aide-de-camp to Joseph Banks on Cook's first *Endeavour* voyage (1768–1771) and a favourite student of Carolus Linnaeus, the great Swedish systematiser, whose artificial sexual system of plant classification was then taking all of Europe—except France—by storm. In addition to her

[9]'The Duchess of Curiosities–the noble naturalist, forgotten by history'.

[10]Blanche Henrey. *British Botanical and Horticultural Literature before 1800*: *Comprising a history and bibliography of botanical and horticultural books printed in England, Scotland and Ireland from the earliest times until 1800*. Vol.1. *The sixteenth and seventeenth centuries: history and bibliography*. (London, New York and Toronto: Oxford University Press, 1975) 144.

[11]Bernard de Fontenelle. *Entretiens sur la pluralité des mondes*. (Paris: Chez la veuve C. Blageart, 1686).

[12]Linney, 182–184.

[13]CW, 173. 'L'étude de la nature nous détache de nous-mêmes, et nous élève à son Auteur. C'est en ce sens qu'on devient vraiment philosophe; c'est ainsi que l'histoire naturelle et la botanique ont un usage pour la sagesse et pour la vertu'. Rousseau to the Duchess of Portland, 3 September 1766; see *Correspondance complète de Jean-Jacques Rousseau*. 51 vols. (Oxford: Voltaire Foundation, 1965–95) xxx.314 (hereafter, cited as CC, followed by volume and page number).

collaborations with Lightfoot and Solander, she knew Philip Miller (1691–1771), chief gardener of the Chelsea Physick Garden, the leading acclimatisation garden in Great Britain, and she patronised Georg Dionysus Ehret (1708–1777), the German botanical illustrator who engraved the famous 'Classes S. Literae' in Linnaeus's *Systema naturae*, and also engraved the native plants growing in the Duchess's garden.[14] The Duchess met Ehret in England, where he settled, married Miller's sister-in-law and became a botanical painting instructor to the nobility and was elected a Fellow of the Royal Society in 1758.

The Duchess participated in a female botanical network that included Queen Charlotte, consort of George III, and Mary Granville Delaney (1700–1788), the latter a remarkable artist who developed 'paper mosaicks', plant illustrations created from tiny pieces of coloured paper that impressed the likes of Joseph Banks with their life-like accuracy.[15] The Duchess was also a notable bluestocking, who with 'a group of aristocratic women...hoped to establish women's intellectual independence in a socially acceptable form. They were patrons and promoters of learning, presiding over salons in London and country houses such as Bulstrode'.[16]

The Duchess was uninterested in her friends' social rank so long as they distinguished themselves in the pursuit of science. For example, she rendered invaluable aid to her friend Mary Delaney, who occupied a far lower rank on the social ladder, by lending her money to buy a house in London. Delaney also spent up to half of each year in residence at Bulstrode working on botanical art, a form of support that was no doubt indispensable to the production of Delaney's collection of flower collages, the *Flora Delanica*.

Mary Delaney is of immediate interest for our story since the Duchess became acquainted with Rousseau through Delaney's brother, Bernard Granville, who was Rousseau's neighbour at Wootton. Rousseau mentions Granville frequently and warmly in the correspondence. Granville himself had a substantial garden which he knowledgeably showed to Rousseau, who notes: 'I see plants, he names them for me, I forget them; I see them again, he names them again, I forget them once more... .proof that we make without ceasing, I of his accommodating attitude, and he of my incapacity'.[17] Despite the warm friendship between the two men, Mary Delaney refused to meet Rousseau on the grounds that his ideas were too dangerous.[18]

The Duchess died at her home of Bulstrode on 7 July 1785, almost seven years to the day after Rousseau (who died on 4 July 1778). Her extensive collections took 37 days to be sold at auction.

Despite her great wealth and privileged position, the Duchess of Portland was no dilettante. Many contemporaries attested to her erudition in natural history, and the notebooks she left behind support this view of her.[19] The caliber of naturalists with whom she was in regular contact also supports this view. Rousseau likewise consistently expresses

[14]Henrey, Vol. II, 156.

[15]Linney, 64.

[16]'The Duchess of Curiosities'. ⟨http://www.visitnottingham.com/exec/102918/9068⟩.

[17]20 October, 1766; CW, 174.'Je vois les plantes, il me les nomme, je les oublie; je les revois, il me les renomme, je les oublie encore...l'épreuve que nous faisons sans cesse, moi de sa complaisance, et lui de mon incapacité'. CC, xxxi.40-41.

[18]Courtois, 65–66; Porter, 208.

[19]Linney, 22.

his admiration for her natural knowledge, as in his second botanical letter to her, dated 20 October 1766:

> There is one [book], Madame, in which you read so well, and in which I would like to learn to spell a few words following your lead... .You study it with as much pleasure as Success, you Follow it in all its realms. None of its productions is foreign to you; you Know how to match fossils, minerals, shells, cultivate plants, domesticate birds, and what do you not name? I know one somewhat savage animal who would live with great pleasure in your menagerie, in awaiting the honor of being admitted one day as a mummy in your cabinet [collection].[20]

In one of his eight letters on botany (see n. 1) Rousseau refers to his female correspondent as being 'alone of your sex with Madame the Duchess of Portland among the very few true botanists [seules de votre sexe avec Madame la Duchesse de Portland au très petit nombre des vrais botanistes]'.[21] He was reportedly not only impressed by the Duchess's erudition, but also by her physical stamina and agility during their herborisations—she was at the time, like Rousseau, over 50 years of age.[22]

Through gifts of books the Duchess soon opened up a new world of plants for Rousseau. When he arrived in England Rousseau only had Linnaeus's *Species plantarum* in two volumes (probably the second edition of 1762–1763, which he owned) and Gaspard Bauhin's *Pinax* (1623) as guides.[23] The Duchess, in turn, introduced him to John Ray's *Synopsis*[24] and to a an illustrated work of James Petiver, quite likely his *Catalogue of Mr Ray's English herbal illustrated with figures on folio copper plates* (1713).[25] As Rousseau read English proficiently, he could have used the English version of the latter.[26] Botanical exchange thus entailed cultural exchange. Rousseau soon recognised the wisdom of the Duchess's choice of authorities, for the illustrated books she provided filled a gap in the

[20]CW, 174. 'Il en est un [livre], Madame, où vous Savez Si bien lire, et où je voudrais apprendre à épeler quelques mots après vous... .Vous l'étudiez avec autant de plaisir que de Succès, vous la Suivez dans tous ses règnes, aucune de ses productions ne vous est étrangère; vous Savez assortir les fossiles, les minéraux, les coquillages, cultiver les plantes, apprivoiser les oiseaux, et que n'apprivoiseriez-vous pas? Je connais un animal un peu sauvage qui vivrait avec grand plaisir dans votre ménagerie, en attendant l'honneur d'être admis un jour en momie dans vôtre cabinet'. 20 October 1766; CC, xxxi.40. Rousseau's spelling has been modernised.

[21]Rousseau to Madeleine-Catherine Delessert (sixth letter on botany) 2 May 1773; CW, 155; CC, xxxix.158.

[22]Courtois, 67.

[23]CW, 175. Rousseau explained to Malesherbes why he used Bauhin: 'In order to relate [Linnaean names] painlessly to those of Tournefort, I often have to return to the Author whom both cite fairly consistently, namely, Gaspard Bauhin...almost all the nomenclature of Tournefort is drawn word for word from the Pinax...[Pour y rapporter sans peine celles (les noms) de Tournefort il ne faut très souvent que recourir à l'Auteur commun que tous deux citent assez constamment savoir Gaspard Bauhin...Presque toute la nomenclature de Tournefort soit tirée mot à mot du Pinax...]'. 17 April 1772; CC, xxxix.37; CW, 233.

[24]John Ray, *Synopsis methodica Stirpium Britannicarum*. (London: Sam. Smith, 1690).

[25]James Petiver. *A Catalogue of Mr Ray's English herbal illustrated with figures on folio copper plates*. (London: n.p., 1713). This work was also published in Latin the same year. Petiver (1658–1718) had been one of Ray's assistants on Ray's *Synposis* and was himself a notable botanist, entomologist and owner of 'an important natural history cabinet'. F.A. Stafleu and R.S. Cowan. *Taxonomic Literature*. Vol. IV. (Utrecht: Bohn Scheltema and Holkema, 1983) s.v. 'Petiver'. See also James Petiver. *Musei Petiveriani*. (London: S. Smith and B. Walford, 1695–1703).

[26]Courtois, 21 n.1.

work of Linnaeus, who did not believe botanical illustrations were useful.[27] In his letter of 12 February 1767 Rousseau reports:

> It seems, Madam Duchess, that you have exactly divined my needs in sending me two books which are most useful. The *Synopsis* includes descriptions of what I find here and I am able to follow without raising my eyes, and the Petiver helps me a lot with its drawings, which provide as much to the imagination as an object without color can. It is still a great defect of modern botanists to have neglected this entirely.[28]

Rousseau frequently refers to the Duchess as his botany teacher and his letters repeatedly testify to how much he valued the Duchess's botanical knowledge as superior to his own; there is no reason to doubt the sincerity of these testimonials. For example, he would like to participate in five or six herborisations with her and Solander;[29] she should correct plant identifications he has sent her,[30] and while he as herborist should instruct her, she in fact must instruct him.[31] Later he writes, 'If I had been able to consult your knowledge more often, Madam Duchess, I would be more advanced than I am'.[32] In short, he feels himself to be 'a servant as zealous as [he is] useless [un serviteur aussi zélé qu'inutile]'.[33]

The Duchess's affiliation with Daniel Solander, the explorer and student of Linnaeus who collaborated with the Duchess on her collections, enhanced her stature in Rousseau's eyes; 'Since the return of M. Dr. Solander [in 1771 from Cook's first *Endeavour* voyage] you should, Madam Duchess, enjoy his valuable discussions of his voyages and the numerous discoveries that he has made. I learn that animated by his success he is going to brave new perils in order to extend the inventory of riches of the human species'.[34] Even though the two men never met, Solander apparently sent Rousseau seeds and 'rare fruits [fruits rares]' at the latter's request, gifts which Rousseau gratefully received from this 'learned naturalist [savant naturaliste]'.[35]

Rousseau's respect for the Duchess's natural knowledge seems to be an unexpected acknowledgement of female capacities, given the views Rousseau expresses in *Emile* (1762). While he acknowledges that women are indeed capable of executing some of the work normally associated with science, abstract thought is beyond them:

> The investigation of abstract and speculative truth, principles, axioms in the sciences, all that which tends to generalise ideas is not the province of women: their studies should

[27]Carolus Linnaeus. *Genera plantarum*. Vol. I. Ed. J.C.D. Schreber. 8th ed. (Frankfurt am Main: Sumtu Varrentrappii et Wenneri, 1789) xx; ⟨http://gallica.bnf.fr/ark:/12148/bpt6k96659k⟩.

[28]CW, 176–177. 'Il semble, Madame la Duchesse, que vous ayez exactement deviné mes besoins en m'envoyant les deux livres qui me sont les plus utiles. Le Synopsis comprend des descriptions à ma portée et que je suis en état de Suivre sans m'arracher les yeux, et le Petiver m'aide beaucoup par ses figures qui prêtent à mon imagination autant qu'un objet sans couleur peut y prêter. C'est encore un grand défaut des botanistes modernes de l'avoir négligée entièrement'. 12 February 1767; CC, xxxii.134.

[29]10 July 1767; CW, 177.

[30]29 April 1767; CW, 178.

[31]12 September 1767; CW, 180.

[32]2 July 1768; CW, 183. 'Si j'eusse été à portée de consulter plus souvent [vos lumières], Madame la Duchesse, je serais plus avancé que je ne suis'. CC, xxxvi.4.

[33]23 January 1772; CW, 189, CC, xxxix.18. The French original of quotes of less than a sentence are inserted in the text.

[34]23 January 1772; CW, 189. Rousseau refers to the second *Endeavour* voyage which Banks and Solander had to abandon. 'Vous devez, Madame, depuis le retour de M. le Docteur Solander jouir dans ses précieux entretiens des relations de ses voyages et des nombreuses découvertes qu'il a faites. J'apprends qu'animé par ses succès il va braver de nouveaux périls pour étendre l'inventaire des richesses du genre humain'. CC, xxxix.18.

[35]19 July 1772; CW, 191–192; OC xxxix.92.

> all relate to practical life; it is for them to apply the principles that man has discovered, and for them to make observations which lead man to establish these principles... .because, when it comes to works of genius, they are over their heads; they do not possess sufficient accuracy and concentration to succeed in the exact sciences, where physical knowledge is concerned, it is to the one of the two [sexes] who is the most active, the most mobile, who sees the most objects, it is for the one who has the most strength...to judge the relations between living beings and the laws of nature.[36]

It appears, however, that in the correspondence with the Duchess a role reversal occurred: Rousseau collected data, while the Duchess had mastery of the subject.[37]

In the first flush of his enthusiasm for botany, Rousseau volunteered in a letter of 10 July 1767 to serve the Duchess as her 'herborist', or plant collector, a role he cheerfully fulfilled for some time.[38] The collection of specimens had a specific goal: their preservation in herbaria, that is, collections of dried plants used for teaching, to make comparisons, and preserve rare species.[39] The herbarium still plays a central role in botany today and the instructions issued by Linnaeus as to its preparation remain largely unchanged.[40] Rousseau himself wrote an extensive letter on herbarium preparation in his eight letters on botany to Mme Delessert.[41] He also made herbaria to *advertise* botany, as he explains in a letter to the Duchess:

> In order to create a diversion to my taste from my occupations, I plan to make herbaria for naturalists and amateurs who would like to acquire some... .I have thought that small herbaria, well chosen and made with care, could encourage the taste for botany, and I am going to work this summer on the collections that I will prepare, I hope, to be distributed a year from now.[42]

[36] *Emile*, OC iv.736–737. Translation mine. 'La recherche des vérités abstraites et spéculatives, des principes, des axiomes dans les sciences, tout ce qui tend à généraliser les idées n'est point du ressort des femmes: leurs études doivent se rapporter toutes à la pratique; c'est à elles à faire l'application des principes que l'homme a trouvés, et c'est à elles de faire les observations qui mènent l'homme à l'établissement des principes... .car, quant aux ouvrages de génie ils passent leur portée; elles n'ont pas, non plus, assez de justesse et d'attention pour réussir aux sciences exactes, et quant aux connaissances physiques[,]c'est à celui des deux qui est le plus agissant, le plus allant, qui voit le plus d'objets, c'est à celui qui a le plus de force... à juger des rapports des êtres sensibles et des loix de la nature'.

[37] If we consider the distinctions Rousseau made between the genders in *Emile* (see above), the botanical role he assumed is more feminine than masculine. In this as in other instances, such as his Armenian costume (essentially a kind of dress) and his hobby of lace-making, Rousseau showed a closer affinity to women's tastes than to men's.

[38] 10 July 1767; CW, 179.

[39] 'A herbarium is a collection of plant specimens that usually have been dried and pressed, carefully mounted on sheets of quality paper, identified and labelled with important information about them, and stored and arranged on shelves in cabinets in the sequence of an accepted classification. These specimens are the key to our knowledge of plants and serve as a permanent reference to the diversity of plants and for other scientific studies. They also serve as a definitive reference for the identification and correct naming of newly collected plants. Herbarium collections have been built up over the years by the efforts of numerous botanists and plant collectors. In short, a herbarium is analogous to a library of carefully preserved plants where the specimens themselves and the labels associated with them provide invaluable information for scientific studies'. ⟨http://www.afcd.gov.hk/conservation/eng/herbarium.htm#⟩, 22 May 2004.

[40] Carolus Linnaeus. *Philosophia Botanica*. Trans. Stephen Freer. (Oxford/New York: Oxford University Press, 2003) 18, ¶11.

[41] OC, iv.1190; 11 April 1773; CW, 159–163.

[42] 17 April 1772; CW, 191. 'Pour faire une diversion de mon goût à mes occupations sédentaires je me suis proposé de faire des herbiers pour les naturalistes et amateurs qui voudront en acquérir... .J'ai pensé que de petits herbiers bien choisis et faits avec soin pourraient favoriser le goût de la botanique, et je vais travailler cet été à des collections que je mettrai j'espère en état d'être distribuées dan un an d'ici'. CC, xxxix.42.

Botany forms part of Rousseau's project for a moral social order, for unlike chemistry or physics which arise from our vices, botany would be the one truly salutary, accessible and democratic science, homeopathically extracted, like the Académie royale des sciences, from the bosom of vain and corrupt sciences.[43]

Rousseau made at least two portable herbaria ('deux échantillons d'herbiers portatifs') for the Duchess, which he offered to her in a letter of 22 October 1773,[44] but to our knowledge neither has been preserved. These were gifts of great personal as well as botanical value—the amount of knowledge, time and effort involved in their production is difficult to estimate; in order to make a herbarium one must be in possession not only of considerable knowledge about plant collecting and identification, but also about the best methods for drying, preserving and mounting them. This is a work of painstaking care and exactitude, one that Linnaeus recommended as essential for every botanist to master.[45] In *Rousseau, juge de Jean-Jacques*, we find Rousseau's description of this work:

> In extensive and frequent herborisations he made an immense collection of plants; he dried them with infinite care; he attached them very neatly on papers that he decorated with red frames. He applied himself to preserving the form and the color of the flowers and leaves, to the point of making collections of miniatures from herbaria thus prepared. He gave them away to various people, and that which remains will suffice to persuade those who know how much time and patience this work demands that it comprises his only occupation.[46]

As the Duchess's self-appointed herborist Rousseau declares that he is subordinating himself to the Duchess's wishes, collecting seeds and plant specimens for her; it is not at all clear from the correspondence, however, that the Duchess made any significant or onerous demands on Rousseau—he may have even anticipated her wishes: 'If for example, Madam, you would like to plant the *Gentiana filiformis* I can easily gather some seeds next Autumn because I have discovered an area where it is plentiful'[47]; later he writes, 'I have the mortification of not being able at present to send you...the seed of *Gentiana filiformis*, this plant being very small, short-lived, difficult to locate...and not knowing anyone in the

[43]OC, iii.17, 26. This argument draws on Jean Starobinski. 'The Antidote in the Poison: The Thought of Jean-Jacques Rousseau'. *Blessings in Disguise; or, The Morality of Evil*. Trans. Arthur Goldhammer. (Cambridge: Harvard University Press, 1993) 118–168 [119–27].

[44]22 October 1773; CW, 193; CC, xxxix.204.

[45]Linnaeus. *Philosophia Botanica.* 329; see also the extensive treatment in an important Linnaean work by Marc-Antoine Claret de Latourrette and Jean-François Rozier. *Démonstrations élémentaires pour l'usage de l'école vétérinaire de Lyon*. Vol. 1. (Lyon: Jean-Marie Bruyset, 1766) 234–244. Latourrette was one of Rousseau's correspondents and abbé Rozier was one of his botanising companions.

[46]OC, i.832. 'Dans de grandes et fréquentes herborisations il a fait une immense collection de plantes; il les a dessechées avec des soins infinis; il les a collées avec une grande propreté sur des papiers qu'il ornoit de cadres rouges. Il s'est appliqué à conserver la figure et la couleur des fleurs et des feuilles, au point de faire de ces herbiers ainsi préparés des recueils de miniatures. Il en a donné, envoyé à diverses personnes, et ce qui lui reste suffirait pour persuader à ceux qui savent combien ce travail exige de tems et de patience qu'il en fait son unique occupation'. Elsewhere he comments on how hard he has worked to learn botany: 'Toujours seul et sans autre maître que la nature[,] j'ai mis des efforts incroyables à de très foibles progrès' [Always alone and with no other master except nature[,] I made unbelievable efforts with very little progress]'. Rousseau to Malesherbes, 19 December 1771; CC, xxxviii.301.

[47]4 January 1768; CW, 182. 'Si, par exemple, Madame (la Duchesse), vous vouliez faire semer la *Gentiana filiformis* j'en recueillerois facilement de la graine l'Automne prochain; car j'ai découvert un canton où elle est en abondance'. CC, xxxv.10.

country to whom I could give my commission'.[48] Yet success eluded him: 'I have certainly not forgotten, Madam Duchess, that you desired the seed of the *Gentiana filiformis*. . . .At the place where I found it which is at Trye, I searched in vain the following year, and. . .it was impossible for me to find the least vestige'.[49] A specimen of this delicate and rare plant is preserved in the herbarium at Montmorency that Rousseau made for the daughter of Madeleine-Catherine Delessert, recipient of the famous eight ''elementary'' letters on botany (Fig. 2). On the cover of the specimen he notes, '[t]his plant is rare, and little known [(c)ette plante est rare, et peu connue]' (Fig. 3).

As the Duchess's herborist Rousseau undertook extensive collecting efforts at various locations in France, particularly the mountainous region near Lyon; over the course of three years Rousseau sent his patron three letters, i.e. one per year, containing lists of plants and seeds that he collected and identified for her. He used a system that he devised for this purpose: 'I have begun the catalog of a herbarium that was a present to me and that I intend to expand during my journeys. . .I thought. . .that in sending you this catalog. . .if you would take the trouble to mark those [plants] that you lack, I could have the honor of sending them to you [either] fresh or dried. . .for your garden or your herbarium'.[50] The herbarium that Rousseau used as the basis for his contributions to the Duchess appears to have been the one given to him in 1768 by Joseph Dombey (1742–1794), a student of the French Linnaean botanist, Antoine Gouan (also one of Rousseau's correspondents).[51] Rousseau elsewhere speaks of this herbarium as his 'sole library [unique bibliothèque],' containing 'a very large number of foreign and rare plants [2.000] perfectly beautiful and well preserved [un très grand nombre de plantes étrangères et rares parfaitement belles et bien conservées]'.[52]

In another letter of 31 August 1769 sent from Bourgoin, Rousseau encloses a list of 33 plants[53] brought from a herborization on Mount Pilat and in the Rhône valley undertaken in the Duchess's behalf.

[48]31 August 1769; CW, 185. 'J'ai la mortification de ne pouvoir quant à présent vous envoyer, Madame la Duchesse, de la graine de la *Gentiana filiformis*, la plante étant très petite[,] très fugitive, difficile à remarquer. . .ne connaissant personne dans le pays à qui pouvoir donner ma commission'. CC, xxxvii.132.

[49]19 July 1772; CW, 192. 'Je n'ai certainement pas oublié, Madame la Duchesse, que vous aviez desiré de la graine du *Gentiana filiformis*. . .Sur le lieu même ou je l'ai trouvée qui est à Trye, je la cherchai vainement l'année suivante, et. . . .il me fut impossible d'en retrouver le moindre vestige'. CC, xxxix.92–93.

[50]2 July 1768; CW, 183. 'J'ai commencé le catalogue d'un herbier dont on m'a fait présent et que je compte augmenter dans mes courses. . .J'ai pensé. . .qu'en vous envoyant ce catalogue. . .si vous preniez la peine d'y marquer celles qui vous manquent, je pourrais avoir l'honneur de vous les envoyer fraiches ou sèches. . .pour l'augmentation de votre jardin ou de votre herbier'. CC, xxxvi.4.

[51]CW, 209–213, and 28 May 1769, CC, xxxvi.94–95.

[52]Rousseau to du Peyrou, 10 June 1768; CC, xxxvi.307. Dombey was one of Rousseau's botanical guides during the latter's time in Bourgoin, ca. 1767–1769, and was familiar with the 'rare foreign species cultivated in the gardens of Perpignan, and Montpellier [espèces rare exotiques, cultivées dans les jardins de Perpignan, de Montpellier]'. E.-T. Hamy, *Joseph Dombey: Médecin, Naturaliste, Archéologue, Explorateur du Pérou, du Chili et du Brésil 1778–1785: Sa Vie, son* Œuvre, *sa Correspondance*. Paris: E. Guilmoto, 1905, xiii, xv-xvi. He was named by the French Crown to join an important Spanish botanical expedition to Chile and Peru that departed in 1777, making him the first Frenchman to explore South American flora. In the orders given to the botanists by the King of Spain Dombey was singled out for his knowledge on how to make herbaria. See Hipólito Ruiz, 'Travels of Ruiz, Pavón and Dombey in Peru and Chile (1777–1788)'. Trans. B.E. Dahlgren. Official documents and epilogue by Augustín Jesús Barreiro. *Botanical Series Field Museum of Natural History* 21: 467 (28 March 1940) 5–327 [283]. He died as a prisoner of Corsairs while serving the revolutionary government of France.

[53]31 August 1769; CW, 185–186.

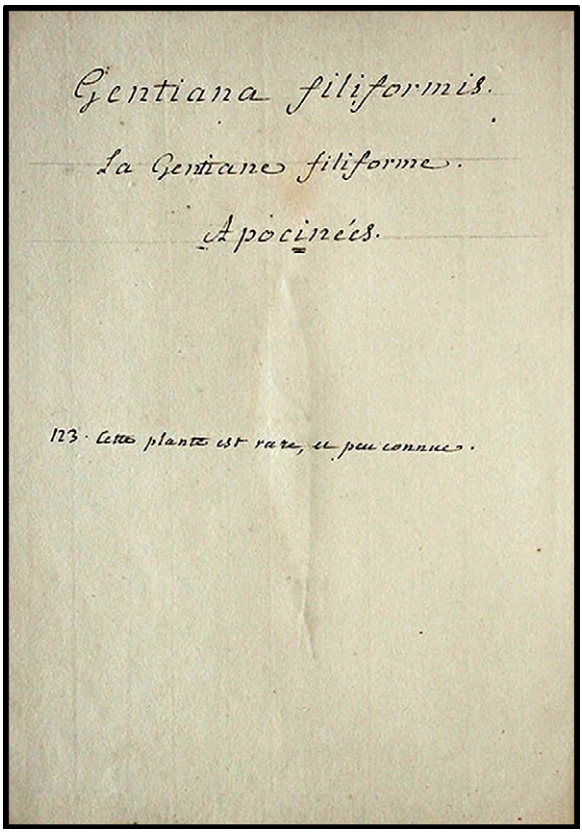

Fig. 2. Inscription, *Gentiana filiformis*, herbarium made for Madelon Delessert by Rousseau, courtesy of the Jean-Jacques Rousseau Museum, Montmorency, France.

> I departed with some amateurs[54] for Mount Pila [sic], situated twelve or thirteen leagues from here in the hope, Madam Duchess, of finding some plants or some seeds which merited a place in your herbarium or in your gardens. I did not have the honor of meeting my desired expectation. It was too late for the flowers or seeds; the rain and other accidents—we encountered obstacles at every turn—made the expedition as useless as it was disagreeable and I brought almost nothing back.[55]

The next letter to the Duchess, of 21 December 1769, encloses a list of another 33 plants together with a list of 19 species for which Rousseau had found seeds. In this letter Rousseau laments the poor condition of the botanical specimens that he has sent to the

[54]'Amateur' understood in its original sense as one who loves something passionately.

[55]31 August, 1769. CW, 184. 'Je suis donc parti avec quelques amateurs pour aller sur le mont Pila à douze ou quinze lieues d'ici dans l'espoir, Madame la Duchesse, d'y trouver quelques plantes ou quelques graines qui méritassent de trouver place dans votre herbier ou dans vos jardins. Je n'ai pas eu le bonheur de remplir à mon gré mon attente. Il était trop tard pour les fleurs[,] trop tôt pour les graines; la pluie et d'autres accidents nous ayant Sans cesse contrariés m'ont fait faire un voyage aussi peu utile qu'agréable, et je n'ai presque rien rapporté'. CC, xxxvii.132.

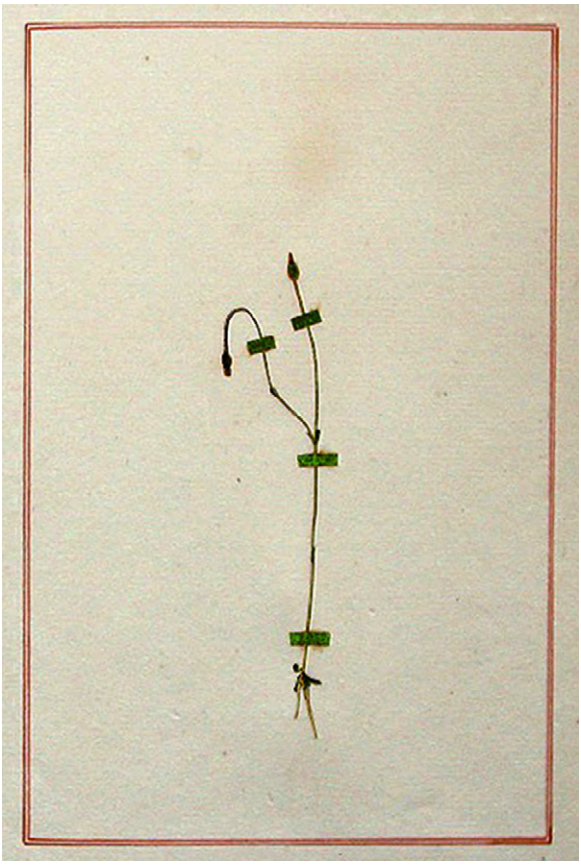

Fig. 3. *Gentiana filiformis*, Herbarium made for Madelon Delessert by Rousseau, courtesy of the Jean-Jacques Rousseau Museum, Montmorency, France.

Duchess in England. More generally, this letter makes the important point that collecting may have disappointing results, since specimens can be easily ruined or lost:

> ...I greatly fear that these plants, fragile and already spoiled by the humidity, will arrive completely destroyed and unrecognizable. The seeds at least could, Madam Duchess, compensate for the plants if they were more numerous, but you will forgive their misery on account of the various accidents which have opposed my care on that score... .For example, rats ate almost all the bistort seed that I had spread out on the table to dry; and having placed other seeds on my windowsill for the same purpose, a blast of wind sent all my papers flying into the room...[56]

[56]21 December, 1769. CW, 186. '...je crains fort que ces herbes fragiles et déjà gâtées par l'humidité, ne vous arrivent absolument détruites ou méconnaissables. Les graines au moins pourraient, Madame la Duchesse, vous dédommager des plantes[,] si elles étaient plus abondantes[,] mais vous pardonnerez leur misère au divers accidents qui ont là dessus contrarié mes soins... .les rats ont mangé sur ma table presque toute la graine de bistorte que j'y avais étendue pour la faire sécher; et ayant mis d'autres graines Sur ma fenêtre...un coup de vent a fait voler dans la chambre tous mes papiers...'. CC, xxxvii.190.

While Rousseau's letters to the Duchess may appear to be full of excuses for why his collecting in her behalf has not been more productive, the travails he reports are simply a normal part of the business of doing botany.

A problematic topic throughout the Rousseau–Portland correspondence was the moral status of gardens. Gardens formed an important living part of natural history collections and were expected to house exotic species—the more the better.[57] Rousseau writes that in the Duchess's 'all the riches of nature are gathered and arranged with as much wisdom as taste [toutes les richesse[s] de la nature sont rassemblées et assorties avec autant de savoir que de gout]', and they 'would merit a particular song of praise [meriterait bien un chantre particulier]'.[58] Yet the garden shall always be an artificial creation of men 'who are liars [hommes qui sont menteurs]'; nature, on the other hand, 'never lies [ne ment jamais]'.[59] Garden plants outwardly exhibit the unhealthiness of their condition; they have 'too calm an appearance, flourish less, and often languish and degenerate [un air trop calme, y prospérent moins et souvent languissent et dégénerent]'.[60] Rousseau seeks a free nature, without any sign of "servitude or domination".[61]

> I want to forget men and their injustices. I want to be moved every day by the marvels of him who made them to be good, and whose work they have so scandalously degraded. The plants in our woods and mountains are still such as they originally came from his hand, and it is there that I love to study nature, because I assure you I do not feel the same charm herborizing in a garden. . . .Men say they embellish nature, and myself I find they disfigure it. I beg your forgiveness, madam Duchess: in speaking of gardens, I have perhaps maligned yours a bit. . .[62]

Rousseau did not completely reject gardens, however, as became clear when the Duchess sent him a copy of William Mason's poem, *The English Garden* (1772)[63]; he greeted this gift with gratitude, not omitting to mention that he had been the first on the Continent to promote this type of garden,[64] namely through Julie's Elysium in *La Nouvelle Héloïse*, a garden she created using indigenous plants, and with so much skill, that no one could discern its artificiality.[65] Thus, despite some flirtation with collecting and planting exotic seeds,[66] Rousseau enunciates a preference for the indigenous and the local over the

[57]Alexandra Cook, 'Jean-Jacques Rousseau and Exotic Botany'. *Eighteenth-Century Life* special issue. *Exoticism and the Culture of Exploration.* Eds. R. Maccubbin and C. Knellwolf. 26:3 (2002) 81–201 [183–184].

[58]17 April 1772; CW, 191; CC, xxxix.42.

[59]Rousseau, *Fragments de botanique*, OC, iv.1250; see also Rousseau, *Discours sur l'origine de l'inégalité*, OC, iii.133, Rousseau, *Dialogues*, OC, i.833.

[60]CW, 108; *Dictionnaire. . .en botanique*, *s.v.* 'Feuilles', OC, iv.1220.

[61]*Lettres à Malesherbes*; OC, i.1139.

[62]10 July 1767; CW, 177. 'Je veux oublier les hommes et leurs injustices. Je veux m'attendrir chaque jour Sur les merveilles de celui qui les fit pour être bons, et dont ils ont si indignement dégradé l'ouvrage. Les végétaux dans nos bois et dans nos montagnes sont encore tels qu'ils Sortirent originairement de ses mains, et c'est là que j'aime à étudier la nature; car je vous avoue que je ne sens plus même charme à herboriser dans un jardin. . . .Les hommes disent qu'ils l'embellissent, et moi je trouve qu'ils la défigurent. Pardon, Madame la Duchesse; en parlant des jardins, j'ai peut-être un peu médit du vôtre. . .'. CC, xxxii.135.

[63]William Mason. *The English Garden: A Poem. Book the first. By W. Mason, M.A.* (London, 1772). Based on information from *English Short Title Catalogue*. *Eighteenth Century Collections Online*. Gale Group. ⟨http://galenet.galegroup.com/servlet/ECCO⟩.

[64]17 April 1772; CW, 191.

[65]*La Nouvelle Heloïse,* OC, ii.482.

[66]Exotic plants such as pepper, sweet sop, and Campeche wood figure among the collection of 739 seeds that Rousseau donated to the cabinet of Louis-Philippe, duc d'Orleans. Ms 324, Muséum national d'histoire naturelle

imported and the foreign: 'I do not ever expect to be rich in foreign plants; and, in my view, the greatest charm of botany is to be able to study and know the nature around one rather than [nature in] the Indies'.[67]

The appropriation of exotic species ('exotic botany') in gardens appeared to Rousseau to be but one example of nature dominated and in servitude to man; his opinion on this point seems to have ended his correspondence with the Duchess. For Rousseau Europeans' wholesale appropriation of exotic plants was a *moral* issue because it deforms nature.[68] Rousseau notes the occurrence of transferred plants 'that refuse to germinate and be born in our gardens [qui refusent de germer et naître dans nos jardins]', by the plants' act of will.[69] The study of exotics in European gardens must therefore be a poor source of information about exotic species.[70] I have argued elsewhere that Rousseau was the first European to question this practice openly, although other botanists such as Nicholas Joseph von Jacquin alluded to changes wrought by acclimatisation in his *Historia stirpium americanarum*.[71] Rousseau's critique of exotic botany belongs to the same moral discourse as his critique of the cultivation of showy, but sterile, hybrids.[72] He sees both as cases of free, true nature subjugated and manipulated by men for reasons of avarice, personal interest or other selfish motives. Rousseau thus opposed Bacon's notion of transforming nature for the 'benefit and use of life' (although he did accept Bacon's empiricism and emphasis on experiment and the role of artisanal skills).[73]

The issue of exotic botany surfaced in the correspondence when, in 1775 or 1776, the Duchess sent Rousseau a copy of a magnificent work on southeast Asian flora, the *Herbarium amboinense* of Georg Eberhard Rumpf (Rumphius) (1627–1702), edited by Johannes Burman.[74] To the Duchess such a gift might have seemed reasonable, since exotic plants formed an important part of any self-respecting botanical garden of the period, including her own. On the other hand, she certainly had reason to be aware of Rousseau's views on gardens in general, and transplantation of exotics in particular.

(*footnote continued*)

(Paris). The circumstances of this donation have yet to be clarified. Rousseau mentions this collection several times in his correspondence (CW, 190, 226, 235). See also Cook. 'Jean-Jacques Rousseau and Exotic Botany', 187–191.

[67]Rousseau to Malesherbes, 19 December 1771; CW, 231. '. . .je ne prévois pas d'être jamais bien riche en plantes étrangères, et selon moi le plus grand agrément de la botanique est de pouvoir étudier et connaître la nature autour de soi plutôt qu'aux Indes'. CC, xxxviii.302.

[68]Cook, 'Jean-Jacques Rousseau and Exotic Botany', 193–194.

[69]*Dictionnaire. . .en botanique*; CW, 105; OC, iv.1217, *s.v.* 'Cotyledon'.

[70]*Dictionnaire. . .en botanique*; CW, 129; OC, iv.1247, *s.v.* 'Vivace'.

[71]Nicolaus Joseph von Jacquin, *Selectarum stirpium Americanarum historia*. Facs. ed. Intro. F. A. Stafleu. (New York: Hafner, 1971 [Vienna, 1763]) 20.

[72]Cook. 'Jean-Jacques Rousseau and Exotic Botany', 192–194.

[73]Francis Bacon. *New Atlantis and The Great Instauration*, rev. ed. Ed J Weinberger. (Arlington Heights, VA: Harlan Davidson, 1989) 16.

[74]This would have been the 1741–1750 edition, six volumes in four, edited by Johannes Burman, in which more than seventeen hundred plants were described and 1060 illustrated, not to be confused with Rumphius's *D'Amboinsche rariteitkamer* (Amsterdam: F. Halma, 1704) [reprint: *Ambonese curiosity cabinet* (New Haven: Yale University Press, 1999)] concerning minerals, crustaceae and mollusks. Rumphius, a German–Dutch botanist in the military service of the Dutch East India Company, lost his books, manuscripts and plant collections to fire in 1687. Furthermore, the first version of his massive *Herbarium amboinense* was lost on the sea voyage to Holland from the Dutch East Indies, and although already blind, he rewrote it.

Yet there was another, purely instrumental side to the acclimatisation of exotic plants of which Rousseau was certainly well aware from his visits to acclimatisation gardens as well his general knowledge—plants' role as pawns in a cutthroat struggle for control over the botanical resources of the planet that played out in bio-prospecting and bio-piracy on a grand scale. The list of potentially profitable transplants was endless: medicinal substances such as the bark of the cinchona tree, stimulants such as coffee and tea, staple foods such as the bread fruit, spices such as clove and nutmeg, purgatives such as jalapena and Chinese rhubarb, fibres such as silk and sisal, and eventually rubber in the nineenth century. As mere pawns in this competition, plants were stretched to their natural limits by introduction into foreign climes. Rumphius's work was used by acclimatisers such as Jean-François Charpentier de Cossigny (1730–1809) in his *Lettre sur les arbres à epiceries* to persuade the skeptical that spice trees could be acclimatised on the Ile de France.[75]

Given Rousseau's disapproval of 'exotic botany', it is not surprising that under cover of a letter of 11 July 1776 he returned Rumphius's *Herbarium amboinense* to the Duchess, while acknowledging it as 'a very precious gift [un cadeau bien précieux]'. He averred, however, that he was not interested in exotic plants 'that we only find among us in exile and denatured in the gardens of the curious [qu'on ne trouve parmi nous qu'en exil et dénaturées, dans des jardins des curieux]'.[76] This kind of horticultural enslavement was not Rousseau's cup of tea, and his final verdict on the Duchess's collecting of exotic species was not a positive one, however much he might otherwise esteem her natural knowledge and her personal attributes. Rousseau's loyalty to the sanctity of untouched nature, 'who never lies', superseded his loyalty to a long-time friend.

[75]François Charpentier de Cossigny. *Lettre sur les arbres à épiceries, avec une introduction sur leur culture as leur préparation; et lettre sur le café*. (Paris: n.p., 1775) 7–9. Charpentier claims that the pretended climate differences between the Ile de France and the tropics were in fact not so great; e.g. spice trees exposed to cold in the mountains of Banda do not yield fruit. Charpentier's closing remark is indicative of the patriotic feeling that accompanied France's success in acquiring spice trees: 'The names of these citizens [who pirated spice plants] ought to go down in history. They will reap the fruit of their efforts, the dangers to which they exposed themselves, and their patriotism [Les noms de ces citoyens doivent passer à la posterité. Elle recueillera le fruit de leurs peines, des dangers auxquels ils se sont exposés, & de leur patriotisme]', 23–24.

[76]CC, xl.77. 'Curieux' as a noun 'signifies one who takes pleasure in collecting rare and curious things, or someone who has a great knowledge of these kinds of things [signifie, celui qui prend plaisir à faire amas de choses curieuses et rares, ou celui qui a une grande connaissance de ces sortes de choses]'. *Dictionnaire de l'Académie française* (1762), *s.v.* 'curieux'. See also OC, i.1810.